

MASTER's THESIS – Natural Resources Management

Technische Hochschule Köln (University of Applied Sciences) – Institute for
Technology and Resources Management in the Tropics and Subtropics

THE IMPACT OF LARGE SCALE LAND ACQUISITION (LAND GRABBING) ON LOCAL FOOD SECURITY: CASE OF MALEN CHIEFDOM PUJEHUN DISTRICT SIERRA LEONE



Photo: by Researcher

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“The impact of large scale land acquisition (land grabbing) on local food security: case of Malen Chiefdom, Pujehun District, Sierra Leone”

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ABSTRACT

In Sierra Leone, at the moment 10 out of the total 14 districts are faced with the problem of large-scale land investments for industrial agriculture (oil palm, sugarcane...). The production is mainly for the local, regional and world market. There are quite many of these investments in the planning stage, while some are extending their operations by taking more land from communities or are already at the production stage. Studies and media reports have claimed a number of negative impacts felt in communities hosting these companies, ranging from loss of land, food insecurity, increase in poverty to loss of livelihoods, environmental degradation as well as social and cultural problems. The goal of this thesis is to examine the impacts of the operations of “Socfin Agriculture Company” on food security of local communities in Malen Chiefdom, Pujehun District of Sierra Leone.

Both quantitative and qualitative research methods are used for data collection, analyses, and interpretation of results. The research uses household income and expenditure to compare household food security before and after the start of the company’s operations. It examines consequences of community’s loss of land to support household food production versus casual wage earn from employment created by the company to meet household food security.

The results show a loss of household’s income sources and a significant decrease in households’ income. Households’ food crop production has reduced accompanied by a complete loss of cash crop farming. Households affected by the operations of the company have lost access to land and other natural resources that support food production. Furthermore, the company employs very few people in comparison to the total population of affected communities. Calculation of total wage earn from employment by the company cannot meet the staple food (rice) needs of the households. Also, households claimed a host of unfilled promises made by the company and national government at the onset of the operations of the company.

In conclusion, household food production is the most significant determinant for household food security, with regards to food availability, accessibility, utilization and stability of supply. Therefore, national government should carefully study and develop a framework that addresses food security of households impacted by the operations of the rapidly growing large-scale land investment companies and ensure a fair share of the local community in the economic development of the country and suggesting ways of improving access rights in the context of tenure.

Key words: household; food production; food security; income generation; livelihood; land acquisition; land access.

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LIST OF ACRONYMS

EIA	Environmental Impact Assessment
ESHIA	Environmental, Social and Health Impact Assessment
FAO	United Nations Food and Agriculture Organization
FIAN	Food First Information and Action Network
GDP	Gross Domestic Product
GoSL	Government of Sierra Leone
Ha	Hectare (1 hectare = 2.47105 acres)
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation (World Bank Group)
IMF	International Monetary Fund
LDC	Least Developed Country
LSLA	Large Scale Land Acquisition
MAFFS	Ministry of Agriculture, Forestry and Food Security (Sierra Leone)
MLCPE	Ministry of Lands, Country Planning and the Environment
MDGs	Millennium Development Goals
MOU	Memorandum of Understanding (and Agreement)
MP	Member of Parliament
NSADP	National Sustainable Agriculture Development Plan
NGO	Non-Governmental Organization
NLP	National Land Policy
PC	Paramount Chief
PRSP	Poverty Reduction Strategy Plan
SAC	Socfin Agriculture Company S.L. Ltd, a subsidiary of the Belgian corporation
SCP	Smallholder Commercialization Program (Sierra Leone)
EPASL	Sierra Leone Environmental Protection Agency
SDGs	Sustainable Development Goals
SLIEPA	Sierra Leone Investment and Export Promotion Agency
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
WFP	World Food Program (United Nations)

1 INTRODUCTION

The phenomenon of Large Scale-Land Acquisition (LSLA) in sub-Saharan Africa emerged during the 2008 food and financial crises (De Schutter, 2011). The relatively growing global demand for food and biofuels generated concerns over the affordability and availability of arable land. This triggered a growing interest of national governments and investors, including sovereign wealth and hedge funds, agricultural producers (Deininger et al. 2015), and key players from the food and agribusiness industry based in developed countries to eagerly seek for, and acquire long-term leases of vast tracts of land from mostly developing countries (Cotula et al. 2009). Those agricultural investments have little or nothing to do with addressing the acute need for investments in small scale food farming at the national level (Cotula, 2014). Investors' motivations include economic considerations, mistrust in markets and concern about political stability (Holden & Pagel, 2013), or assumption on future demand for food and fiber, or future payment for environmental services including for carbon sequestration (World Bank, 2011). Some stakeholders, including many national governments, welcome such investment as an opportunity to overcome decades of underinvestment in the sector (Holden & Pagel, 2013), create employment, and leapfrog and take advantage of new technology growth. Others denounce it as a "land grab" (Holden & Pagel, 2013). This phenomenon is diplomatically called "commercial pressures on land", "foreign investment in land" or "large-scale land acquisition" (Nolte & V  th, 2015). However, some are out-rightly naming it "land grabbing" (International Land Coalition, 2009).

On the one hand, LSLA has been defined broadly to include not only the purchase of ownership rights but also the acquisition of user rights (Twomey, 2014) i.e. through leases or concessions, whether for a short or a long term (Cotula et al. 2011). On the other hand, land grabbing has been defined as "taking possession of, and/or controlling a scale of land for commercial and industrial agricultural production which is disproportionate in size in comparison to the average land holding in the region" (FIAN, 2010).

Given the heavy dependence of most countries in sub-Saharan Africa on agriculture for a variety of social and economic reasons, and especially the almost complete reliance of rural populations on farming, it can arguably be stated that depriving rural communities of farming land (where it exists) is one of the most contentious of these controversies (Yengoh & Armah, 2015).

The problem of food supply existed in a varying magnitude in most African countries in some months of the year even before the influx of large scale agriculture companies acquiring large tracks of arable land (Rakotoarisoa et al. 2012). Population growth in urban areas further places demands on local markets challenged with limited supply from rural farms. According to Yengoh & Armah, (2015), most of the rural populations depend on farming activities to meet their food and livelihood needs; it is common to note that each year, many households are trapped in the struggle to sustain their year-round food and nutrition needs. Most rural households trapped in such situation tend to invest in short to medium term agriculture production to meet their immediate household food supply demand (Olsson & Jerneck, 2010).

Investors target poor countries, with weak human capacities and land governance, having high yield deficits and good accessibility for international trade (Cotula et al. 2009). Two-thirds of the

targeted farmland is in Africa, especially in sub-Saharan Africa, Sierra Leone is not an exception. Global demand for land is likely to remain high at least in the medium-term, largely influenced by global food demand and prices as well as by demand for biofuels (Sturgess & Flower, 2013). This land demand will be exceptionally high in countries, which face inadequate governance and policy frameworks or rule of law, and capacities or expertise to grapple with the issues.

There has been a significant increase in LSLA globally and particularly in sub-Saharan Africa (Deininger et al. 2015), generating a growing media attention and increasing literature at a very considerable speed, involving academics, activists, Non-Governmental Organizations (NGOs), media, business publications, international organizations and international financial institutions (Oya, 2013). However, the long-term impacts and implications for national and local community development have not been well presented in informing policy makers to catch up with the pace of land acquisition (Holden & Pagel, 2013). Pressure from international institutions on national government has led to designing unsustainable policies to promote foreign investment. Most of these policies include promoting the interest of investment companies over local communities' legitimate owners and users of the lands being acquired (Yengoh & Armah, 2015). Some international organizations have attempted to outline guidelines for the acquisition of land for large scale biofuel monocultures. Some of these guidelines include those proposed by the United Nations' Special Rapporteur on the Right to Food (De Schutter, 2009) and from the joint efforts of institutions such as the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Conference on Trade and Development (UNCTAD) and the World Bank Group (FAO, et al. 2010). LSLA deals in Africa usually involve a range of government bodies and large scale land investment (LSLI) interests in complicated and multiple processes (Cotula et al., 2011) that the local people with little power and expertise may not understand.

1.1 State of the Arts

Sierra Leone is located in West Africa, bordered by the Atlantic Ocean in the west, Guinea to the north and northeast and Liberia in the east and southeast. The land area measures approximately 71,740 sq. km (about 45,000 sq. miles). With a total population of 7 million inhabitants, with 59% in rural areas and 41% in urban areas (Statistics Sierra Leone, 2016), the country is on the path to recovery following the effects of an 18-month Ebola outbreak in 2014-2015. The Ebola outbreak affected the socio-economic livelihoods of the country, disrupting normal health care and education services as well as agricultural production and trade (OECD, 2016). Sierra Leone ranked 179 out of 185 countries in 2016 in the Human Development Index of the United Nations Development Programme (UNDP, 2016). The country has recovered significantly since then, but it remains very much a Least Developed Country, with more than half of its people living on less than 1.25 USD per day in 2013. The country is on the path of economic growth, supported by new investments in mining, agriculture, and fisheries. Real Gross Domestic Growth (GDP) is projected to recover from -20.6% in 2015 to 5.4% in 2017 (World Bank, 2017). Despite the higher deficit, official interest rates remained low, reflecting increased system liquidity from unsterilized foreign exchange inflows associated with the Ebola efforts.

Government's development strategies are outlined in its Agenda for Prosperity (2013–2018), which prioritizes social and economic development through a strong emphasis on agriculture, energy,

natural resource management and road infrastructure. Long term development strategy is the Vision 2035, aspiring to make Sierra Leone a middle-income country targeting 80% of the population above the poverty line. The country was faced with failing to achieve most of the Millennium Development Goals (MDGs) by 2015. Government authorities and development partners are now committed to growth and refocusing its development thinking towards the globally agreed 17 Sustainable Development Goals (SDGs), which essentially means that development work should be across all sectors.

The country is recording progress in peace consolidation and strengthening of democratic governance and human rights. Extensive investment has been put into public sector capacity to deliver effective and efficient public services with transparency and accountability.

1.1.1 Development of Large-Scale Land Acquisition in Sierra Leone

LSLA in Sierra Leone was largely associated with small pieces of land largely in freehold and often owned by the state. The definition rapidly changed after the Sierra Leone Trade and Investment Forum in London in 2009, where the President announced to be “running the Sierra Leonean state as a business”. Accompanying the president’s statement, the Sierra Leone Import and Export Promotion Agency (SLIEPA), the body responsible for import and export promotion, started attracting investors to invest in large scale agriculture with emphases on palm oil and sugar cane as raw materials for biofuels. Investors took advantage of the government’s inability to adequately plan the process including having weak land governance, policy and regulatory framework for LSLI (Schoneveld, 2015).

According to the Sierra Leone National Land Policy (2016) “Land laws date from colonial times and are not comprehensive and the country’s lack of operationalizing the National Land Policy of 2009 and the lack of a cadastre system, poor governmental oversight and monitoring escalated into unprecedented farming disputes”. These have seriously aggravated the lack of transparency and access to information.

Lack of rural title deed and government’s interest in promoting investment both influence the negotiation process on land without protecting rural land owners and users from losing their land on which they have legitimate, if not formally registered documentations. LSLA in rural Sierra Leone seems to have been implemented without thought of the fate of communities that depend entirely on agriculture for their means of livelihood. For many communities, the outcome has been a loss of land and food sovereignty, as well as of access to vital resources on which households depend, such as water or forest resources (Yengoh & Armah, 2016). As reported by Green Scenery (2011), for instance, within the land deal of SOCFIN Agriculture Company (SAC), under research focus in Pujehun district, the Government of Sierra Leone acts as an intermediary by leasing land from communities and sub-leasing it to the company. This may contribute to a conflict of interest given the government’s obligation to respect and protect its citizens’ rights.

From 2009, Foreign Direct Investment in agricultural land in Sierra Leone has increased tremendously and has a huge potential to continue increasing with new investments being negotiated by the government. Globally, the World Bank estimates that in 2009 alone, 56 million ha of farmland was acquired by large scale investors around the world and more than two-thirds of

this demand for farmland was in Africa (World Bank, 2011). From interviews, media reports and company announcements, and from independent research in the provinces, for Sierra Leone it has been estimated that between 2009 and the end of 2012, foreign investors have leased land amounting to 1,154,777 ha – about 21.4 % of the country’s total arable land – for large-scale industrial agriculture, with lease periods of 50 years with possible extensions (ALLAT, 2013). Data from the Land Matrix, a global and independent land monitoring initiative, presents land deals recorded in Sierra Leone for agricultural production, timber extraction, carbon trading, industry, renewable energy production, conservation, and tourism. Land deals must: i) entail a transfer of rights to use; ii control or ownership of land through sale, lease or concession; iii) have been initiated since the year 2000; iv) cover an area of 200 ha or more; v) imply the potential conversion of land from smallholder production, local community use or important ecosystem service provision to commercial use (see Table 1).

Table 1 Land Deals 2017

Name of Investment	Investor country	Intention	Land size (ha)	Lease/Contract status	crop	Implementation status
Sunbird Bioenergy Africa Limited, Addax and Oryx Group Limited	Mauritius, Switzerland	Biofuels, Food crops, Renewable Energy	54000	signed	Cassava (Maniok), Sugar Cane	In operation (production)
Unknown (Chinese Investors)	China	Food crops	2000	signed	Corn (Maize)	Unknown
Unknown	China	Food crops	1500	signed	Sweet Potatoes, Cassava (Maniok)	Unknown
Unknown (Chinese Investors)	China	Food crops	2000	signed	Fig-Nut, Cassava (Maniok)	Unknown
Ecotech Timber Corporation	The United States of America	For carbon sequestration/R EDD	120000	signed	Trees	In operation (production)
SLGreen Oil Corporation	The United Kingdom of Great Britain and Northern Ireland	Biofuels, For carbon sequestration/R EDD	121406	signed	Trees	Unknown
Sierra Gold Corporation	Canada	Food crops, For carbon sequestration/R EDD	46255	signed	Peanut, Sorghum, Cassava (Maniok), Corn (Maize), Rice	In operation (production)
Pan-African Agribusiness Ltd., African Agriculture Fund, Finnish Fund for Industrial	Mauritius, Finland	Agri-unspecified	5058	signed	Oil Palm	In operation (production)

Cooperation						
Drie Wilgen Development B.V., Ellemeet; Local, Genesis Farm Limited	Netherlands	Food crops	450	signed	Rice, Sesame, Sorghum	In operation (production)
Socfin Agricultural Company (S.L) Limited (SAC)	Bolloré Group, Luxembourg	Agri- unspecified, Non-food agricultural commodities	12500	signed	Oil Palm, Rubber	In operation (production)
Biopalm Energy Limited	Singapore	Agri- unspecified	220000	signed	Oil Palm	In operation (production)
Quifel Holdings	Portugal	Agri- unspecified, Biofuels, Food crops	126000	signed	Mango, Cassava (Maniok), Oil Palm, Pineapple, Rice, Sugar Cane	In operation (production)
SIVA Group	India	Agri- unspecified	46000	signed	Oil Palm	In operation (production)
China National Complete Plant Import & Export Corporation	China	Biofuels, Food crops, Renewable Energy	3000	signed	Cassava (Maniok), Sugar Cane	In operation (production)
Vedico Mange Bureh Farm Ltd., BHB GmbH Projektmanagment, Cuu Long Delta Rice Research Institute	Viet Nam, Germany	Food crops	50000	signed	Rice	Startup phase (no production)
Miro Forestry Company	The United Arab Emirates	For wood and fiber	21000	signed	Acacia, Eucalyptus, Teak	Startup phase (no production)
African Land Limited	The United Kingdom of Great Britain and Northern Ireland	Food crops	1250	signed	Rice	
Agriterra Ltd	The United Kingdom of Great Britain and Northern Ireland	Agri- unspecified	45000	signed	Oil Palm	Project not started
Agriterra Ltd	The United Kingdom of Great Britain and Northern Ireland	Food crops	4750	signed	Cacao	In operation (production)

Lion Mountains Agrico Ltd	The United Kingdom of Great Britain and Northern Ireland	Food crops	14000	signed	Rice	In operation (production)
SIVA Group	India	Agri-unspecified	39321	signed	Oil Palm	
Carmanor Limited, Sierra Rutile Limited	The United Kingdom of Great Britain and Northern Ireland	Agri-unspecified, Biofuels, Food crops	2500	signed	Cacao, Coffee Plant, Oil Palm, Rubber	In operation (production)
Natural Habitats	Netherlands	Agri-unspecified	50740	signed	Oil Palm	In operation (production)
Gava Forest Industries Limited	Nigeria	For wood and fiber	1000	signed	Trees	Project abandoned

Source: Elaborated based on Data from Land Matrix (2017)

1.1.2 Agriculture Productivity and Food Security

According to FAO (2016), Sierra Leone is a poor country with significant problems of poverty and food insecurity affecting over half and about one-third of its population respectively. Land resources play a critical role in Sierra Leone's socio-economic development. This assertion is predicated on the fact that a good number of the natural resources needed for wealth and livelihood creation is found on land. A total of 1,297,686 ha were cultivated in the 2014/15 agricultural season; this represents 24.2% of the estimated land under cultivation in the country (Statistics Sierra Leone, 2016). It is estimated that agriculture including forestry and fishing, crop farming, and animal production is the largest industrial sector, employing 59.2% of the employed country's labor force and about 75% of the total population (with women as the predominant labor force). Yet for most rural households, low agricultural production is a key limiting factor to assuring food availability and thus food security and contributes about 61.4% to the Gross Domestic Product of the country (see Figure 1).

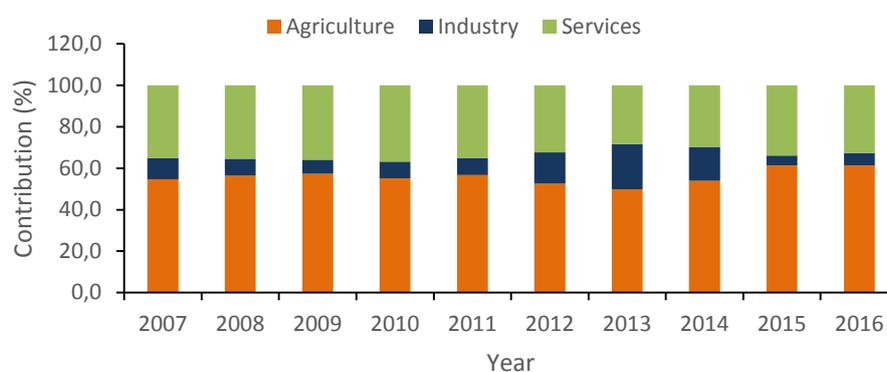


Figure 1: Sector Contribution to Gross Domestic Product (%)

Source: Elaborated with data from (World Bank Data, 2017)

Rice is the main staple, accounting for about three-quarters of the sector output while cash crops like cocoa, coffee and piassava and others contribute to up to 14%. Although the country has potential in the extractives sector (iron, diamonds, rutile, and oil reserves), agriculture will continue to play a key role in the country's socio-economic development and its performance impacts heavily on nearly all other sectors (WFP, 2015). It is the backbone of the national economy and provides the basis for the development of the other sectors. The government is keenly aware that sustainable livelihoods, food security, and mass employment will be possible only through the successful development of the agricultural sector (Bald & Schröder, 2011).

Sierra Leone's agricultural production is constrained by a number of factors including lack of mechanization of production; insufficient household and paid labor; low quality and low productivity of seeds; absence of agricultural inputs (fertilizer, insecticide, fungicide, tools, etc.); high post-harvest losses, and infertile soils resulting in very low agricultural yields. However, Government developed a National Sustainable Agriculture Development Plan (NSADP), from this stems the Smallholder Commercialization Program (SCP), which is a flagship sector program aimed at making agriculture the 'engine' for socio-economic growth and development through the development of commercial agriculture (SLARI, 2011). The strategy focuses on intensification, diversification, and commercialization of smallholder agriculture (through improving value-addition and access to marketing).

Despite these constraints, the country is naturally endowed with land, water, human resource, and with favorable climatic conditions capable of sustaining a highly productive agricultural sector. However, the contribution of the country's agricultural sector to growth, attainment of food security and increased prosperity for the people is still challenged. The country has been slowing in developing most commercial crops despite the huge potential for export and diversifying sources of food for human consumption.

Due to food security concerns, transforming productive agriculture land into large scale, mechanized palm oil plantations to produce biofuels is not appropriate for the country. This is in particular when high fertile soils used for crop production are predominantly occupied with energy crop production and not available for food production. Rural populations are not dependent on income from other sources to meet their food needs, but on the land they cultivate and the labor they invest in the practice of agriculture (IFAD & UNEP, 2013). Attaining food security is a fundamental human right need. Hopkins (1986) argues that: "*food security stands as a fundamental need, basic to all human needs and the organization of social life. Access to necessary nutrients is fundamental, not only to life per se, but also to stable and enduring social order*" (Otero, Pechlaner & Gürcan, 2013).

The rural population is the most affected by the violation of fundamental human rights created by the rapid increase declining crop production, because of government favoring the establishment of large scale industrial agriculture to support economic growth. In addition, the country is a net importer of rice as its staple food and other essential commodities. Therefore, the country's eagerness in promoting large scale agriculture investments in crops for biofuels may, therefore, be

determined by the ability of the countries to first increase production to sustainable levels for food requirements (Otero et al., 2013).

1.2 Problem Statement of the Study Area

Pujehun district is in the Southern Province and the third-largest district in the country. It borders the Atlantic Ocean in the southwest, the Republic of Liberia to the southeast, Kenema district to the northeast, Bo district to the north and Bonthe district to the west. The district's population is 345,577 (168,511 male and 177,066 female) (Statistics Sierra Leone, 2016). People are predominantly Muslim, mainly belonging to the Mende ethnic group.

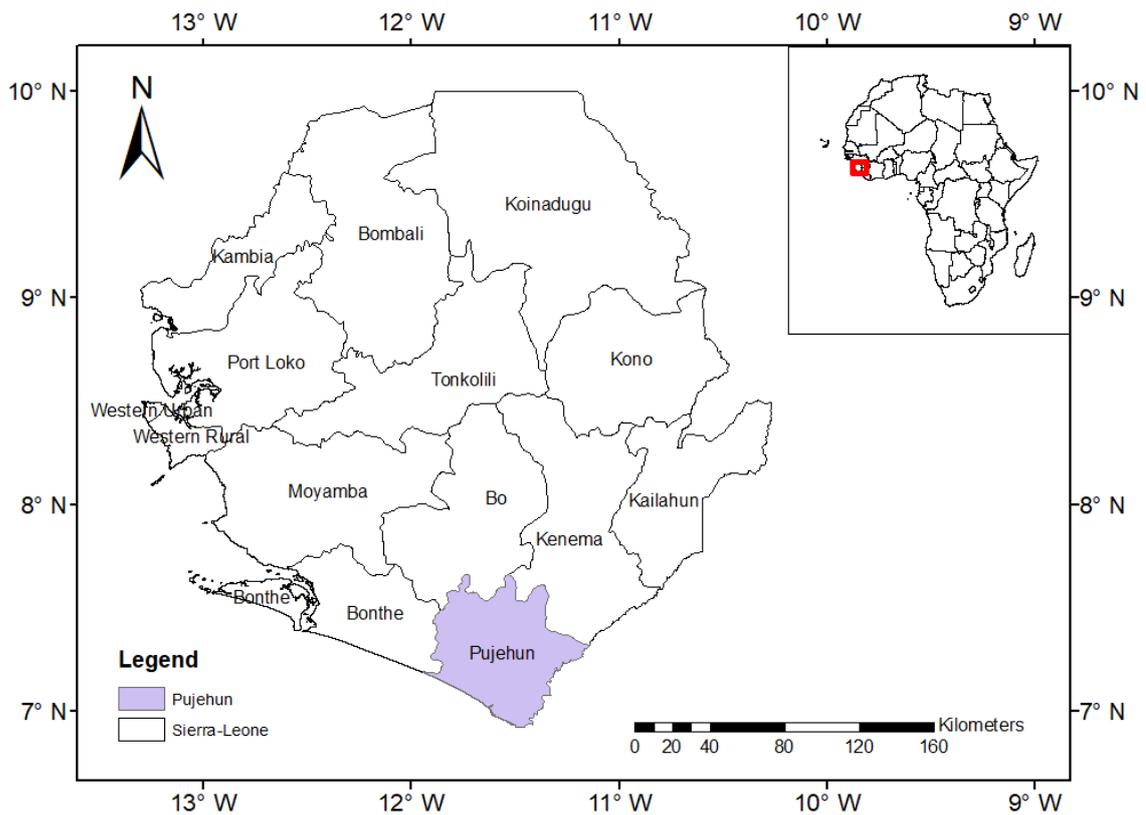


Figure 2: Map of Sierra Leone Showing the Pujehun district
Source: Created using data from OCHA (2014)

Subsistence agriculture and diamond mining are the major sources of livelihood for the rural poor in the district. In the past seven years, Pujehun district has witnessed the government leasing arable land to multinational companies for industrial agriculture. According to WFP's State of Food Security in Sierra Leone (2015), 44.4% of the households have a poor food consumption score, meaning that they are highly vulnerable in terms of their food consumption. Households are

severely food insecure recording 18.8%, the highest in the country. The main food crops cultivated are rice (of the upland, flooded plains, and other varieties), cassava, palm oil, ground nut, cocoa, vegetables, cashew nut trees and other fruit trees (see Table 2).

Table 2: Land Cultivated by Crop in 2014-15 (ha), in Farming area in Pujehun District Compare to National Average

District	Rice	Cassava	Palm oil	Cocoa	Groundnut	Vegetable	Cashew nut trees	Other fruits trees	Total cropped are
Pujehun	0.92	0.41	0.19	0.06	0.12	0.04	0.1	0.6	1.74
Country Average	0.94	0.25	0.16	0.17	0.20	0.06	0.5	4.7	1.78

Source: Elaborated using data from WFP 2015.

Before 2011, rice was the main food crop cultivated in Pujehun. The district also has a long history of palm oil production and supply to both local and national markets. The Malen river and other local streams serve as fishing sources to provide protein needs of the local population, making the chiefdom almost self-sufficient in the supply of basic food needs.

In 2011, the SOCFIN Agricultural Company Sierra Leone Ltd (SAC) acquired a land lease of 50 years for a palm oil and rubber plantation of 6,500 ha of fertile land in the Malen Chiefdom. SAC is a member of The Bolloré Group, of which the prominent French billionaire Vincent Bolloré is chair and chief executive officer. As the parent company of SAC, Bolloré holds 39% of its shares. The registered lease holding in the Sierra Leone Registrar General's office between the Government of Sierra Leone and the Company has the potential for an additional 21-year extension and an additional 5,000 ha to be added to the original land acquisition. The below Table 3 illustrate the status of the company' operation in Malen Chiefdom.

Table 3: Overview of SOCFIN Agricultural Company (SL) Ltd (SAC)

Main Lease	Government of Sierra Leone (GoSL) represented by The Minister of Agriculture, Forestry and Food Security (MAFFS) and Malen's Paramount Chief on behalf of himself and the Malen Chiefdom Council on the one part signed March 5, 2011
Sub Lease	Government of Sierra Leone (GoSL) represented by The Minister of Agriculture, Forestry and Food Security (MAFFS) SOCFIN Agricultural Company Sierra Leone Limited signed March 5, 2011
Lease signed	March 5, 2011, 16,248.54 acres, approx. 6,500 ha (seeking to lease and plant an additional 5,500 ha, possible expansion to 30,000 ha)
Concession and plantation size	Total Concession area 18,481 ha Plantation size in 2017 is 12,500 ha
Location Lease	Malen Chiefdom, Pujehun District, Southern Province

Lease duration	Sub-leased from MAFFS. MAFFS lease for 50 years commencing on the 1st day of March 2011 and expiring on the 28th day of February 2061, option to renew for 25years and then another 25 years
Surface rent	US\$12.50 per hectare per year
Purpose	Palm oil (crude palm oil) and rubber
Number of people affected	Estimated 49,215 in 60 villages
Investment	US\$130 million in 10 years, return on investment 10-15 percent
Estimated outputs	Processing factory built and commissioned by The President of Sierra Leone on April 9, 2016, the largest in West Africa. The present capacity of 30t/hr. of fresh fruits bunch with the capacity to increase 60t/hr. in the next phase.
Estimated workforce	4,000 (on 12,500 ha palm oil planted)
Actual workforce	May 2017, 1,091 'contract staff' jobs. 2,460 temporary laborers employed for cleaning under the palm tree brushing (150-160 head per person per day including women), spraying (herbicides)
Operations	The Company in full operations with interest to acquire more land

Source: Elaborated using field data and (ALLAT, 2013)

The new development in the Malen chiefdom of dispossessing small scale food crop producers from their fertile land and turning it into a large-scale palm oil plantation generated interest from both the local population and national and international civil society groups. These groups started questioning the land acquisition process as such and the violation of basic human rights during incidences recorded in the early months of the company's operations and beyond. Criticism includes: lack of transparency in the land acquisition process by the multinational company, the foreseeing of negative impacts of the operations of the company in relation to security of livelihoods of the local population, employment, working conditions, growing social tension in communities, in and out migration and environmental impact spanned by the operation of the company.

The Government of Sierra Leone and SAC argued that private sector investment in the agriculture sector will create more jobs for the local population and contribute to the country's economic growth. Prompting this notion, the President during the commissioning of the company's mill on April 9, 2015 stated that "*SOCFIN was never a government to government arrangement but rather private sector arrangement with due consultations with the locals*" and holds the belief that the investment of the company will contribute to the improvement of vital local structures such as hospitals, roads, and schools. On the other hand, land owners and users and civil society claimed from their research and community monitoring that the local communities have become "*Landless Landlords*" by losing their land sovereignty, which in turn is linked to food sovereignty (Green Scenery, 2011).

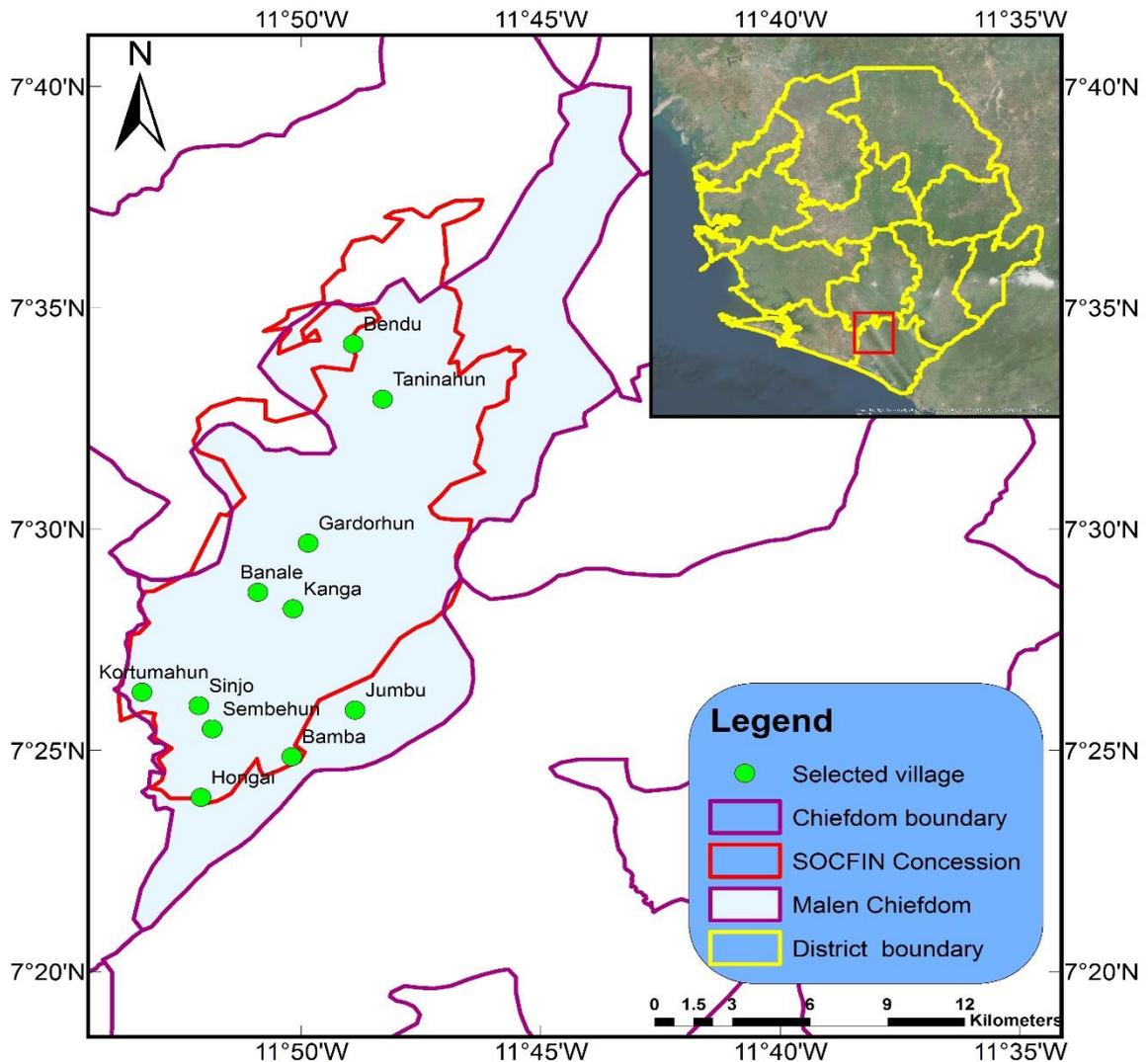


Figure 3: Map of Malen Chiefdom Indication SAC Concession Area

Source: Created using data from OCHA (2014), SAC 2014 and Google earth imagery (2017)

1.3 Research Goal and Objective

LSLA is a relatively recent development in Sierra Leone and in Pujehun district, caused in large measure by the recent global energy demand, food crisis, and government openness to attract Foreign Direct Investment to boost economic growth. It could be very significant to understand the impact on food security on the local communities where LSLA occurs (Robertson & Pinstrup-Andersen, 2010) as there is still a lack of adequate research on its impacts and implications at rural level. Research and lessons learned from such investment in other locations indicated that there is potential for positive outcomes of LSLA on food security. Through better land use transfer negotiation processes, technology transfer and access to improved farm inputs to close the large yield gaps that exist between actual and potential yields of major food crops in LSLA host communities (Cristina Rulli & D'Odorico, 2014).

This Thesis will contribute to the development of local solutions to the impacts of LSLA by SAC on food security in rural communities of Malen chiefdom in Pujehun district where LSLA has occurred. The results reported in this thesis will focus on the food security outcomes of LSLA on host communities.

1.3.1 Goal of Research

The goal of this thesis is to examine the impacts of LSLA on the food security of local communities in Pujehun district of Sierra Leone. To achieve this goal, this study is set to accomplish the following objectives:

1. Analyze the impacts of LSLA on local food production system comparing the situation before the start of the investment in the year 2011 to the present 2017 operation phase.
2. Analyze present income requirement to sustain staple food for a rural household in Malen Chiefdom, Pujehun District.
3. Analyze the extent of income from wage employment in the local company supports rural household food needs, compared to traditional subsistence farming before the investment.

2 THEORETICAL FRAMEWORK

2.1 Sierra Leone Land Tenure System

Sierra Leone has two land tenure systems referring to a dual governance legal system and customary law inherited from the British colonial era (Akiwumi, 2014). The Western Area, hosting the capital city Freetown and most of the valuable proportion of land for urban development, is regulated by the State, largely on the basis of the nineteenth-century British land law. Land tenure throughout the rest of the country is regulated by the Concessions Ordinance (now Concessions Act, Cap 121) and the Protectorate Lands Ordinance (Provinces Land Act, Cap 122) enacted in 1931 and 1927 respectively, which states that land is the property of indigenous land-owning families. According to those regulations, the Paramount Chiefs and the Chiefdom Councils are the custodians of the land (Amendment Act, 1961). The 1972 protectorate Land act, further stipulated that land lease in the provinces cannot exceed 50 years for non-natives including foreigners, foreign companies and missionaries with a possible extension of the lease by 21 years.

The land law also makes provision for the communal ownership and belonging to families or clans. The Paramount Chiefs or traditional rulers of the various chiefdoms and communities are not really land owners per se but merely custodians of such family property and of course, administer it in line with the existing customary usage and practices.

Sierra Leone is still legislating land administration using the old and obsolete English ordinance land law enacted to suit the peculiar socio-political-economic condition of the colonial period. Some of these laws are conflicting. For example, the statutory law allows non-natives to acquire leaseholds in the provinces outside of the Western Area, although this is often subject to the consent of local chiefdoms and local councils. This statutory is opposed to the 1972 protectorate land act (GoSL, 2016).

2.2 Land Administration by Sierra Leone Government

The Government of Sierra Leone promotes Foreign Direct Investment in agriculture with the promise of vast unused land reserve through SLIEPA, the agency makes foreign investment conducive by the Removing Administrative Barriers in Sierra Leone (RABI) Programme of the World Bank's International Finance Corporation. The RABI states *“because we all recognize[d] that the private sector is the leader of growth”* (Oakland Institute, 2012). The agency uses the RABI to offer opportunities and incentives (tax holidays and flexible labor regulation) for foreign investors to make use of so-called ‘unused’ or ‘underutilized’ land (Maconachie, R. and Fortin, 2013). However, there is currently no system of registration of titles or cadastral mapping covering the country to quantify the vast unused land claimed by the government, and the Registrar Generals’ office, responsible for documenting land transaction, has only limited data available on land transactions. This is further exacerbated by weak land administration and management, inadequate concession practices and protective mechanisms to prevent land grabbing in the commercial land use sector, among others. Moyo & Foray (2009) alleged that inaccurate land records, corrupt land adjudication processes, competing claims of land ownership and disputes over

boundaries have further increased land management challenges. The land administrative context has raised concerns among civil society groups and NGOs about the lack of transparency and weak regulatory framework surrounding larger investor land deals and confusion about the availability of land for investment in rural communities (Oakland Institute, 2012). The adequate secure land administration is critical for the livelihoods of farming communities as well as for domestic and foreign commercial investments into agriculture. Land management reform, including transforming farming practices, particularly moving away from the low levels of agricultural productivity among small producers, is also a critical aspect of the wider land reform process needed to support sustainable agriculture development.

2.2.1 The New Land Policy (NLP) and its Implication for LSLA

In response to the deep-rooted current chaotic situation of poor land management, land grabbing and increased land litigations, the President of Sierra Leone, Dr. Ernest Bai Koroma, on Thursday, March 23, 2017, launched the National Land Policy (NLP). The new land policy aspires “to move towards a clearer, more effective and just land tenure system that shall provide for social and public demands, stimulate responsible investment and form a basis for the nation’s continued development”. The Sierra Leone NLP offers a set of guiding principles and proposes to improve upon and to strengthen the existing land administration and management systems. The policy maintains the dual land tenure systems in the Western Area and the Provinces. Specifically, it provides a framework for institutional and legal reforms geared towards a more effective land delivery system. The policy will address the land tenure rights, land use planning and regulation, land laws and environmental sustainability to mitigate and adapt to climate change, reduce land disputes and provides for an equitable and fair share of the land system across the country. The major concern of the NLP is, how to make the system more effective, transparent, and foremost just and fair towards all citizens by making provisions for sovereign title rights: land belongs to the people of Sierra Leone and creating the enabling environment for responsible land investment through transparent procedures with Free, Prior and Informed Consent (GoSL, 2016).

However, the NLP is a policy at present and is nonbinding by law. The Ministry of Lands, Country Planning and the Environment (MLCPE), in consultation with other sectoral agencies and development partners, has set out a framework for the implementation of the NLP. The framework provides for the establishment of an interim administrative mechanism to operationalize the Policy pending the establishment of the National Land Commission. In addition, the framework provides capacity building and financing mechanisms for the implementation of the Policy.

2.2.2 Lessons from Government, Investors, Local communities and Civil Society on LSLA Processes in Sierra Leone: the case of SOCFIN

Land dispute is reported to be the most prominent negative impacts arising from LSLA. Local communities are closely tied up with their access to land and other natural resources and the arrival of an investor can have significant implications (Zhan et al. 2015). Furthermore, local communities

do not understand the national guidelines or international principles used to acquire large scale land for industrial agriculture. Lack of transparency and participation in the process of land acquisition had significant consequences within the country and local communities. These issues further created an adverse consequence for the investor. From this background, the research draws lessons from the roles and responsibilities of government, investor, and local communities and civil society organizations using SAC’s land acquisition process as a case (see Table 4).

Table 4: Selected Key Lessons on SOCFIN Agriculture Company LSLA Process

Selected Key Lessons for Government	
Registration and certification of SAC	<ul style="list-style-type: none"> ▪ Registration procedure (SLIEPA and MAFFS guidelines) for foreign investors should be followed to increase the occurrence of investors likely to make a positive contribution to the country. However, this is missing in SAC’s case. ▪ Government refusing to seek the interest of local population by ensuring that their interest is included in the contracts.
Conduct of consultations, impact assessments and business plans	<ul style="list-style-type: none"> ▪ SAC took the lead in consultation process, Environmental, Social, and Health Impacts Assessment (ESHIA), community development plans and business plans implementation instead of the government.
Phasing of investment and approvals	<ul style="list-style-type: none"> ▪ The government is only involved in the initial phase of the agreement between them and SAC’s subsequent expansion of company operations is not discussed with the government. Therefore, the government should seek commitments from SAC to be informed about the pace at which the operation developed. ▪ The government had allowed SAC to proceed at a faster pace than their capacity to realistically assess and monitor the investment.
Ongoing monitoring of SAC	<ul style="list-style-type: none"> ▪ The government needs to strengthen regular monitoring of SAC’s investments. ▪ Monitoring of SAC’ environmental impact, including the use of water resources, and adherence to environmental regulations were in most cases inadequately done by Environmental Protection Agency (EPA).
Land rights and crop compensation	<ul style="list-style-type: none"> ▪ The absence of a clear regulatory framework for land acquisition approvals and a formalization of local communities’ tenure rights under a registry system contributed to increased land disputes. ▪ Unclear land laws create situations of conflict over land rights, especially where customary land was concerned. ▪ Crop compensation was done on a generic payment for acres without proper calculation to quantify and value individual crops land, done by the company without consultation and transparency about the process for crop compensation. ▪ The government should develop clear, transparent procedures to follow and standard valuations for crop compensation. Effective monitoring systems could be developed to ensure compliance.
Employment and contribution to	<ul style="list-style-type: none"> ▪ Government should have considered more thoroughly if SAC investment models could maximize direct and indirect employment. ▪ Large scale-land allocations did not necessarily create the most jobs per hectare ▪ Out grower schemes are lacking in SAC’s operation, this could have been effective in supporting livelihoods while allowing people to retain some valuable asset—their land.

rural livelihoods	<ul style="list-style-type: none"> ▪ Government should have considered the whole value chain and promoted the downstream value addition of the raw materials produced from land made available, thereby maximizing employment and other benefits. ▪ With the arrival of SAC investment, many communities underwent a period of rapid transition with potential for both positive and negative consequences. ▪ There have been redistributive effects and a creation of insider-outsider status as some people (Paramount Chief and his close allies) are benefiting from the investment but others who oppose (Malen Land Owners and Users Association-MALOA) are not, and may indeed create difficulties due to impacts such as rising prices. ▪ The extent of positive economic spillovers from SAC's investments varied widely and depended on the investor's priority areas. ▪ Governments should recognize the risk that the employment benefits may diminish over time as production becomes more mechanized.
Transparency	<ul style="list-style-type: none"> ▪ In general, there was an insufficient amount of publicly available information to ensure the fully transparent and accountable conduct of SAC's investment.
Technology transfer	<ul style="list-style-type: none"> ▪ Technology transfer was by no means an assured benefit. ▪ Appropriate, proven and customized use of innovation in new palm oil crops, techniques should have been encouraged to reduce risks. ▪ The types of technology transferred should be contextualized to fit with available levels of finance, skills, equipment or experience/capabilities.
Social and infrastructure service	<ul style="list-style-type: none"> ▪ Even though SAC may provide and support social services to the communities, government needs to maintain the primary responsibility for social and infrastructure services provider.
Selected Key Lessons for Investors-SAC	
Communication and transparency	<ul style="list-style-type: none"> ▪ SAC acknowledges the need for adequate consultations a key step in developing a strong relationship with local communities and other stakeholders ▪ SAC claimed initial consultations were time-consuming and expensive therefore the need to only engage key stakeholders-Government and Paramount Chief and some district and chiefdom stakeholders. ▪ Most of the claimed consultation processes by SAC were mere information sharing with local stakeholders. ▪ A lack of transparency from SAC generated fear and uncertainty intentions and open the door for unfounded criticism from other stakeholders ▪ Unfulfilled commitments and unmet expectations were particularly damaging for relations with local communities.
Due diligence and business planning	<ul style="list-style-type: none"> ▪ SAC's business plans and community development plans are not shared with local communities in some case very difficult to access by the public. ▪ Recommendations from problems foreseen in the findings from impact assessments and community consultations are not implemented.
Land rights and compensation	<ul style="list-style-type: none"> ▪ Lack of consultation in land acquisition process makes SAC invest more resources in solving land disputes over implementing community development initiatives. ▪ Lack of a fair and transparent process by SAC in negotiation crop compensation led to some negative impacts on local communities. ▪ Failure to allow proper consultation in the land acquisition in accordance with expectations management is a significant source of tension between SAC, local communities, and government.
Environmental impact	<ul style="list-style-type: none"> ▪ Environmental impact assessments reports are conducted by an agent of SAC, therefore, reflect investors interest against realities in local communities. ▪ Impact assessments are too often "box-ticking" exercises, for local legal compliance, and not incorporated into the business operations.

	<ul style="list-style-type: none"> More assessment and monitoring was needed for the impact of the investment on water resources and other natural resources. SAC took on responsibility in undertaking public disclosures and for raising local awareness of environmental issues that are of interest to their operations.
Social development programs and financially inclusive business models	<ul style="list-style-type: none"> Consultations are lacking in social or rural development initiatives, therefore; their impacts are not felt in local communities. Programs that were fully funded and not dependent on profitability of the investor were most successful like rehabilitation of schools, hospitals, and water
Employment and working condition	<ul style="list-style-type: none"> Local people are employed but limited to casual labour providers due to skills gaps. Training programs, which helped integrate local communities into the workforce, were highly recommended by local communities. SAC is paying inadequate wages and offering unacceptable working conditions, leading to tension between workers and company. There was a gender imbalance reported in most of SAC's operational area. The company has taken responsibility in providing vegetable grading scheme for local women. SAC's investment is in areas where formal employment and the contracting process is not known or well established. SAC's investments are attracting educated young professionals from outside of the area operation while they refused to employ those originally from the chiefdom.
Out-grower schemes	<ul style="list-style-type: none"> Out-grower schemes were included in the business plan. However, its implementation is still forthcoming.
Food Security	<ul style="list-style-type: none"> The main positive contribution to food security is through direct employment. SAC have started support food production schemes (development of Inland Valley Swamps or flooded plains development for rice cultivation). The main negative aspect was deemed to be through reduced access to land.
Technology transfer	<ul style="list-style-type: none"> SAC investment has recorded very limited technology transfer to local communities, training programs are held for limited employees of the investments.
Selected Key Lessons from Local Communities and Civil Society Organization	
Consultations between SAC and communities	<ul style="list-style-type: none"> Civil Societies' reports indicate very little consultation in the land acquisition leading to conflict and land disputes between the company, local communities, and government. SAC claims that it was better to negotiate with government and local chiefs: the persons stipulated by law to lead the negotiation and consultation processes for the land use rights transfer process.
Monitoring of SAC	<ul style="list-style-type: none"> Civil society is playing a key role in monitoring and reporting conflicts between SAC and local communities and instances where their operation was degrading natural resources, e.g., in making those issues public or known to relevant authorities. Civil society monitoring is mostly conducted in a constructive manner, but in some cases, SAC refused to accept the outcomes of their monitoring.
Engagement with SAC	<ul style="list-style-type: none"> Very little engagement between Civil society and investor was observed for fear and mistrust.
Marginalized communities and groups	<ul style="list-style-type: none"> Civil society is playing a key role in helping SAC to forge partnerships with marginalized groups of land owners and users including women and youth, for example: <ul style="list-style-type: none"> help them engage in constructive dialogue with company and government advocate for policies reflecting the need and interest of local communities
Land rights and crop compensation	<ul style="list-style-type: none"> Civil society is effective in raising community awareness regarding their rights and how to exercise them, as well as ensuring that people had a realistic assessment of the value of their land in the case of quantity and value for crop compensation.

Rural livelihoods	<ul style="list-style-type: none"> ▪ Nonexistence of community land proves difficult for Civil society organization to partner with investor and other development agencies to provide development intervention or allow local communities benefit from new opportunities.
Technology transfer	<ul style="list-style-type: none"> ▪ Civil society expresses willingness to facilitate partnerships with investors to provide knowledge transfer to assist communities with the adoption of new technology and inputs where they exist.

Source: Own developed based on field data and World Bank, 2016. UNCTAD-World Bank Survey of Responsible Agricultural Investment Database format.

2.2.3 Actors in the Sierra Leone Land Sector

Land governance, tenure rights and owners as discussed in the above section are of high significance to supporting livelihoods of many, particularly the rural poor and the socio-economic development of the country. Presently, there are many actors working on land rights and governance issues in the country at various levels including community; district; national and international. These actors work to improve on gender equity, community participation and social benefits and legal service in land issues. As one part of government's effort to respond to the problem of land governance and tenure rights, a partnership agreement was signed on December 22, 2015, between the Government of Sierra Leone, the Federal Republic of Germany, and the Food and Agriculture Organization of the United Nations (FAO). This agreement is to support the Government of Sierra Leone to effectively implement the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) with the overall aim of improving the governance of tenure in the country, especially in the context of large scale investments. The partnership will also foster and sustain national and international political commitments to improve land governance and to increase land transparency and to improve coordination in Sierra Leone in the context of the G8 (FAO, 2015). The VGGT process is an international instrument; it presents a framework for interaction between states, non-state actors and civil society organizations on good governance and institutional capacity building in the land sector. The VGGT implementation offers the possibility for the different stakeholders of getting involved in political and administrative procedures for land, water, fisheries and forests (Bread for the World, 2014). The VGGT process started a little late, but can be used as a consultation process of bringing together all relevant actors working on land issues. Work of actors should not be done in isolation or individual interest but rather linked to each other and address the issues relevant to the land sector and land investment, such as gender, participation, and transparency.

2.3 Conceptual Framework on Food Security

The concept of food security has many features or perspectives to consider and has changed substantially over time. The concept originated in the mid-1970s during the international global food crisis. The initial focus of food security was food self-sufficiency and price stability at global, regional, national, state, household and individual levels, with a broader notion of nations

producing their required food within their borders. Food security was defined in the 1974 World Food Summit as: “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices”.

FAO (1981) termed food security as a physical and economic access to food by all people at all times involved in concurrent steps of production and consumption. FAO further enlarged its concept of food security by including three components: 1) The ultimate objective to ensure all people at all times do have both economic and physical access to basic food they need; 2) It should have specific aims, namely ensuring production of adequate food supplies and access to available supplies; and 3) Action should be needed on a wide front including all factors that have a bearing on capacity of both countries and people to produce or purchase food. The World Bank (1986) has slightly modified the concept and indicated that food security meant access by all people at all times to enough food for an active, healthy life. An essential element was the availability of food and the ability to acquire it.

According to the World Food Summit (1996) “Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2006). This widely accepted definition points to the following dimensions of food security:

- **Food availability:** The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid).
- **Food access:** Access by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet. Entitlements are defined as the set of all commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they live (including traditional rights such as access to common resources).
- **Utilization:** Utilization of food through adequate diet, clean water, sanitation, and healthcare to reach a state of nutritional well-being where all physiological needs are met. This brings out the importance of non-food inputs in food security.
- **Stability:** To be food secure, a population, household or individual must have access to adequate food at all times. They should not risk losing access to food as a consequence of sudden shocks (e.g. an economic or climatic crisis) or cyclical events (e.g. seasonal food insecurity). The concept of stability can therefore refer to both the availability and access dimensions of food security.

2.3.1 Food Security Status of Rural Farming Communities Affected by LSLA

In 2015, the World Food Programme (WFP) used the dimensions of food security to conceptualize the State of Food Security in Sierra Leone at household level with the application of the food security dimension to the family as a unit. The report classified households that lack access to sufficient and nutritious food to be considered food insecure (World Food Programme, 2015). The report classifies food security at the household into three forms:

1. **Chronic food insecurity:** which is a long-term or persistent inability to meet minimum food consumption requirements. Food insecurity lasting for at least six months per year can be considered chronic.
2. **Transitory food insecurity:** which is a short-term or temporary inability to meet minimum food consumption requirements, indicating a capacity to recover. Short periods of food insecurity related to sporadic crises can be considered transitory.
3. **Cyclical food insecurity:** occurs when there are habitual seasonal variations of the food security situation. If seasonal food insecurity is present for a total of at least six months a year, it can be considered chronic; if it lasts for a total of fewer than six months a year, it can be considered transitory.

According to the World Food Programme's (2015) Comprehensive Food Security and Vulnerability Analysis, food insecurity in Sierra Leone stands at 49%, of which 12% are severely food insecure. The country faces significant challenges related to food security and nutrition. It has been ranked as having an “alarming” hunger level, scoring 97 out of 113 in 2012 at the inception of LSLA in the country, compared to 112 out of 113 in 2015 at the operational phase of most of the LSLA projects according to Global Hunger Index (IFPRI, 2016). The report indicates the country’s food security situation is retrogressing.

Table 5 Global Food Security Index (GFSI) Sierra Leone

Year	Score / 100					Rank / 113				
	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
OVERALL SCORE	34.5	33.2	35.1	27.2	26.1	97	100	97	112	112
Affordability	27.1	26.4	26.7	26.7	26.4	98	98	100	100	100
Availability	41.4	39.3	42.9	25.1	22.9	95	100	92	113	113
Quality and safety	34.3	33.7	34.3	34.0	34.1	94	95	97	97	98

Source: Economist Intelligence Unit; Food and Agriculture Organization

The inability of Sierra Leone to produce what its people consume has always been a contributing factor to the persistent food insecurity and poverty in the country, as most of the farmers do not have the technical knowledge and resources needed to involve in mechanized farming. Local production of rice, the main staple crop in Sierra Leone, remains inadequate to satisfy national requirements. Thus, the country heavily relies on imported food stuff, especially rice, to feed its people.

LSLA by foreign companies like SAC in Pujehun has subjected the farming population living on subsistence farming on fertile land in the low and upland. Many have been displaced and subjected

to areas of poor soil fertility resulting into poorer yields, making huge amounts of the population to rely on markets to access food (World Food Programme, 2015). However, there are conflicting views on food security and LSLA in Sierra Leone. On the one hand, the government holds the fact that promoting LSLA is a means of achieving food security by creating more jobs from these investments. On the other hand, MAFFS is promoting the Smallholder Commercialization Programme to enhance rural agriculture production generating competition for the available marginal agriculture land.

2.3.2 Food Security versus Right to Food

The International Finance Corporation (IFC), the private sector arm of the World Bank Group, and the Government of Sierra Leone claim that LSLI in agriculture will bring much needed agricultural investment to poor countries especially local communities. However, evidence and research show that there is simply no place left for the small farmers in the vast majority of these LSLI situations (Daniel, 2011). Most land deals consider the local population only to the extent that large scale agriculture will create employment for subsistence local farmers. However, the employment to local farmers to work on large scale industrial farms effectively implies the forcing of subsistence local farmers off their land to make room for large scale farms producing food and biofuels for other countries. Local farmers do not only lose their sovereign land rights to LSLI companies, their lands will also be transformed from smallholdings or communal lands into large industrial estates connected to far-off markets (GRAIN, 2016).

LSLI in Sierra Leone is replacing local food production on available fertile land with large scale industrial agriculture on foreign controlled land. Most of these deals are directly affecting the possibility of attaining local community's food self-sufficiency. Ironically, the country is a net food importer and does not have the capacity to feed its population (Daniel, 2011). The best-case scenarios to providing solutions in achieving food security are to increase agricultural "productivity" through large scale mechanized and intensive agriculture, but in many cases, these approaches have little to do with food security for the rural vulnerable communities. To ensure domestic food supply through increased local food production, Sierra Leone's local farming communities require low cost and readily available technologies and practices accompanied by regulation and monitoring in order for the country to improve its agricultural productivity.

Article 25 of the United Nations Universal Declaration of Human Rights stipulates that it is the intrinsic right of all people to have access to food (United Nations, 1948). The World Food Summit, held in 1996, declared that ideal food security includes the global population, whereby all people have access to sufficient, safe and nutritious food, encompassing both the physical availability and the economic access (FAO, 2011). However, the responsibility to enact these rights rests mostly on the national government, not the international community. On the other hand, Yengoh & Armah (2015) argue that the most important factor in solving the problem of food security or Right to Food is the need to address hunger as a universal, constant and compulsory obligation for everyone. Addressing this need cannot be postponed indefinitely without significant implications for the health and lives of the individual or people affected. The Right to Food involves both ownership and the rights of local people to define local food systems, without first

being subject to the international market system. Therefore, achieving food security and Right to Food requires a wider understanding, include the role of local/national government in negotiating the transfer of land use rights to LSLI, in most case discouraging the scale of large fertile land to large scale industrial agriculture to produce energy crops over displacing local farming producing food crops for local consumption and national market.

3 METHODS AND MATERIALS

3.1 Research Conceptual Framework

The principles and relationships described in this research conceptual framework present a general research purpose and create a framework that is broadly applicable to understanding the research context. Consequently, while the research conceptual framework may not explain all the cross-contextual distinctions between rural household's food security and the system that support the achievement, it is designed to provide an integrated basis for discussing the research goals and the strategies set to achieve the outcomes. However, the usefulness of this conceptual framework will depend on the extent to which it enables the researcher to explain the issues around land access, food production and supply and income generation activities of rural household's food security.

The relationship between rural household food security and LSLA is complex and it is influenced by a number of factors that vary in importance across the context and over time. Illustration of these factors and the pathways through which they influence rural household food security are described in the conceptual framework.

First, rural households in the study area have different means to access land for food production, whether through family ownership rights or lease holding from communities through local chiefs. Land ownership or access affects the ability of the household to produce food for the household and thereby achieve food security. The framework further recognizes that diversifying household income generation is one of the main strategies to reducing the risk of rural household food insecurity. The household's ability to purchase food in the marketplace is another critical determinant of food security, which in turn depends on the household's ability to generate income. Therefore, to adequately understand rural household food security requires an understanding of household's access to land for food production and income generation activities that support household food supply.

The research framework looks at the roles of national government and non-governmental agencies that support rural household's food security. These actors and agencies formulate policies that enable rural households to achieve food security; therefore, their roles are very crucial, in creating an enabling environment and in designing policies that support rural households to achieve their food security.

Finally, the research framework looks at rights and power distribution among these actors and how they relate to rural household food security, especially the use of political powers by the national government and local stakeholders. Power relation and decision making if not properly managed can affect households' access to resources and deprive them of certain benefits that can impact directly on rural food security.

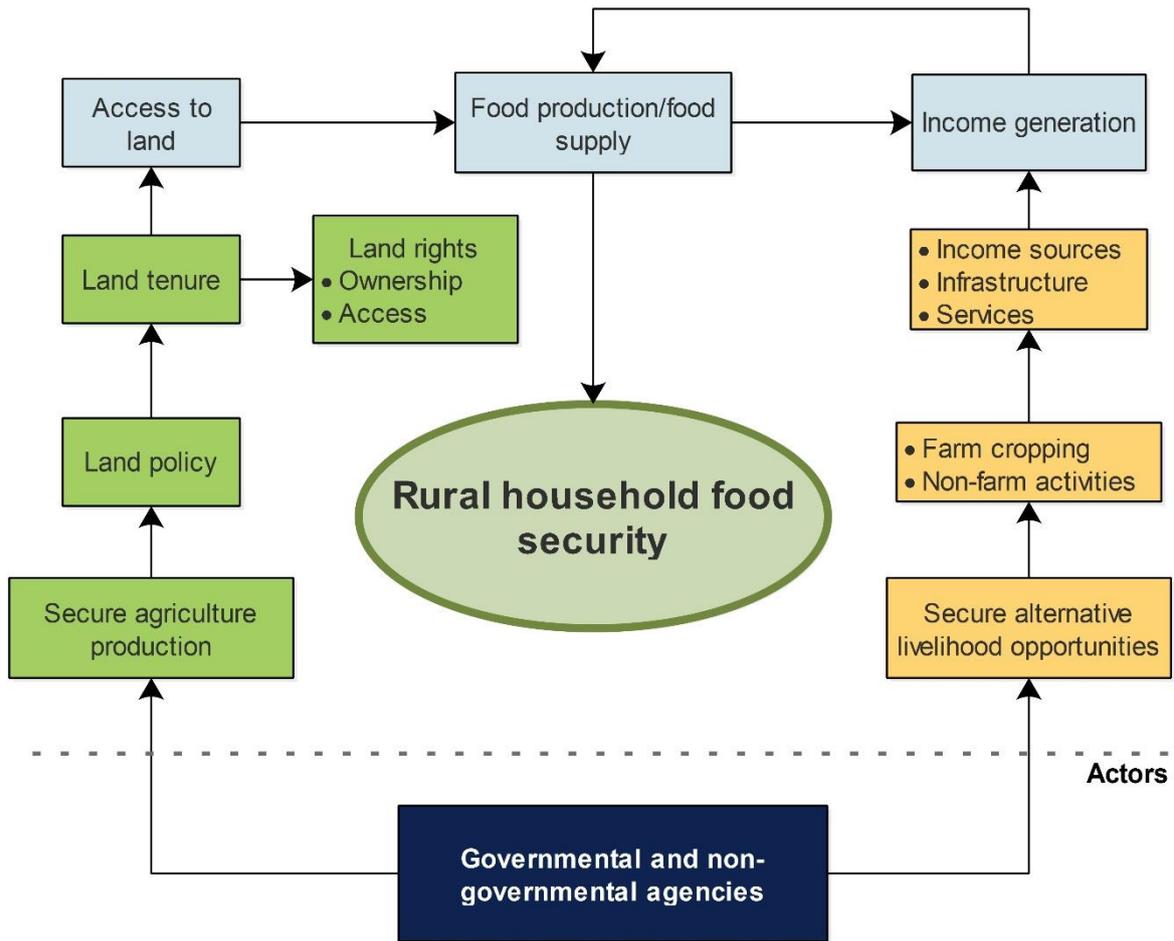


Figure 4: Research Conceptual Framework

Source: Self Construction.

3.2 Study Area

The Malen chiefdom is one of twelve chiefdoms in the Pujehun district in the Southern Province of Sierra Leone. It is a rural area situated to the west of Pujehun Town and has a total population of 49,215 (25,118 male and 24,097 female) with a land area of 27,642.2 ha (Statistics Sierra Leone, 2016). The climate is tropical with two pronounced seasons: an intense rainy season from May to October and a dry season from November to April. The rainy season also coincides with the “lean season”, when access to locally produced food is greatly reduced. The average temperature is 26°C and varies from around 26°C to 36°C during the year. Annual rainfall is 3,067 mm. (Amara & Momoh, 2014). The original vegetation had been a primary rain forest. However, this vegetation has been transformed by SAC into a monoculture palm oil plantation. Major land use systems before leasing to SAC were upland mixed farming, swamp farming, and tree cropping. Upland mixed farming is generally referred to as shifting cultivation or bush-fallow system, which consists of felling forest trees, farming the land for a few years, and then cut down a new piece of forest.

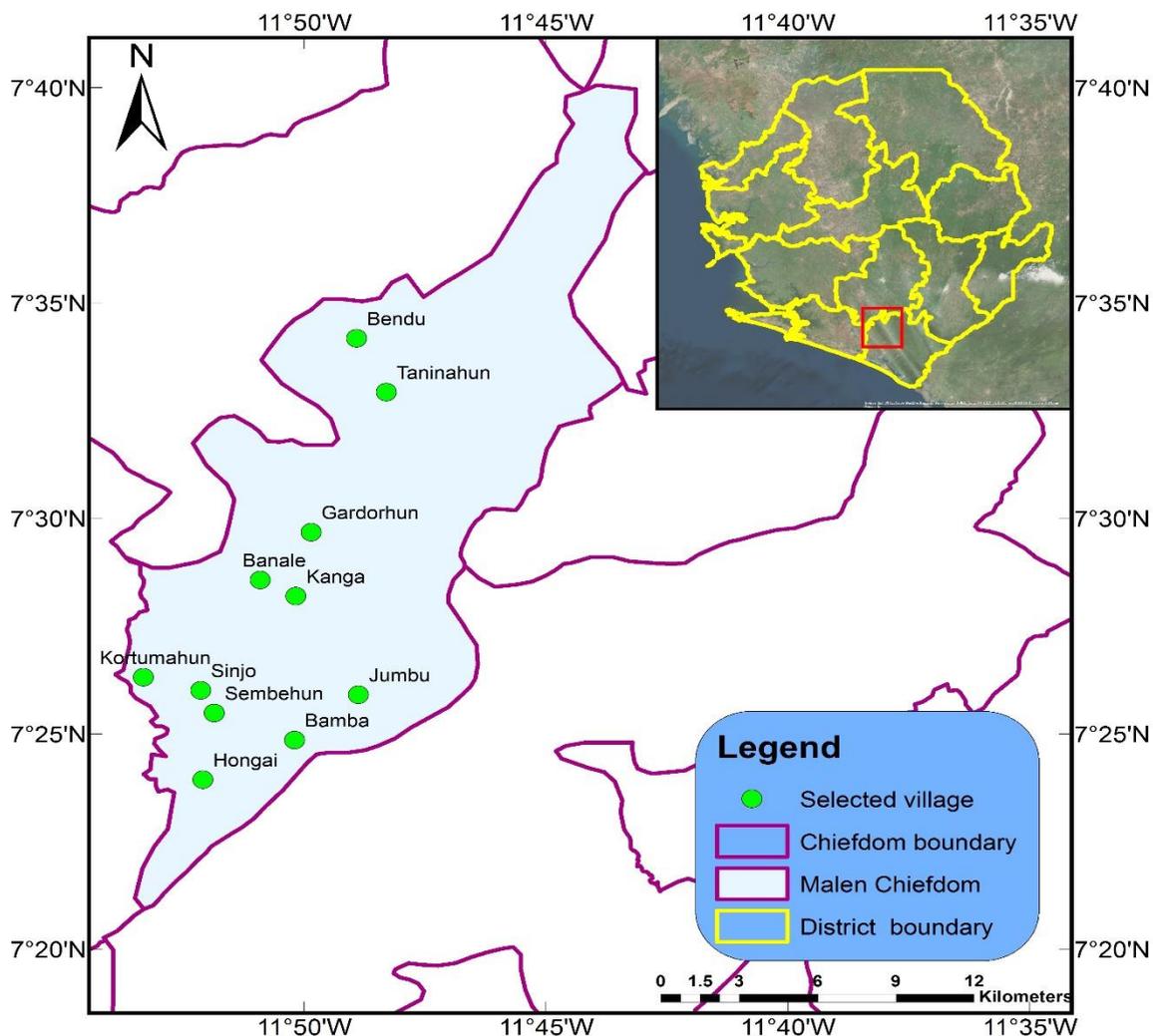


Figure 5: Map Showing Study Area

Source: Created using data from OCHA (2014), SAC 2014 and Google earth imagery (2017)

3.3 Data Collection and Analysis

Fieldwork for this study was undertaken in March and May 2017. It started with the collection of secondary data on the state of LSLA and its impact on host communities. The research was further divided into components to help the researcher acquire necessary data for analysis and interpretation. Primary data sources were key informant interviews with company representatives, National NGOs and local government, as well as focus group discussions (elders, women, and youths) and household questionnaires administered to selected houses in Malen communities on the food security situation. Meetings and conferences (Paramount Chiefs and Land Owners and Users) were further attended to understand the broader national context of LSLA (Annex 1, page 50).

Descriptive analysis was used to describe the main features of the data collected in quantitative terms. Unlike inferential or inductive statistics, descriptive statistics aims at quantitatively summarizing the data set, rather than being used to support inferential statements about the

population that the data were thought to represent (Bernard, 2008). In this research, the data were generally presented along with more formal analyses. For example, reporting subjects typically appear through tables, graphs or figures giving the overall summary statistics, the proportion of each subject and demographic or characteristics such as the average age, marital status, gender etc. Descriptive analysis is about the data you have in hand.

3.3.1 Selection of Communities for the Study

The study location hosts a multinational company investing in large scale palm oil plantation and housing the biggest oil mill in West Africa, making it very peculiar to investigate the impact of its operations on the local communities' food security. A multistage sampling technique was used for community selection; where the chiefdom was divided in two zones (lower and upper) and 15 communities were selected randomly from each zone making a total of 30 communities purposively. Finally, 11 communities were selected from the sample using a simple random sampling technique. Criteria for community selection for the study were whether the community was impacted by SAC operations. Selection of communities was done with the help of the staff of Rural Agency for Community Action Programme (RACAP/SL) a local Community-Based Organization (CBO) in Pujehun district working on land rights. The organization was charged with the responsibility of monitoring and reporting the impact of SAC's operations on host communities. Selection of research communities was done using the size of the community, estimated number of houses and its geographical location to avoid selecting clustered communities. Categorizing of communities concluded that the communities impacted by SAC operation were homogeneous (same ethnicity, similar household composition, geographic characteristic, losing land to SAC).

From the background that SAC started its operations in 2011, six years before the research, it is likely to assume that the respondents were adequately knowledgeable on the food security situation before the start of SAC operation and the current situation with the present operations of SAC. The result of communities selected for questionnaire administration and focus group discussion is presented in Table 6 below.

Table 6: Villages selected for the study.

No	Village	Questionnaire Administered	Focus Group Discussion
1	Bamba	7	Yes
2	Hongai	7	Yes
3	Kanga	7	Yes
4	Sinjo	5	Yes
5	Kortumahun	8	Yes
6	Bendu	10	Yes
7	Banale	6	Yes
8	Taninehun	11	Yes
9	Jumbu	10	Yes
10	Gandorhun	7	Yes
11	Sebenhun	10	Yes
	Total	88	

Source: Own Data

3.3.2 Interviews

The researcher held a semi-structured interview with key informants and stakeholders including national government and local government officials, NGOs and CBOs working on issues of LSLA and food security in the country. The interviews focused on: roles in the land acquisition processes, understanding of policies on land management, support to community development, decision making and benefit sharing and a host of many other issues around the impact of LSLA on local communities. The researcher developed the below themes to guide the stakeholder interviews.

Agriculture Investment Company

- Background company
- Land acquisition process: consultation, participation, decision making
- Support to community development
- Support to community food security
- Community relations (grievance mechanisms, infrastructure investments etc.)

National and Local government

- The role of national government and local government officials: regulating vs. promoting investments.

- Drivers /constraints and development of national policies; new land policy, guidelines for agricultural and bioenergy investments.
- Strategies and challenges to implementing national policies, Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security (VGGT).
- Large-Scale Land Investment: who is involved in the decision-making process, are local stakeholders consulted? Who knows of the contract before it is signed? Is there time for discussion and consultation? Is it publicly announced and do local people react?
 - Perceptions of development effects of investments
 - Constraints and solutions to agri-based investment

NGOs/CBOs, other experts:

- Level of knowledge on LSLA in the country
- Monitoring of local/national government: regulating vs. promoting investments
- Knowledge of drivers /constraints and development of national policies; new land policy, guidelines for agricultural and bioenergy investments
- How strong are national institutions – do you trust them to enforce the national law or to enforce the provisions of the contract in case of non-compliance?
- Agricultural investment: who is involved in the decision-making process, are local stakeholders consulted? Who knows of the contract before it is signed? Is there time for discussion? Is it publicly announced and do local people react?
- Perceptions of development effects of investment company
- Role of different NGOs/CBOs and other stakeholders to support agricultural investments
- Challenges to fulfill these roles?

The researcher had to interview different stakeholders to have a broader understanding of the research topic. The interviews provided the different positions and perceptions of the stakeholders about the research topic. See the list of key informants and stakeholders interviewed in Table 7.

Table 7 List of Stakeholders and institutions

No	Stakeholder/	Organization	Position
	NGO's/CSOs		
1	Joseph Rahall	Green Scenery	Executive Director
2	Emmanuel Fawundu	Rural Agency for Community Action Programme (RACAP/SL)	Executive Director
	National and Local government		
3	Momodu Al-Rashid Bah	Environmental Protection Agency SL	Director

4	Councilor Rogers	Pujehun District council	Councilor
5	Emanuel Marah	Ministry of Agriculture, Forestry and Food Security	District Crop Officer
6	Chief Robert Moigua	Malen Chiefdom	Chiefdom Speaker
7	Abu Bakarr Daramy	Ministry of Agriculture, Forestry and Food Security	Public Relation Officer
8	Councilor Kebbie	District Council	Councilor
9	Ministry of Agriculture, Forestry and Food Security (MAFFS) Pujehun	Ministry of Agriculture, Forestry and Food Security (MAFFS) Pujehun	Crop officer, Extension officer, and Land management officer
Agriculture investment Company			
10	Peter Pijpers	Natural Habitats-Bioenergy Palm oil Company (Pujehun District)	Country Manager
11	SOCFIN management staff	SOCFIN Agriculture Company (Pujehun district)	Community Liaison Manager, Food Security Officer, Community Liaison officer, Agroforestry officer, Gender officer, Health Social and Environment officer

Source: Own Data

3.3.3 Questionnaire Administration

After community identification, the households for questionnaire administration and the number was decided based on the number of house structures in every community. A simple random sampling technique was applied to administer the question by selecting the first house in the community as a start point and selecting one household in the house for questionnaire administration. After that, the enumerator skipped one house structure and moved to the next house structure again to administer the next questionnaire. The process was repeated until the entire houses selected were enumerated. These processes were applied in all selected communities. The

process was carried out from April 25 to May 04, 2017 in the selected communities. The questionnaire was divided into different sections to represent: personal information of respondents; data on household conditions; land assets, use, access, and change; income and local development and Food Security situation impacted by LSLA.

The researcher conducted a one-day small training exercise for six enumerators on questionnaire administration. The enumerators were drawn from Pujehun Town, they all spoke the local language (Mende) and English, and had all lived in the local community for more than five years. One main reason for using local enumerators was that they are part of the local community, which means the people are more open to answering questions about household status to them and had some level of trust in them. The enumerators were trained on questionnaire administration and some confidentiality protocol. This was necessary to ensure a common understanding of the whole research in order to reduce interviewer biases as much as possible.

In general, the head of the household was interviewed, but if he/she was not present or available, then the spouse or an adult household member was interviewed. Each interview lasted on average 30 to 45 minutes. The interviews were carried out in a local language depending on the primary language of the household head. An important aspect of the data collected was internal quality control. All procedures regarding internal quality control were established during training sessions held before the data collection. For example, all the enumerators agreed on common definitions in the questionnaires before setting out to the communities. The researcher was also available to cross-check the accuracy and completeness of information collected by the enumerators. This was very important because enumerators could quickly correct any mistake that had occurred by going back to the households to validate the information from their subjects when it was necessary.

Structured household questionnaires were administered to randomly selected households. The structured questionnaires were composed mainly of direct questions, the response provided by the respondents recorded by enumerators. The questionnaire was divided into different sections to collect the information. The sections included: (a) Personal Information (b) household demographics (c) Land Assets, Use, Access and Change (d) Income and Local Development from Large-scale Land Investments (e) Food Security.

During the training, enumerators were given the opportunity to review each of the questions in the questionnaire and ask questions for clarification. After the training, the questionnaires were pretested in Jumbu, Malen, one of the communities affected by SAC's operations. Further corrections were made after the pre-test. The final version of the questionnaire was administered to the head of households in the local language Mende. The total of valid household questionnaire returned from the communities was 88 (Annex 3, page 54).

3.3.4 Focus Group Discussions

According to Morgan (2016), a focus group discussion is a dialogue between people in small groups participating together with the aim of describing their perceptions, opinions and advocating

ideas or recommending courses of actions regarding certain issues. From this background, focus group discussions were held in all communities after questionnaires were administered. Focus group discussion offers opportunities to validate responses gathered through the household and stakeholder interviews and stimulating conversation and reactions in group dynamics (Jenkins et al. 1998). The researcher developed a discussion guide comprising current issues of concern to the research objectives to guide the discussion.

Three different focus group discussions were held in each research community. Participants were disaggregated into youth (Male), women (including youth women) and elders. The groups were disaggregated to allow people with similar characteristics, it is important to ensure that participants in every group have something in common with each other. The reason for this is simple. People talk more openly if they are in a group of people who share the same background or experiences. Status of participants in the community was also considered by not allowing people in positions of power and authority to dominate the discussion.

Agricultural productivity, livelihood, and food security were cross-cutting issues discussed in all focus groups. The focus groups in each community were conducted by the researcher in the local Mende language. Permission was requested in each group discussion to use a recorder. Recordings were later transcribed into English by the researcher. The below-listed themes guided the discussions in each group:

FGDs Community Elders (general):

- Land acquisition: consultation, participation, negotiation
- Land assets, use, access and change
- Income and local development from Large-scale Land Investments
- Food security
- Wide community effects: land access and use, natural resources use...
- General perceptions about the investment

FGDs women group:

- Change in land use and the role of women in the planning of investment? (e.g. access to land, difficult access to water, change in food provisioning)
- Land assets, use, access and change
- Income and local development from Large-scale Land Investments
- Food security
- Wide community effects: land access and use, natural resource use...
- General perceptions on about the investment

FGDs youth group:

- Change in land use and access
- Participation in employment
- Other economic opportunities because of the investment
- Challenges and solutions for sustainability
- General perceptions on about the investment

3.3.5 Calculating Household Income Requirements for Security in Staple Food

In an attempt to provide an answer to the question, to what extent household average earnings from either employment by SAC or off-farm activities will meet the needs of household supply of the country's staple food (white polished grain rice), calculations were made using an assumption based on Yengoh & Armah (2015). Participants in the focus group discussions were asked to state the average consumption of rice per person and the cost of rice at current market prices. Using census 2015 data on average household (HH) size for Sierra Leone (Statistics Sierra Leone, 2016), at the current market price for staple food rice the annual cost of sustaining a household was calculated (see Table 8).

Table 8: Calculating Household Income Requirements for Security in Staple Food

Household conditions	Household variables	Calculation
Average household size	5.6 persons	
Average consumption of polished grain rice (inclusive of the extra for visitors)	0.4 kg/person	
Average daily consumption per household (HH)	5.6 persons/HH X 0.4 kg/person/day	2.2 kg/HH/day.
Average annual consumption	2,4 kg/HH/day X 365 days/year	803 kg/HH/yea
Annual HH consumption	803 kg/HH/year ÷ 50 kg/bag	16.0 bags/year
Market price per bag of rice (March-May 2017)	220,000 SLL	
Annual consumption of rice per average household	16.0 bags/year X 220,000 SLL	3,520,000 SLL

Note: (1\$ = 7,265 SLE Bank of Sierra Leone rate June 22, 2017).

Source: Elaborated based on Yengoh & Armah, (2015)

3.3.6 Calculating Household Land Size Requirements to Produce Staple Food (Rice)

Land being the most important variable in achieving rural household food security, and being under contention, the researcher made an attempt to calculate the average land size required to produce staple food (white polished grain rice) to support the average rural household in the study district (white polished grain rice). Calculations showed that the average yield of polished rice in Sierra Leone is 0.54 t/ha (Chenoune, et al. 2016). The researcher used census 2015 data on average household (HH) size of 5.6 people for Pujehun District (Statistics Sierra Leone, 2016). Calculations are presented in Table 9.

Table 9: Calculating Household Land Size Requirements to Produce Staple Food (Rice)

Conditions	Variables	Calculations
Average household size	5.6 persons	
Average yield of polished rice in Sierra Leone	0.54 t/ha	
Average annual consumption (See Table 8)	803 kg/HH/year	
Hectares required to produce Average annual household consumption	803 kg/HH/year/0.54kg/ha	1.5 ha/HH/year

Note: Hectare (1 hectare = 2.47105 acres)

Source: Elaborated using on data from (Statistics Sierra Leone, 2016 and & Chenoune et al., 2016)

3.3.7 Statistical analysis

Questionnaire data collected was quantitative in nature and this necessitated using statistical package for the social sciences (SPSS version 20) to perform statistical analyses. A content analysis technique was used whereby data were interpreted and organized into different themes based on the responses recorded from the respondents. Descriptive analyses were used to summarize the household socio-economic characteristics and frequency distributions were used to present the household characteristics and its relation to the other variables.

3.3.8 Limitations

The research used “before” and “present” to assess rural households land access, food production and supply and income generation opportunities that support food security. The research also relied on households’ responses to their experiences of food security before the start of the operations of the company and at the time of research. Hence, the information obtained could be affected by the memory of the respondent since the time period between their experiences and the research could be relatively long. Therefore, these issues were taken into consideration and probing questions were asked during the focus group discussions and stakeholder interviews.

4 RESULT

4.1 Demographic Characteristics of Respondents

The data was collected from questionnaires administered to eighty-eight household heads from eleven selected communities in Malen chiefdom. Table 6 Statistical analysis shows that 64.8% of the respondents are male and 35.2% are female house heads. The greater proportion of male reflects the district data of higher male household heads. The age of respondents ranges from 27 to 76, with a median of 41. About 62.5% of the respondents have no form of education, while 21.6% have completed primary education and 15% have completed secondary education. The educational subgroup is generally based on four categories: none, primary, secondary and university. Marital status of the head of the households indicates 87% marriage, 5.70% singles and widows and 1.10 widowers. The average household size is 6 persons. All the households surveyed have children between the age bracket of 0-5 years old and about 90% have a member of the household between the age bracket of 6-17 years. While 62.5% are within the age bracket of 18-35 years, 72.5% are in the age bracket of 36-65 years and 5.7% are above 65 years. This reflects the country's demographic trend of high children and youth population.

Table 10: Demographic Characteristics of Respondents

Descriptive	Measurements				
	Category	Frequency	Percent	Statistic	Std. Error
Age of Respondents	20-34	10	11		
	35-49	58	66		
	50-65	16	18		
	65+	4	5		
	Mean			43.82	1.053
	95% Confidence Interval for Mean Lower Bound			41.72	
	Upper Bound			45.91	
	Median			41	
	Minimum			27	
	Maximum			76	
	Range			49	
	Interquartile Range			12	
Gender of Respondents	Male	57	64.8		
	Female	31	35.2		

Marital Status	Single	5	5.7		
	Married	77	87.5		
	Widow(Er)	5	5.7		
	Divorced	1	1.1		
Age Bracket of Dependent in the HH	Ages 0-5	88	100.0		
	Ages 6-17	80	91.0		
	Ages 18-35	52	60.0		
	Ages 36-65	64	72.0		
	Ages 65+	5	5.7		
Level Of Education Of Wife In HH	None Formal Education	72	81.8		
	Primary	15	17		
	Secondary	1	1.1		
Level of Education of Husband in HH	None Formal Education	69	78.4		
	Primary	7	8		
	Secondary	12	13.6		

Source: Own data- Household questionnaire Malen chiefdom (N=88)

4.2 Household Sources of Income before the Start of SAC and at Present

Table 11 indicates the frequency distribution of sources of income for all 88 households from 11 communities studied. Heads of households were asked to state their sources of income before the start of the operation of SAC and at present (time of research). The questionnaire was designed to capture the main sources of income in the communities. The results show that 85 of the 88 surveyed households were practicing food crop farming before the start of SAC's operations in 2011, however, this figure had fallen to 48 households at the time of research. The 48 households still practicing food crop farming reported a very big change in the size, type and diversity of food crop production, these households further stated they now seek agriculture land from close relatives or family friends in neighboring villages that are not affected by the industrial agriculture. The new land seeking has brought new community dynamics and additional pressure on households. Moreover, the results of the survey show that 73 of the 88 surveyed households own cash crop plantations including oil palm, coffee and citrus etc. before the start of the operations of the company in 2011. However, the result indicates zero ownership of cash crop plantation at the time of research. The 73 households claimed that the plantations were on the land leased to SAC, therefore cleared by the company and the land site then converted to the company's palm oil

plantation. The third ranked household source of income indicated that 57 households were practicing petty trading before the start of SAC operations. This form of income source had increased to 63 households at the time of research. Presently petty trading is the second ranked source of income and women are reported to be mostly engaged in trade. The increasing shift is mostly attributed to reduced food crop production in the communities requiring women to travel to bigger towns and other communities to get food and other essential goods needed in their communities for trade. Furthermore, 29 households reported at least one member of the household is presently working for the company (time of the research).

Table 11: Sources of House Income

Source of income	Frequency Distribution	
	Before the start of SAC operation in 2011	Present
Food Crop Farming	85	48
Cash Crop Farming	73	0
Petty Trading	57	63
Self-Employed	2	5
Fishing	1	3
NGO Employment	7	8
Local Company	0	29

Source: Own data- Household questionnaire Malen chiefdom (N=88)

4.2.1 Household income before and after the start of SAC operations in 2011

Descriptive statistics are used to interpret the total income of each household, which results from cash crop farming, food crop farming, petty trading, self-employed activities, fishing, NGO employment, and from the local company (SAC). This type of analysis is used to examine how total income varies across households through time to help understand changes in households' income and access to resources. Figure 6a and 6b illustrate total household income before the start of SAC's operations in 2011 and at present (at the time of research respectively). This was recorded based on the cash income reported by the households. The graphic shows a systematic distribution indicating a high frequency of middle-income ranges. The results revealed that before the start of SAC's operations, around 60% of households had a total income less than the average total income 7 million Leone (about 960 USD), minimum household income was 1.350 million Leones (about 186 USD), and maximum household income was 12.5 million Leones (about 1.720 USD). Moreover, present household income showed a left skew indicating a high frequency of lower income ranges. It also illustrated that around 55% of households have a total income less than the average total income 4.8 million Leones (660 USD), a minimum household with no income, and maximum household income was 16.8 million Leones.

It is evident that the operations of SAC impacted the livelihoods of households in the community. It can be noticed that the average households' income has decreased by around 31%, some household lost their income sources, and the income of some other households sharply increased. That can be regarded to the following reasons: (1) all households lost their cash crops farming income due to the loss of their land; (2) some household's income from food crops farming has reduced due to the loss of their land; (3) 33% of households have a member working for the company which makes additional income.

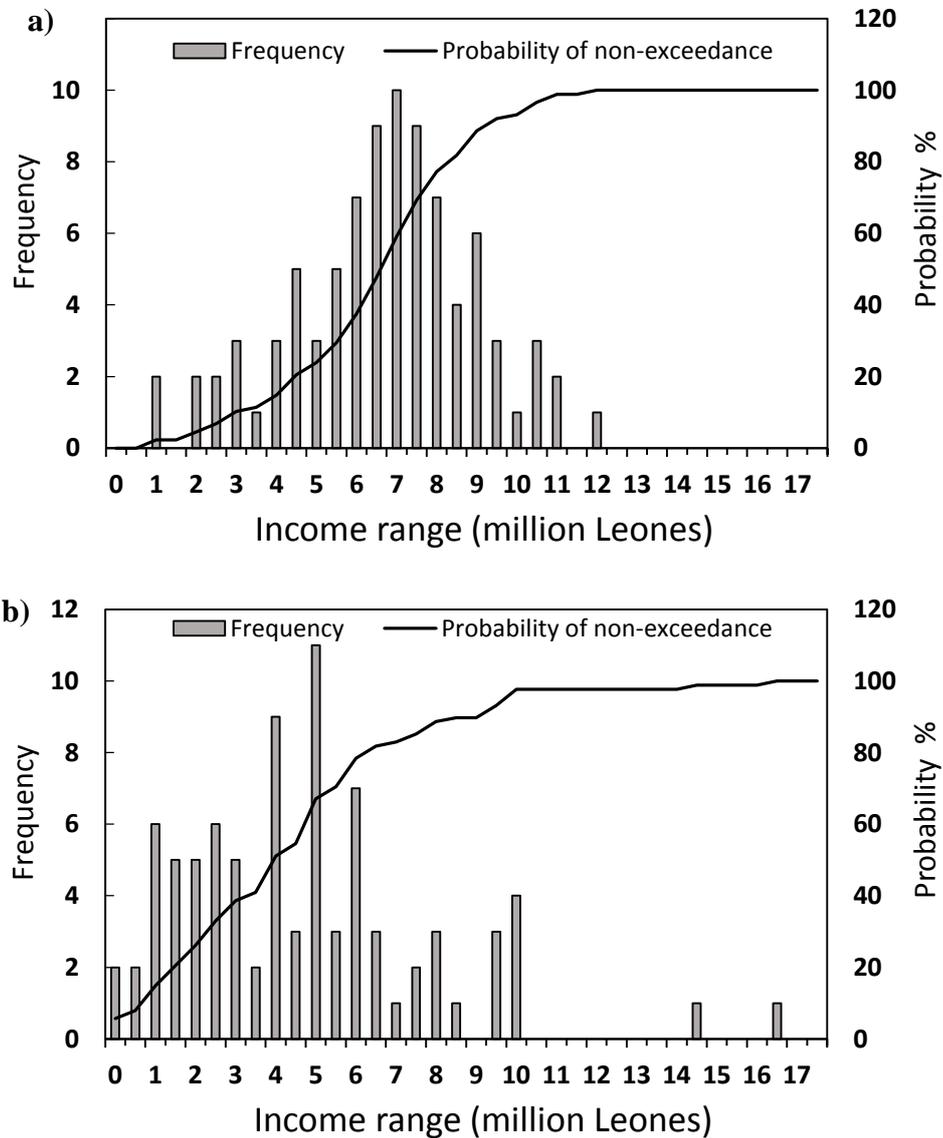


Figure 6 Descriptive statistic of the total income of 88 households from a range of sources (a) before the start of SAC operation in 2011 (b) Present at research time.

Note: Horizontal axis represents household income in SLE (1\$ = 7,265 SLE)

Source: Own data- Household questionnaire Malen chiefdom (N=88)

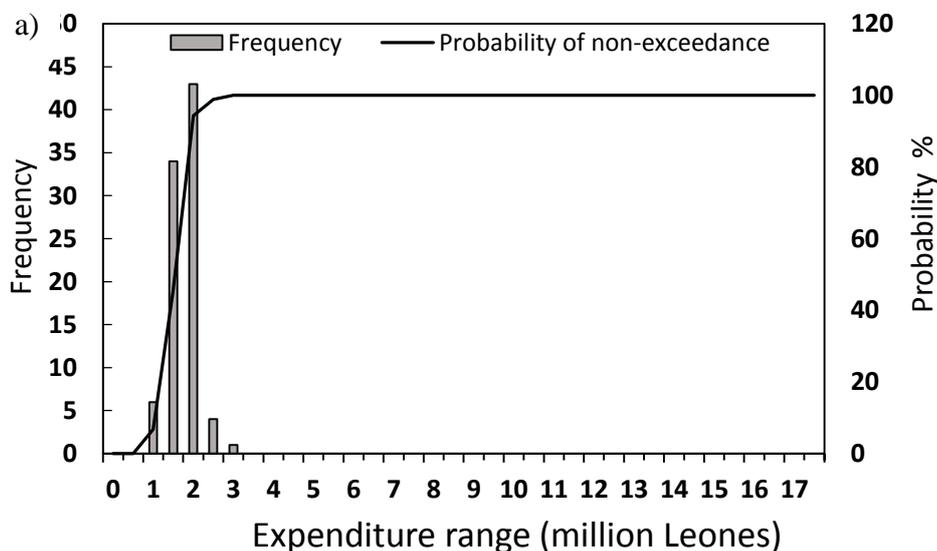
4.2.2 Household Expenditure Before the Start of SAC Operations in 2011 and Present

Figure 7a. and Figure 7b illustrates the total expenditures of households spent on consumption goods and services which include food, energy, farm input, school fees, health, transportation, society and communication before the start of SAC’s operations in 2011 and at present (at the time of research respectively).

Figure 7a shows normal distribution, indicating a high frequency of middle expenditure ranges. The results revealed that before the start of SAC’s operations, around 94% of household’s total expenditure is less than the average total expenditure 2 million Leones (about 275 USD), minimum household expenditure was 1 million Leones, and maximum household income was 3 million Leones (about 413 USD). However, present household expenditure shows a left skew indicating a high frequency of low expenditure ranges with an overall increase in the total expenditures compared with before the start of SAC’s operations. It also illustrates that around 70% of households have a total expenditure more than the average total expenditure 3.9 million Leones (about 537 USD), minimum household expenditure is 2.3 million Leones (about 317 USD), and maximum household income is 7.2 million Leones (about 1.000 USD).

The left-skewed graph indicating a high frequency of fewer expenditure ranges observed in Figure 7a before the start of the operations of SAC in 2011 indicates fewer household expenditures on consumption goods and services. Figure 7b indicates that household expenditures have increased by 51% from the start of the operations of SAC in 2011 compared to present (at the time of the research). An estimate of about 5% of households in the study sample reported expenditures below the minimum expenditures.

Increase in household expenditures at the time of research is attributed to households purchasing almost all their consumer goods from the market. Participants confirmed in the focus group discussions that the increase in expenditure with limited income have made them indebted to business persons supplying imported rice on credit and they rely heavily on external remittances to pay back the loans.



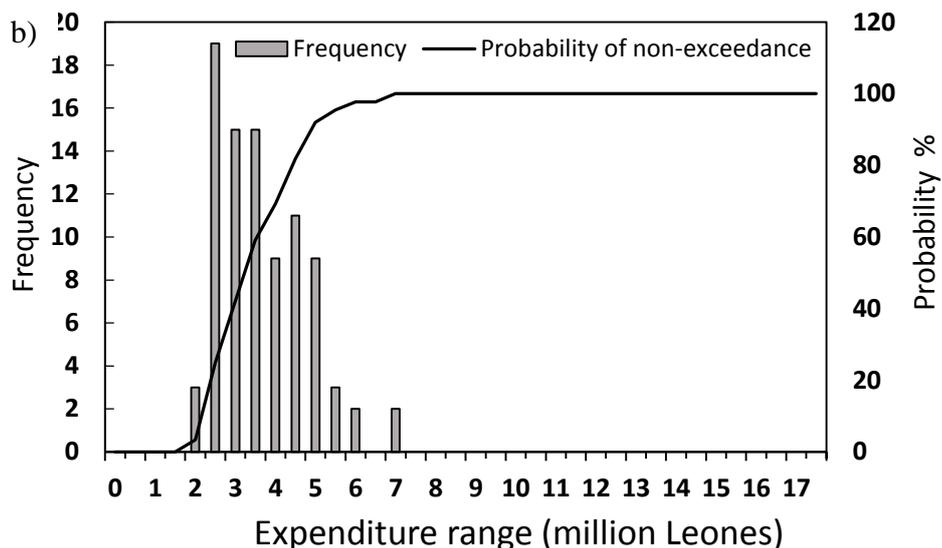


Figure 7 Descriptive statistic of the total expenditure of 88 households from a range of sources (a) before the start of SAC operation in 2011 (b) Present at research time.

Note: Horizontal axis represents household income in SLE (1\$ = 7,265 SLE)

Source: Own data- Household questionnaire Malen chiefdom (N=88)

4.3 Employment Created by SOCFIN Agriculture Company in Host Communities

Analysis of household questionnaires revealed that about 34% of households in the research communities have at least one or two people employed by SAC. About 66% reported not to have people in their household employed by SAC at the time of the research.

Further analysis of the 34% household having people employed by SAC, indicated that approximately 97% are casual seasonal workers (non-contract) and 3% are supervisors (contract). Daily salaries range from 15,000 Leones to 25,000 Leones. (2.1 to 3.4 USD). Moreover, it was observed that males are predominantly employed by the company.

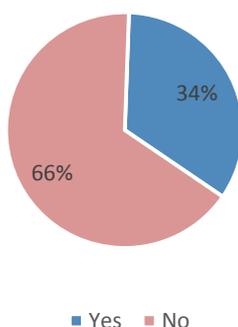


Figure 8 Employment created by SAC to host communities

Source: Own data- Household questionnaire Malen chiefdom (N=88)

The promise of new employment schemes to generate higher and diverse income from SAC's operations in the communities was a key message used by national government, local councils and the Paramount Chief to promote the company's investment. However, the number of people employed by SAC is very few to significantly contribute to household income.

Salaries paid by SAC to non-contract workers are very small. These non-contract workers claimed they work for 10 hours per day, with a minimum target of cleaning around 160-180 palm trees. If the day target is not accomplished, the daily wage is reduced or the worker is marked absent for that day. In the focus group discussions, participants claimed employment provided to non-contract people is never secure and expressed worries about sustaining their household food needs.

4.4 Land Access for Food Production

According to Table 12, before the start of SAC's operation in 2011, 38% of households' owned farmland between the size of 4.4 to 10 ha, 32% of households owned farmland between the size of 2.4 to 4 ha, 15% of households owned farmland between 10.4 to 20 ha, 9% of households owned farmland between the sizes of 0.4 to 2 ha and 5% of households had access to community farmland. At the time of the research, all 88-household respondents reported zero ownership and access to land of any size.

In all the focus group discussions with communities and in the meetings with ministry officials and other stakeholders in the district, many reported that land ownership and access is the main problem affecting food production in the chiefdom. They further confirmed that about 90% of households in the chiefdom were practicing agriculture either food crop or cash crop before the start of the operations of SAC in 2011.

Consequences of the loss of land were identified in the meetings as follows: a big majority of the population is not anymore engaged in food production; households with only land access rights are the most affected by the transfer of land use rights, they were not involved in any discussion prior to the transfer of use rights to SAC; affected households have transformed from food producers to buyers.

Participants in all the focus group discussions claimed they had diversified food available all year-round before the start of SAC's operations in 2011. In many instances, they were supplying food to their relatives in bigger towns in exchange of some household needed commodities. The harvest from previous planting seasons was consumed during the lean period and used as food for work at the time of cultivation of new crops. Most essential vegetables, such as green leaves, including cassava and potatoes leaves, pepper, garden eggs etc. had no market value before the start of SAC's operations, they were readily available in backyard gardens of every household. Malen communities for example before 2011 were known as major producers and suppliers of native palm oil to all regions of the country including the capital city.

Table 12: Changes in household Land Ownership

Land size (hectare)	Number of households	
	Before SAC Operations 2011	Present
0.4-2	8	0
2.4-4	28	0
4.4-10	34	0
10.4-20	13	0
20.4-40	1	0
Have access to Land (without ownership)	4	0

Source: Own data- Household questionnaire Malen chiefdom (N=88)

4.5 Reason for the Changes in the Land Ownership

Households were asked to give reasons for the changes in land ownership and their responses are reported in Table 13. Their responses indicate that 64 households from the 88-household sample size think that their land was “taken and compensated for by the company (without their consent)”, followed by 14 households reporting the statement “taken and compensated for by the company (with their consent)”, 7 households believed government took their land. Among those who claimed that government took their land, 2 households stated that their land was taken without their consent. The table further states that 5 households do not know who made the final decision on the transfer of land rights to SAC.

However, all 88 households confirmed they received lease rent for their land taken by SAC. Though, lease rent payment for land was not a focus for this research even nevertheless in the focus group discussions the participant confirmed that the price (5 USD per ha per year) and percentage distribution (50% land owners, 20% district council, 20% chiefdom Council, and 10% national government) of the cash paid was determined by central government law. Land owning households or families only receive 2.5 USD per ha per year for their land leased to SAC.

In the focus group, especially the youth and women discussions, participants confirmed they only get to know about their land use rights transfer to the company during a community meeting with their Paramount Chief and other sections chiefs. They were informed that their land has been leased to MAFFS and that the land has been released to SAC by the Ministry. Asked for the reason for the change in land ownership, the Chiefdom Speaker Robert Moigua in an interview held with the researcher on 26.04.2017 said, “the transfer of ownership right was made by the Paramount Chief and government in consultation with land owners”. However, his statement is contrary to the statement made by the community members. Officials from the MAFFS on 25.04.2017 in a meeting held in Ministry District office with the researcher said that the transfer of land use rights

to SAC was a “decision made in the interest of national development to promote investment and foster economic development”.

At the research time, it was observed that considerable land use changes have taken place in Malen chiefdom after SAC started its operations in 2011. Participants in all the focus group discussions confirmed they have been converting fertile food crop farmland into permanent cash crop plantation such as palm oil before the start of SAC’s operations nonetheless, on a small scale without causing significant land use change. However, the operations of SAC have led to a significant loss of forests and other natural resources that existed in the chiefdom before.

Table 13: Reason for Household Changes in Land Ownership

Main Reasons for Changes in Land Ownership	Frequency	Percent
Taken and compensated for by government (with consent)	3	3.4
Taken and not compensated for by government (without consent)	2	2.3
Taken and compensated for by company (with consent)	14	15.9
Taken and compensated for by company (without consent)	64	72.7
Don’t know	5	5.6
Total	88	100

Source: Own data- Household questionnaire Malen chiefdom (N=88)

4.6 Problems Affecting Food Production Situation

The research tries to understand the current problems affecting food production in the selected 11 communities, responses from the 88 households on the major problem affecting their food production are reported in Table 14. The respective questions were asked in the context of research time. The major problem identified by the respondents is a lack of land to produce food crops, representing 95.5% of the total sample answering “yes” to the problem. The next problem of importance was a lack of capital, representing 89% of the total respondents. 79% of the respondents stated the land conflict with the company as the major problem. Labour is not an issue of significance to the households surveyed, households confirmed the availability of available and unused labour within the household and in their communities. The participants expressed in the focus group discussions their willingness to work but lack the opportunity to work or to be employed by the company.

Lack of capital was further emphasized in the focus group discussions, with participants stating that if they had the capital they would have migrated to neighboring villages to produce food for their households. The only observed land site for food production presently in Malen chiefdom is the flooded plains and riverain areas, this land type requires intensive capital and labour investments to prepare the overgrown land for food production.

The land conflict with the company stated as one reason affecting food production was further quantified in the focus group discussions, where participants indicated that SAC is not respecting the 500m buffer zone from any habitat area agreed on in their business plan. The 500m buffer was for community utilization to construct new homes, cultivate basic food crops needed in the communities and to provide some required natural resources. However, all the land was taken by SAC, leaving no land for community use and SAC has placed restrictions on entering their plantation, meaning that community members are not allowed to enter the plantation without permission from the company.

Table 14 Problems Affecting Food Production

Reason	Yes	No
Lack of capital	78 (89%)	10(11%)
Lack of land	84 (95.5)	4(4.5%)
Lack of labour	8(9%)	80(91%)
Land conflict with company	70(79.5%)	18(20.5)

Source: Own data- Household questionnaire Malen chiefdom (N=88)

4.7 Household Worries about Food Availability in the Year.

Questions on household worries about the availability of food at the time of the research were asked, households responded the statement to be sometimes true (see

Table 15). About 89.8% of household's fear that "food would run out before the next harvest season" and 88.6% of households responded that "food would run out before they got money to buy the next". While about 70% responded 'often true' to the statement "worried not to have money to get more food for the household at present" and 86.4 responded, "no be able to afford to eat balanced meals in the households at present".

Often worries about food availability are associated with the lack of income sources or poverty. Most households stated that employment and income generation opportunities are important considerations to alleviate their worries about food availability in their households. However, approximately 70% of households reported having children who could not eat a whole day because of lack of money.

Participants in the focus group discussions stated that household worries about food availability have insidious effects on the health and development of their children, including increased hospitalizations, poor health, and behavior problems. Parents raised concerns about their children's poor school performance and subsequent health.

Household food insecurity affects children and adults separately, making it difficult to understand the context. The lack of clear associations between food insecurity and children's growth means that it is often indistinguishable. Without asking specifically about food insecurity, providers are

unlikely to recognize children and families who are food insecure, but in the case of Malen it was very visible that households lack enough food in their homes.

Table 15 Household Worries about Food Availability in the next 12 Months

Statement about Household Food Availability	Response (%)		
	Often true	Sometimes true	Never true
Food would run out before the next harvest season	9.1	89.8	1.1
Food would run out before you got money to buy the next	10.2	88.6	1.2
Money to get more food at present	70.5	29.5	0
Afford to eat balanced meals at present	86.4	13.6	0
Child/ children hungry but you couldn't afford more food	71	27.8	1.2
Child/children do not eat for a whole day because there wasn't enough money for food	70.5	29.5	0

Source: Own data- Household questionnaire Malen chiefdom (N=88)

4.8 Future of the SAC Operations in the Community

The analysis of the household questionnaire indicated in Figure 9 shows that about 86% of the respondents think they have seen and realized limited benefits from SAC's operations in their communities. However, benefits can be quantified and qualified further, depending on the perception of the respondents. Therefore, the question was further discussed in the focus group discussions, where participants stated that most of the promises like job creation, development of inland valley swamps to cultivate rice and other crops, meeting corporate social responsibilities etc. made by the company have not been met since the start of operations.

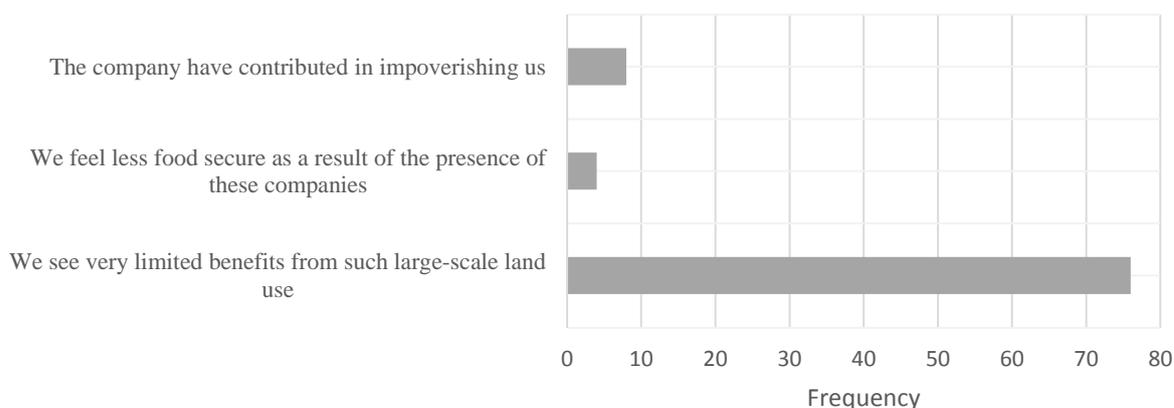


Figure 9 Frequency of responses on respondent on contribution of the company to their community

Note Multiple responses were not allowed.

Households were asked to state their level of happiness about the company operations in their area. The responses are recorded in Figure 10. About 95% of the respondents said they are not happy with the company operating in the area, while 5% expressed to be happy. This can be observed by the number of incidences of conflicts and confrontations reported in the research location.

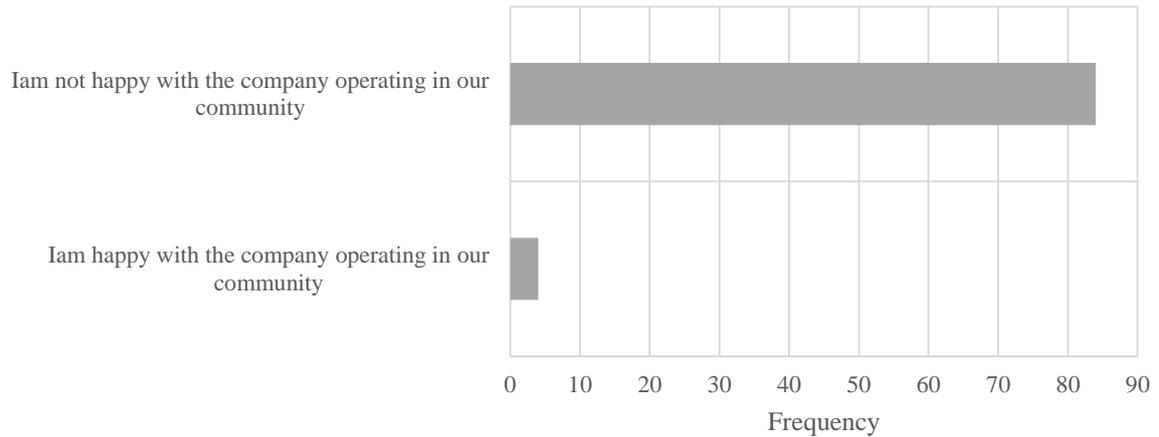


Figure 10 Frequency of responses on whether respondents were happy or unhappy with the company operating in their community

Note Multiple responses were not allowed.

There is a difference of approximately 9% between the response of limited benefit gained from the operation of SAC in host communities (see Figure 9) and level of happiness or unhappiness with SAC continuing its operations in the communities (see Figure 10). The differences can be attributed to the individual benefits gained for the operations of the company.

In Figure 11, approximately 85% of the households surveyed stated that the company should “take part of the land and return some to them”. While 15% said the company “should hand back the lands and leave”. The high number of respondents wishing SAC to continue its operations are based on the promises made by the company that the operations of the company will provide many development incentives to the host communities. Aspirations of the respondents who wish the company would return their land and leave are that SAC should have fulfilled its promises before the start of its operations. The limited opportunities in Malen chiefdom make it very difficult for respondents to make a strong standpoint on the operations of the company.

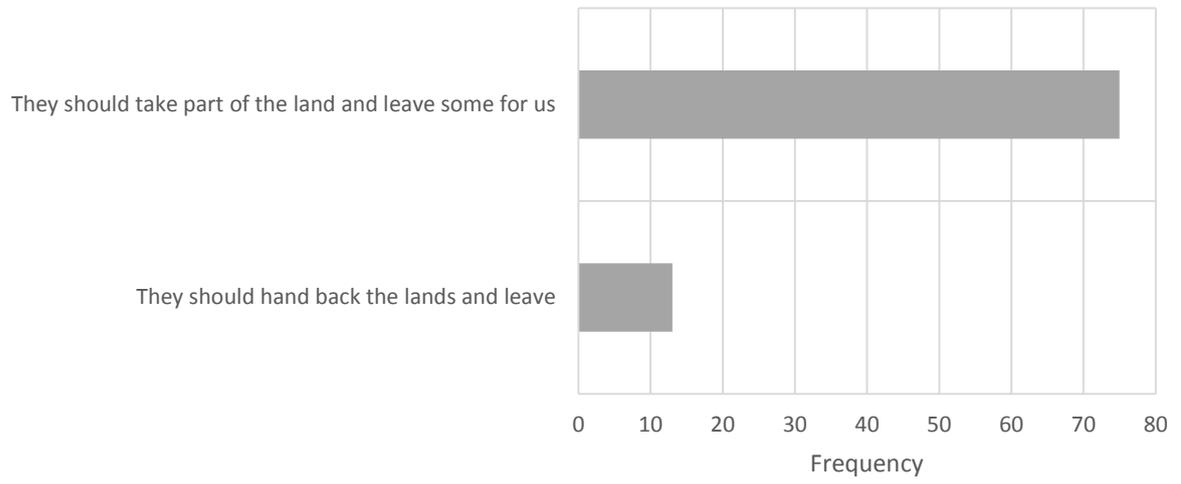


Figure 11 Frequency of responses on what should be the future of land investment companies in the local community

Note Multiple responses were not allowed.

5 DISCUSSIONS

The operations of SAC in Malen chiefdom have led to a decrease in the total number of households practicing food crop and cash crop farming (see

Table 11, page 36). This decrease has led to about 40% of the total households surveyed not practicing food crop farming to support their household's food supply, and almost 100% of the total number of households have lost their cash crop farming. The reduction in food crop farming and total loss of cash crop farming has led to a significant decrease in the total household income source and agriculture production notably food production (Figure 6.a, page 37).

The average yield of polished rice in Sierra Leone is 0.54 t/ha (Chenoune, et al. 2016). Hence, the hectares required to produce 876 kg/HH/year is $876 \text{ kg/HH/year} / 0.54 \text{ kg/ha} = 1.6 \text{ ha/HH/year}$. This estimate indicates about 99% households in Malen chiefdom are unable to produce their own food because they lack land to do so (Table 12, page 41). This statement was further verified by participants in the focus group discussions, by local stakeholders and by MAFFS and SAC officials.

The loss of income sources and agriculture productivity has decreased the chances of households' access to food. At community and chiefdom level, the operations of SAC have severely affected the diversity of food products and income sources. A big consequence of the lack of food production and limited livelihood opportunities is the 31% decrease in average household's income and that about 5% of household lost their total income sources. Household expenditures have increased by 51% on consumption goods and services (Figure 7b, page 39) and affected communities transformed from food producers to food buyers.

In all the focus group discussions and stakeholder interviews, they confirmed that out of the 65 villages in Malen, 57 villages have had their land ascribed to SAC. This has caused scarcity of land in Malen chiefdom and has restricted food production to flooded plains. However, these flooded plains require intensive labor and capital investments before farming. Ascribing productive land to large scale land investment directly affects rural food production and competes with the national government's development agenda, including attaining national food security and promotion of smallholder commercialization agriculture programs.

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Using calculations made in Table 8 (Table 8, Page 32) household income requirements that are supposed to adequately meet the needs of household staple food supplies is inputted and presented in Table 16.

Table 16: Calculating Household Income Requirements for Security in Staple Food

Household conditions	Household variables	Calculation
Average household size	6 persons	
Average consumption of polished grain rice (inclusive of the extra for visitors)	0.4 kg/person	
Average daily consumption per household (HH)	6 persons/HH X 0.4 kg/person/day	2.4 kg/HH/day.
Average annual consumption	2,4 kg/HH/day X 365 days/year	876 kg/HH/yea
Annual HH consumption	876 kg/HH/year ÷ 50 kg/bag	17.5 bags/year
Market price per bag of rice (March-May 2017)	220,000 SLL	
Annual consumption of rice per average household	17.5 bags/year X 220,000 SLL	3.854.400 SLL

Note: (1\$ = 7,265 SLE Bank of Sierra Leone rate June 22, 2017).

Source: Own data- Household questionnaire Malen chiefdom (N=88)

This estimate indicates that about 80% of present average income household spends on only rice (Figure 7.b, page 39) cross tabulated with (Table 16, page 48) if household wishes to meet the required household rice demands.

The majority of rural households and those employed within them are engaged in agricultural activities, and women constitute a larger share than men among these workers (Statistics Sierra Leone, 2015). However, at the time of research, only 34% of households claimed to have one or two members employed by SAC (Figure 8, page 39). Rural women who used to be major household food producers before the start of the operations of SAC are less employed by the company. One of the strong arguments put forward by national government has been high-income employment creation by large scale industrial agriculture investments in host communities. However, the research results contradict this statement. In the focus group discussions, the participants claimed that SAC officials made several promises of bringing socio-economic development (provision of good road network, better housing facilities, schools, good health system electricity, market opportunities etc.) at the inception of their operations. These promises made by the company official to local land owners and users have not been met (Figure 9, page 44).

Table 17: Promises made by SAC Versus the Reality from Communities

Expectations/promises	Realities at the time of research
Employment creation	Un secure casual employment is created for local
Out grower schemes	Non-reported at the time of research
Support Food production	SAC started land site preparation for 11 communities to cultivate 80ha of rice
500m Buffer zone around communities	Not respected in all visited communities
Skills trainings for local community people	No reported at the time of research
Drinking water supply	No support in research communities
Housing provision for local communities	No support for community housing
Improve roads network in the chiefdom	Observed paved within the land concession area and not outside the company concession
Schools	Rehabilitation of 2 primary schools and 1 junior school was reported
Hospitals	Support to the government clinic for attending to their staff
Electricity	No community electricity supply reported

Source: Elaborated from the research focus group discussions

The understanding of development interventions provided by LSLA varies between communities, national government, and SAC. Where SAC and local government officials claimed improvement in the road network in the chiefdom to be development, community people expressed accessing adequate food supplies, drinking water and firewood as their development aspirations. The disparity in development aspirations calls for national government and SAC to have a rethink of their development approaches to achieving the felt needs of communities.

National government's priority to promoting LSLA in Sierra Leone in the pretext of large tracts of unused land, agricultural production technology transfer to rural communities, increased capital investments, and increased agricultural productivity requires an extensive study to understand it in the national context. For decades, rural communities were engaged in undisrupted traditional agriculture practices to support food security and to increase their livelihood opportunities. Rural communities had the opportunities to plan their agricultural productions, to meet their socio-economic needs and to provide some level of conservation activities. The activities of large-scale land investments have interrupted community practices of meeting their required food security.

A number of research outcomes are claiming a strong need to support small scale farming systems from the fact that they are the backbone of food production in most developing countries and Sierra Leone is not an exception. Between 75 and 90% of staple foods in developing countries are locally produced and consumed (UNCTAD, 2010). Research proved in many cases that small-scale farms or family farms are more efficient than those of large-scale monocultural industrial farms. This research's results reveal that income generated from household farms are more sustainable than income generated from salaries earned from casual work provided by the company. Households are said to be better off when working on family farms than working on large scale industrial farms. Small scale agriculture production in Sierra Leone are most often organic, intensive and diversified, therefore its impacts on the environment cannot be compared to large scale monoculture like SAC's operations.

According to IFAD & UNEP's (2013) report on Smallholders, food security and the environment, small scale farming could more effectively realize its full potentials by being provided with adequate access to farm technology, knowledge relevant to the agro-ecological conditions and local varieties, access to rural infrastructure (such as good roads, markets) and affordable credit and farm inputs (such as fertilizer, quality seeds, and pesticides). These conditions are requisite for the successful promotion and development of small scale farming to support household food security in chiefdoms like Malen with food deficits instead of promoting large scale land investment to compete with small scale farmers in chiefdom and regions facing food insecurity.

The operations of SAC have not only impacted on food production and supply, the operation is reported to affect available resources that ensure achievement of household food supply including access to water and forest resources (

Table 11, page 36). The operations of SAC rely on a large volume of water for irrigation at the nurseries and at the giant processing mill, therewith having effects on communities along the Malen river that depend on this water for a number of uses, including drinking, domestic purposes, fishing, and vegetable gardening. The situation of water use by the company is worsened at the time of research, where flooded plains and riverine areas left for crop production dry up very fast, especially during the dry season because of the lower water table along the Malen river. Participants in the focus group discussions complained that the use of agrochemicals by the company has polluted the water bodies, limiting fish catch and leading to incidences of strange sickness. Fish caught from the Malen river supplements households' protein sources. Loss of land and water resources have the potential to seriously impact on the local food security of affected communities, evident in the reduced income from fishing as a source of income (

Table 11, page 36).

Effects of large scale land acquisition such as SAC's operations can be stretched beyond the respective operational communities, where land has been acquired. Participants in the focus group discussions confirmed the reason reported in (

Table 11 page 36) that people from their communities are migrating to neighboring communities that are not affected by SAC's operations to seek farmland. Seeking farmland in neighboring communities or chiefdoms not affected by SAC operations puts additional pressure on available

land resources resulting in some households from those communities not having enough land for farming and loss of other forest resources. Some of the downstream communities presently hosting land seekers complain about problems of water quality and quantity for drinking, domestic and agriculture use.

In Malen chiefdom and in many other rural communities in Sierra Leone, farming is not limited to planting food, cash crops and rearing of animal, but is a “way of life”, including hunting, gathering of wild fruits, the collection of fuelwood and medicines from the forest and uses of water resources. The holistic utilization of these resources by rural households is regarded as attaining food security. Therefore, land ownership cannot be discussed as a single entity to achieving food security. Local communities believe land ownership means wealth to rural households in Sierra Leone. In the focus group discussions, participants expressed losing land to SAC means they have completely lost their social status and cohesion, hence the reason for communities to express that SAC should give back their land and leave their communities in (Figure 11, page 46).

SAC’s refusal to maintain the 500 m buffer zones around the communities discussed in (Table 14, page 43) requires an extensive verification by all relevant stakeholders and findings to be made public. All relevant stakeholders should then respect recommendations of the findings. The National and local government should engage in regular monitoring exercises to ensure that both SAC and local communities respect the contract agreements.

5.1 Synthesis for Action

Figure 12 presents the roles Government and non-governmental agencies must undertake to ensure rural households have access to land for food production and to generate income that enables the household to purchase food from the market to achieving food security. In order for households affected by LSLA (i.e. SAC) to achieve food security, governmental and non-governmental agencies must reform land policies. These policies must be accompanied by laws and instruments that recognize tenure rights that give equal access to land. Access to land gives households the opportunity to practice food production activities and, therefore, to generate income. Food production and income generation can empower households to achieve food security. On the other hand, governmental and non-governmental agencies must provide investment opportunities, make decisions, and regulate power relation in a way that creates a win-win situation for both the investor and the rural communities. That enables households to have secure livelihood opportunities, improved services, and financial resources. Empowering households to gain diversified farming and non-farming income sources and improved infrastructure (good road network, farm extension services, and value addition) conditions can eventually generate more income and food, leading to rural household food security. It is to be noted that sustainable food production requires access to natural resources (for example water), fertile land, labor, and investment capital.

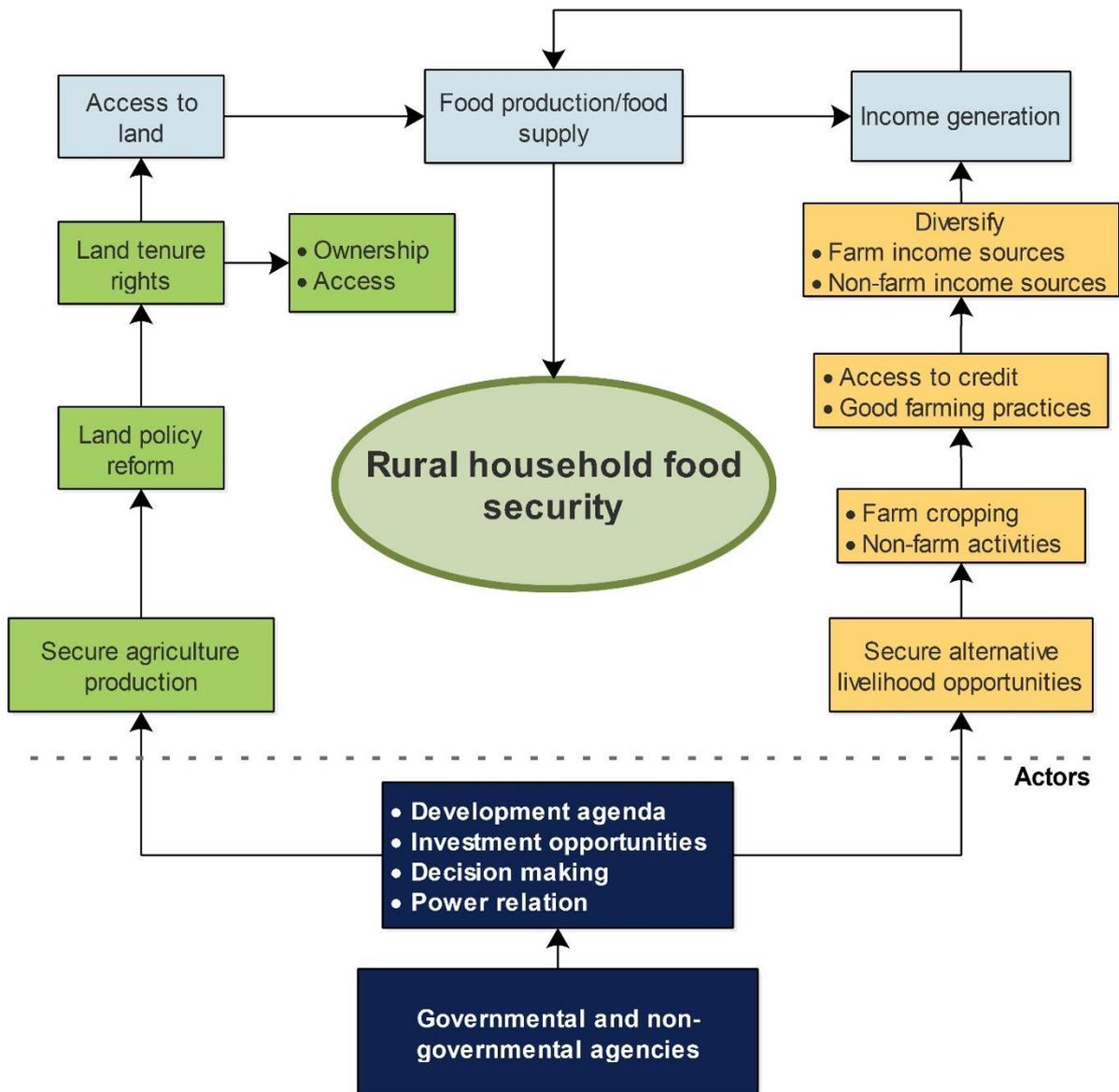


Figure 12: Rural Household Food Security Framework for Action

Source: Self Construction.

The results of the research will be presented to the affected communities as well so they can see the impacts of LSLA on their local food security and livelihoods. Further, discussion of the research results has to be undertaken with national, regional and local governmental authorities and NGO's for them to understand that the current development plan or intervention for communities hosting LSLA is not working as planned. Therefore, they need to rethink some of their actions and request for a review of the land lease contract with the company to include some of the development gaps identified in this research.

There is a strong need to research the impacts of large-scale land investment like SAC on host communities. The research would require a comprehensive investigation of several impacts including social, economic, environment and management base on the level of interaction of the companies. However, the rapid expansion of some of these investments in host communities might pose some challenges to comprehensively investigate their impacts. Furthermore, selection of

representative sample may create some level of biases in presenting the research outcomes. This study, for instance, selected a representative sample of the population to understand the impacts of SAC's operation on local communities' food security from a broader perspective. The methodology used cannot be applied in some other regions of the country because of varying geographical and socioeconomic context or type of investment. The methodology also used to calculate total average income might have some limitations to presenting individual household income and expenditure.

Large-scale land investment in Sierra Leone is still at the development stage. Therefore, it is difficult to understand the extent of its impact on local communities and its broader outlook. However, there are a number of reports citing incidences of host community's access to farmland rights violations, loss of livelihood opportunities and increased food security concerns. Food security remains an urgent national and local challenge. Therefore, Sierra Leone requires a well-designed policy adopted into national development strategies, accompanied with better governance structures.

6 CONCLUSIONS AND RECOMMENDATIONS

Impacts of LSLA on local communities' food security in the case of SAC's operational area in Sierra Leone have a multidimensional concept with ranging viewpoints. The need to understand households' food security affected by this phenomenon has been triggered by a wide variety of factors contributing to the rural food security problem. While national development policies are designed to address the issues of food insecurity, the concept remains a serious cause for concern considering the rate at which LSLA is increasing in the country. More empirical research is needed in Sierra Leone to understand the impacts of this phenomenon on local community food security. In this regard, the aim of this research was to examine the impacts of LSLA on the food security of local communities in Malen Chiefdom, Pujehun district of Sierra Leone. By using households' land access, food production, and income generation to measure households' food security status; it was possible to identify the level of food insecurity for household affected by LSLA. The changes in households' income sources and expenditures on consumptions goods affecting food security were established.

The research outcomes clearly point to the fact that household income sources have changed and reduced in these communities resulting from the operations of SAC. Households' limited access to land for food and other agriculture production have seriously affected household food security. These changes were important factors used to determine household food security impacted by SAC operations. Food security reported being a serious problem in communities affected by SAC's operations because households lost their access to farmland, thereby, food production has diminished and income sources have been limited. Furthermore, employment promised by SAC to compensate the loss of land is not sustainable. The implications of the total household income before the start of SAC's operations in 2011 and at present (at the time of research) against the total expenditures of households on purchasing consumption goods before and at present indicate that households spend all their income on consumption expenditures. Reflecting on a household's access to land, as well as on its income generation opportunities, the study concluded that household food production is the most significant determinant for household food security, with regards to food availability, accessibility, utilization and stability of supply.

Therefore, the research recommends a carefully studied development framework that addresses food security of households impacted by the operations of the rapidly growing Large-Scale Land Investment companies. The designed development framework should include local communities' right to access land, should not conflict or compete with local food production systems, and should create sustainable income generation opportunities for host communities. The National government should ensure future Large-Scale Land Investments adhere to the developed framework and other development policies of the country. Finally, there is a need to review ongoing land investment projects in the country, the review may provide solutions to some of the impacts on local food security identified in this research.

REFERENCES

- Akiwumi, F. A. (2014). Strangers and Sierra Leone mining: Cultural heritage and sustainable development challenges. *Journal of Cleaner Production*, 84(1), 773–782. <https://doi.org/10.1016/j.jclepro.2013.12.078>
- ALLAT. (2013). WHO IS BENEFITTING ? International Fund for Agricultural Development Memorandum of Understanding Member of Parliament.
- Amara D. Momoh Edwin J. (2014). Fertility status , Degradation Rate and Vulnerability Potential of Soils of Sowa Chiefdom in Southern Sierra Leone, 2(1), 151–162.
- Amendmen Act. (1961). No. 37 1961 Sierra Leone, (19).
- Arezki, R., Deininger, K., & Selod, H. (2015). What drives the global “land rush”? *World Bank Economic Review*, 29(2), 207–233. <https://doi.org/10.1093/wber/lht034>
- Bald, J., & Schröder, P. (2011). Study on rural and agricultural finance in Sierra Leone: Product innovation and financial access, (March).
- Bank, W. (2016). the Impact of Larger-Scale Agricultural Investments on Local Communities : Further Voices From the Field, (114431).
- Bank, W. (2017). *Global Economic Prospects*.
- Bernard, H. R. (2008). *Basics of Qualitative Research (3rd ed.): Techniques and Procedures for Developing Grounded Theory. The MIT Press (Vol. 55)*. <https://doi.org/10.4135/9781452230153>
- Chenoune, R., Belhouchette, H., Paloma, S. G. y, & Capillon, A. (2016). Assessing the diversity of smallholder rice farms production strategies in Sierra Leone. *NJAS - Wageningen Journal of Life Sciences*, 76, 7–19. <https://doi.org/10.1016/j.njas.2015.10.001>
- Cotula, L. (2014). *Addressing the human rights impacts of “land grabbing”*. <https://doi.org/10.2861/538368>
- Cotula, L., Vermeulen, S., Leonard, R., & Keeley, J. (2009). *Land grab or development opportunity? international land deals in Africa Land grab or development opportunity? Order A Journal On The Theory Of Ordered Sets And Its Applications (Vol. 36)*. <https://doi.org/978-1-84369-741-1>
- Cotula, L., Vermeulen, S., Mathieu, P., & Toulmin, C. (2011). Agricultural investment and international land deals: evidence from a multi-country study in Africa. *Food Security*, 3(S1), 99–113. <https://doi.org/10.1007/s12571-010-0096-x>
- Cristina Rulli, M., & D’Odorico, P. (2014). Food appropriation through large scale land acquisitions. *Environmental Research Letters*, 9(6), 64030. <https://doi.org/10.1088/1748-9326/9/6/064030>
- Daniel, S. (2011). Sustainable Agricultural Development. <https://doi.org/10.1007/978-94-007-0519-7>
- David L. Morgan. (2016). Focus Groups Author (s): David L . Morgan Source : Annual Review of Sociology , Vol . 22 (1996) , pp . 129-152 Published : Annual Reviews Stable URL : <http://www.jstor.org/stable/2083427> REFERENCES Linked references are available on JSTOR for this a, 22(1996), 129–152.
- De Schutter, O. (2009). Large-scale land acquisitions and leases: A set of core principles and measures to address the human rights challenge. *Human Rights*, 17797(June). Retrieved from <http://www2.ohchr.org/english/issues/food/docs/BriefingNotelandgrab.pdf>
- De Schutter, O. (2011). How not to think of land-grabbing: three critiques of large-scale

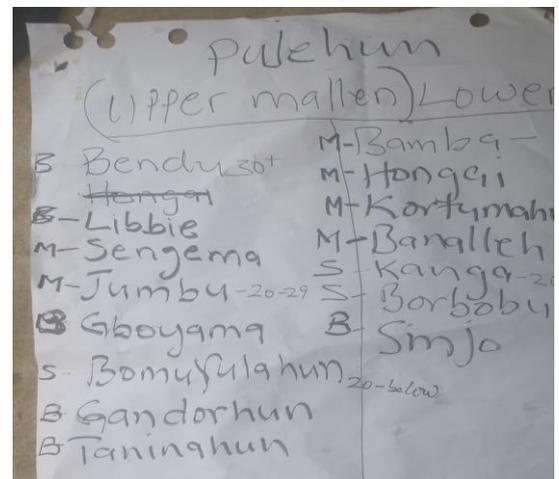
- investments in farmland. *Journal of Peasant Studies*, 38(2), 249–279. <https://doi.org/10.1080/03066150.2011.559008>
- FAO. (2006). Food security. *Policy Brief*, (2), 1–4. <https://doi.org/10.1016/j.jneb.2010.12.007>
- FAO. (2015). Implementation of the Voluntary Guidelines on Responsible Governance of Tenure of the Land Legislation of Sierra Leone, (93).
- FIAN. (2010). German investment funds involved in land grabbing, (October).
- Food and Agriculture Organization of the United Nations. (2011). *The State of Food Insecurity in the World: How does international price volatility affect domestic economies and food security? Organization*. [https://doi.org/ISBN 978-92-5-106927-1](https://doi.org/ISBN%20978-92-5-106927-1)
- GoSL. (2016). MINISTRY OF LANDS , COUNTRY PLANNING, AND THE ENVIRONMENT NATIONAL LAND POLICY FOR SIERRA LEONE NOVEMBER 2015, (November).
- GRAIN. (2016). The global farmland grab in 2016: how big, how bad? *Against the Grain*, (June), 1–11. Retrieved from https://www.grain.org/article/entries/5492-the-global-farmland-grab-in-2016-how-big-how-bad#_edn7
- Green Scenery. (2011). Land investment deals in Sierra Leone: Green Scenery briefings Part I-IV, 8(September), 12. Retrieved from <http://www.greenscenery.org/index.php/publications>
- Holden, J., & Pagel, M. (2013). Transnational land acquisitions. *Economic and Private Sector Professional Evidence and Applied Knowledge Services*, (January).
- IFPRI. (2016). 2016 Global Hunger Index. *Global Hunger Index*. <https://doi.org/10.7910/DVN/LU8KRU>
- International Land Coalition. (2009). Commercial Pressures on Land Worldwide . Issues and Conceptual Framework for ILC study ., (March), 1–26.
- Jenkins, Milton, Henrique Freitas, Mírian Oliveira, O. P. (1998). THE FOCUS GROUP , A QUALITATIVE RESEARCH METHOD Reviewing The theory , and Providing Guidelines to Its Planning, (10298), 1–22.
- Maconachie, R. and Fortin, E. (2013). Institute for Policy Research, (2011). Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.195.9029&rep=rep1&type=pdf>
- Moyo, S., & Foray, K. M. (2009). Scoping mission report: Key land tenure issues and reform processes for Sierra Leone, (September), 47.
- Nolte, K., & Váth, S. J. (2015). The interplay of land governance and large-scale agricultural investment: evidence from Ghana and Kenya. *The Journal of Modern African Studies*, 53(1), 69–92. <https://doi.org/10.1017/S0022278X14000688>
- Oakland Institute. (2012). Understanding land investment deals in Africa: Socfin land investment in Sierra Leone (Land brief, April 2012), (April), 12.
- OECD. (2016). African Economic Outlook 2016. *Sustainable Cities and Structural Transformation*, 397. <https://doi.org/http://dx.doi.org/10.1787/aeo-2016-en>
- Olsson, L., & Jerneck, A. (2010). Farmers fighting climate change-from victims to agents in subsistence livelihoods. *Wiley Interdisciplinary Reviews: Climate Change*, 1(3), 363–373. <https://doi.org/10.1002/wcc.44>
- Otero, G., Pechlaner, G., & Gürcan, E. C. (2013). The political economy of “food security” and trade: Uneven and combined dependency. *Rural Sociology*, 78(3), 263–289. <https://doi.org/10.1111/ruso.12011>
- Oya, C. (2013). The Land Rush and Classic Agrarian Questions of Capital and Labour: a systematic scoping review of the socioeconomic impact of land grabs in Africa. *Third World Quarterly*, 34(9), 1532–1557. <https://doi.org/10.1080/01436597.2013.843855>

- Rakotoarisoa, M. A., Iafate, M., & Paschali, M. (2012). *Why has Africa become a net food importer? Trade and Market Division, FAO.*
- Schoneveld, G. C. (2015). The challenge of governing Africa's new agricultural investment landscapes: An analysis of policy arrangements and sustainability outcomes in Ethiopia and Nigeria. *Forests*, 6(1), 88–115. <https://doi.org/10.3390/f6010088>
- SLARI. (2011). Strategic Plan 2012-2021. <https://doi.org/10.1017/CBO9781107415324.004>
- Statistics Sierra Leone. (2015). Sierra Leone 2014 Labor Force Survey Report.
- Statistics Sierra Leone. (2016). 2015 Population and Housing Census, Summary of Final Results.
- Sturgess, P., & Flower, C. (2013). Land and Conflict in Sierra Leone: A Rapid Desk-Based Study. Retrieved from http://dx.doi.org/10.12774/eod_hd.dec2013.sturgess_flower
- The International Fund for Agricultural Development (IFAD) – United Nations Environment Programme (UNEP). (2013). Smallholders, food security, and the environment. *Rome: International Fund for Agricultural Development*, 54. Retrieved from <https://www.ifad.org/documents/10180/666cac24-14b6-43c2-876d-9c2d1f01d5dd>
- Twomey, H. (2014). Displacement and dispossession through land grabbing in Mozambique The limits of international and national legal instruments, (101), 41.
- UNCTAD. (2010). Technology and Innovation Report 2010. *Technology*. <https://doi.org/ISBN978-92-1-112856-7>
- UNCTAD, FAO, IFAD, & World Bank Group. (2010). Principles for Responsible Agricultural Investment that Respects Rights, Livelihoods, and Resources, 21.
- UNDP. (2016). *Human Development Report 2016. United Nations Development Programme*. <https://doi.org/eISBN:978-92-1-060036-1>
- United Nation. (1948). Universal Declaration of Human Rights Preamble Whereas recognition of the inherent dignity and of the equal and inalienable. Retrieved from http://www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf
- The World, B. for the. (2014). Facts 45 Getting prepared for the Voluntary Guidelines on Land?
- World Bank. (2011). What Drives the Global “ Land Rush ”?, (October).
- World Food Programme. (2015). State of Food Security in Sierra Leone 2015, (October).
- World Food Programme (B). (2015). WFP Sierra Leone | Brief WFP Sierra Leone | Brief, (September), 1–2.
- Yengoh, G. T., & Armah, F. A. (2015). Effects of the large-scale acquisition on food insecurity in Sierra Leone. *Sustainability (Switzerland)*, 7(7), 9505–9539. <https://doi.org/10.3390/su7079505>
- Yengoh, G. T., & Armah, F. A. (2016). Land access constraints for communities affected by large-scale land acquisition in Southern Sierra Leone. *GeoJournal*, 81(1), 103–122. <https://doi.org/10.1007/s10708-014-9606-2>

ANNEXES

Annex 1 Picture from field data collection

Activity 1: Training of enumerators for questionnaire administration and community Slection (24.04.2017).



Activity 2: Focus Group Discussion with (community, Women, and Youths)



FGD-Elders Bamba Community 25.04.2017



FGD-Women Kortumahun Community 26.04.2017



FGD-Women Bendu Community 26.04.2017

Activity 3: Stakeholder Meeting and Interview



Meeting and interview Ministry of Agriculture, Forestry and Food Security (MAFFS) Pujehun 25.04.2017.



Meeting and interview with SOCFIN management staff at Company's Head Office 26.04.2017

Activity 4: Community and Plantation observation



SAC Plantation 26.04.2017



SAC Plantation 26.04.2017



Truck load of SAC fruit transporting to mill 26.04.2017



Tractors load of SAC fruit at the entrance of mill 26.04.2017



Stream used for laundry by communities 27.04.2017



Wood display in Bamba for sale 26.04.2017



Flooded Plain for food production 28.04.2017

Annex 2: **Field data Collection Guide**

1. Key informant interviews with (a) company representatives, (b) NGO and /or CSOs, (c) National and local government, (d) others (e.g. contract worker....)
2. Community discussions (focus group discussions):
 - (a) Mixed group of community members (7-15 members) interview about overall relationships of community and investor (e.g. elders, women, workers, land owners and users)
 - (b) Women group
 - (c) Group of youth

Key informant interviews:

Company

- Background company
- Land acquisition process: consultation, participation, decision making
- Support to community development
- Support to community food security
- Community relations (grievance mechanisms, infrastructure investments etc.)

National and Local government

- The role of national government and local government officials: regulating vs. promoting investments.
- Drivers /constraints and development of national policies; new land policy, guidelines for agricultural and bioenergy investments.
- Strategies and challenges to implementing national policies, Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security (VGGT).
- Large-Scale Land Investment: who is involved in the decision-making process, are local stakeholders consulted? Who knows of the contract before it is signed? Is there time for discussion and consultation? Is it publicly announced and do local people react?
 - Perceptions of development effects of investments
 - Constraints and solutions to with agri-based investment

NGO's/CSOs, other experts:

- Level of knowledge on LSLA in the country
- Monitoring of local/national government: regulating vs. promoting investments
- Knowledge of drivers /constraints and development of national policies; new land policy, guidelines for agricultural and bioenergy investments
- How strong are national institutions – do you trust them to enforce the national law or to enforce the provisions of the contract in case of non-compliance?
- Agricultural investment: who is involved in the decision-making process, are local stakeholders consulted? Who knows of the contract before it is signed? Is there time for discussion? Is it publicly announced and do local people react?
- Perceptions of development effects of investment company
- Role of different NGO's/CSOs and other stakeholders to support agricultural investments
- Challenges to fulfill these roles?

Community discussions

Community Elders (general):

- Land acquisition: consultation, participation, negotiation
- Land assets, use, access and change
- Income and local development from Large-scale Land Investments
- Food security
- Wide community effects: land access and use, natural resources use...
- General perceptions on about the investment

FGDs women group:

- Change in land use and the role of women in the planning of investment? (e.g. access to land, difficult access to water, change in food provisioning)
- Land assets, use, access and change
- Income and local development from Large-scale Land Investments
- Food security
- Wide community effects: land access and use, natural resource use...
- General perceptions on about the investment

FGDs youth group:

- Change in land use and access
- Participation in employment
- Other economic opportunities because of the investment
- Challenges and solutions for sustainability
- General perceptions on about the investment

Tools

- Interview guide (semi-structured)
- General community discussion guide (semi-structured)
- Women group & youth discussion guide (semi-structured)

Annex 2: Field visit and Interviews schedules March-May 2017

Date	Activity	Location	Name of person interviewed
06.03.2017	Meeting with the Green Scenery Staff- An organization working of Land Rights. The meeting was to have a general overview of current land rights, policy and governance discuss	Freetown	Mr. Joseph Rahall, Sandra Koch, Milton Kainyandeh, Fatmata Salisu.
09.04.2017	Stakeholder meeting on SDG-Goal 15 on degradation of land organized by UNDP and the Ministry of Land, Country Planning and The Environment <ul style="list-style-type: none"> • Global data sources • Available in land dataset (national and international) • Leveraging or sharing 	Freetown	Stakeholders: rep of Ministry, department, international and national NGOs and EPA
10.03.2017	Meeting with Director of Environmental Protection Agency. Discussion on NRM in country and roles of EPA in its governance	Freetown	Director EPA, Director Green Scenery Sierra Leone
12. 03.2017	Telephone interview with Director of Rural Agency for Community Action Programme (RACAP/SL) a local Community-Based organization in Pujehun district working on the land right. The interview base on having research field update to inform the field planning process	Freetown	Mr. Emmanuel Fawundu
29.03.2017	Land Conference of Land Owners and Users in Freetown. Organized by the Action for Large-Scale Land Acquisition Transparency	Freetown	National representation- Stakeholders, Land owners, and NGOs
07.04.2017 (Friday)	Meeting- Gold Tree palm oil company	Company head office- Daru Kailahun district	Outgrower manager
07.04.2017 (Friday)	Meeting- Gold Tree palm oil company	Company head office- Daru Kailahun district	Technical support team
07.04.2017 (Friday)	Meeting with Chiefdom speaker Daru- Kailahun District	Daru Town- Kailahun district	Chief Alhaji Alfred Tenneson
10.04.2017 (Monday)	Meeting with Natural Habitat SL staff (palm oil production)	Zimmi- Makpele Pujehun district	Ali Gbo- Community liaison office and Abdul Mansaray- Admin and finance officer

10.04.2017 (Monday)	Meeting with councilor Zimmi	Zimmi- Makpele Pujehun district	Councilor Rogers
11.04.2017 (Tuesday)	Meeting with paramount chief, section chiefs, town chiefs and elders of Makepele chiefdom Pujehun district	Zimmi- Makpele Pujehun district	Paramount Chief and chiefdom Council Makpele chiefdom
12.04.2017 (Wednesday)	Meeting with Ministry of Agriculture Forestry and Food Security(MAFFS)	Bo	Mr. Marah-crop office Bo district and Mr. Emanuel Marah- staff MAFFS Bo district
14.04.2017 (Friday)	Meeting Natural Habitat country manager	Freetown	Mr. Peter Pijpers country manager
19.04.2017 (Wednesday)	Meeting with PRO-MAFFS	Freetown	Mr. Daramy
24.04.2017	Training of enumerators for questionnaire administration	Pujehun town	6 Enumerators trained
25.04.2017	Pre-testing of household questionnaire	Jumbu- Malen Pujehun district	6 Enumerators
25-04 to 04-05- 2017	Household questionniare administration	Bamba, Hongai, Kanga Sinjo, Kortumahun, Bendu, Banale, Taninehun, Jumbu, Gandorhun, Sebenhun Malen Pujehun	Head of Households
25-04 to 04-05- 2017	Focus Group Discussion with (community, Women, and Youths)	Bamba, Hongai, Kanga Sinjo, Kortumahun, Bendu, Banale, Taninehun, Jumbu, Gandorhun, Sebenhun Malen Pujehun	Community people women and men including youths
25.04.2017	Interview councilor Malen Chiefdom-Pujehun	Bamba-Malen Pujehun	Councilor Kebbie
25.04.2017	Meeting and interview Ministry of Agriculture, Forestry and Food Security (MAFFS) Pujehun	Pujehun Town	Mr. Goba
26.04.2017	Interview Chiefdom speaker- Malen chiefdom	Sahn Malen Town- Pujehun district	Chief Robert Moigua
26.05.2017	Meeting and interview with SOCFIN management staff	Sahn Malen Pujehun district	Community Liaison Manager, Food Security Officer, Community Liaison officer, Agroforestry officer, Gender officer, Health Social and Environment officer
29.04.2017	Paramount Chief Conference 2017: "Our Land...Our Rights" - Paramount Chiefs from all over	Makeni	Paramount Chifes,

	the country are meeting today in Makeni to discuss the National Land Policy and the Voluntary Guidelines on Tenure.		
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Annex 3: **Land and Food Security Questions**

Questionnaire # _____

Interviewer: _____

Date: _____

Chiefdom: _____

Village: _____

Latitude: _____ Longitude: _____ Elevation: _____

Personal Information

Respondent: _____

Age: _____

Gender: Male Female

Marital Status: Single Married Widow(er) Divorced

Household Situation

1. How many people of different age groups are in this household?

Age Group	Male	Female	Total (by AG)
0 – 5			
6- 17			
18 – 35			
18 – 35			
36 – 65			
>65			

2. What is the highest level of education obtained by family members?

	None	Primary	Secondary	University
Husband				
Wife				
Children				

3. Please rank your main sources of household income

	Rank of Sources before 2010	Rank of Sources at Present	Annual Income before 2010	Annual Income at Present
Food crop farming	1 2 3 4 5	1 2 3 4 5		
Cash crop farming	1 2 3 4 5	1 2 3 4 5		
Petty trading	1 2 3 4 5	1 2 3 4 5		
Self-employed	1 2 3 4 5	1 2 3 4 5		
Animal husbandry	1 2 3 4 5	1 2 3 4 5		
Fishing	1 2 3 4 5	1 2 3 4 5		
NGO employed	1 2 3 4 5	1 2 3 4 5		

Local company	1 2 3 4 5	1 2 3 4 5		
Other:	1 2 3 4 5	1 2 3 4 5		
No income source	1 2 3 4 5	1 2 3 4 5		

4. For how long have you and family members lived in this Village? _____
 5. During this period, for how long have you been practicing agriculture? _____

Land Assets, Use, Access and Change

6. Do you or member of the family? Over and have access to and lease land
7. How has your land holdings (in acres) changed from 2010 to present?

Size of holdings	Before 2010	At present
<1		
1-5		
6-10		
10-25		
25-50		
50-100		
>100		
Total Size		

8. If your land holding situation has changed (in Q. 7), what were the main reasons for these changes?

- a. I shared with my family members
- b. I sold to an individual or group
- c. I sold to an individual or group
- d. Taken for public service works by county or government
- e. Taken & compensated by county (without my agreement)
- f. Taken & compensated for by a company (with my agreement)
- g. Taken & not compensated by company (without my agreement)
- h. Taken & compensated by government (with my agreement)
- i. Taken & compensated by government (without my agreement)
- j. Taken & not compensated by government (without my agreement)
- k. Other:

9. Who made the decision or was contacted before the land tenure situation changed?

- a. Myself
- b. The state
- c. Company
- d. My partner
- e. The land owner
- f. Don't know
- g. My family
- h. The local chief
- i. The district council

- j. The District Officer
10. Were you aware of this transaction? Yes No
11. Did this involve your full consent & agreement?
- a. Yes, I agreed fully
 - b. I agreed to different terms than were contracted
 - c. I was aware, did not want it, but could not stop it
 - d. I was never contacted on the transaction
12. What was your level of consent and agreement with the terms of the conditions that changed you land tenure situation?
- a. I co-negotiated and agreed fully with the terms
 - b. I agreed to different terms than were written in the contract
 - c. I was aware, did not want it, but could not stop it
 - d. I was never contacted on the transaction
13. How was the land priced (was any price benchmark used)?
- a. No pricing benchmark was used
 - b. Prevailing land prices as benchmarks
 - c. The price was determined by the state
 - d. Other:
 - e. Don't know

Income and Local Development from Large-scale Land Investments

14. How much income do you generate per year from the following?

Income generation	Rank (1-10)	Sufficient/more than sufficient			Just enough			Inadequate/Lacking			Reasons
		F	M	Y	F	M	Y	F	M	Y	
Sale farm products (rice, beans, cassava, vegetables etc.)	Before										
	Now										
Oil Palm (Native/masanke)	Before										
	Now										
Paid Farm work (Gang labour)	Before										
	Now										
Direct jobs with company	Before										
	Now										
Indirect jobs with company Petty trading, Services (laundering, cooking, sex work)	Before										
	Now										
Other skills (carpentry,	Before										

mason, blacksmith)	Now											
Stipends/ remittances (relatives, diasporas, trad. Leaders)	Before											
	Now											

They will be required to rate their income.

1 = 10,000 – 50,000, 2= 50,000 – 150,000, 3= 150,000 – 250,000, 4= 250,000 – 500,000,
5= above 500,000

15. How many persons in your household are employed in jobs created by companies that were established after 2010?

Relationship (Father, mother, son, daughter)	Age (in years)	Type of Employment

16. What is the nature of their employment?

- a. Permanent
- b. Contractual Length of contract: _____
- c. Seasonal Number of month/year: _____
- d. Part-time Average # of months/year: _____
- e. Casual labour Tasks: _____

17. Daily wage: _____

18. Annual income from the above employment: _____

19. How much do you spend on the following in the year?

Expenditure					reason
		Women	Men	Youths	
Food	Before				
	Now				
Energy	Before				
	Now				
Farm inputs	Before				

	Now				
School fees	Before				
	Now				
Health	Before				
	Now				
Transport	Before				
	Now				
Society	Before				
	Now				
Communication Mobile phones	Before				
	Now				

20. Has the presence of these companies facilitated access to agriculture-related inputs for your own food production? Yes No

21. If yes, indicate these inputs.

- a. Organic fertilizers
- b. Inorganic fertilizers
- c. Pesticides
- d. Water (for irrigation)
- e. High quality seeds
- Other:

22. Has the presence of these companies provided an opportunity for you to learn new techniques of agriculture for your own production? Yes No

23. If yes, which types of techniques have been learned?

- New farm preparation methods
- Preparation of organic fertilizers
- Techniques for food conservation
- Other:
- Techniques for water conservation

24. Has the presence of these companies provided an opportunity for you to access or use new agricultural technology for your own food production? Yes No

25. If yes, which types of technologies can be accessed more easily?

- a) New farm preparation tools technologies
- d) Better fertilizer application
- b) Access to tractors for farm use conservation
- e) Technologies for food conservation
- c) Technologies for water conservation
- f) Other:

26. Have there been changes in the yield of some of your major crops? Yes No

27. If yes, can you attribute some of these changes to the presence of land related companies in your community? Y No

Food Security

28. How much food do you get from your farm last 12 months?

Food Sources	(score)	Sufficient/more than sufficient			Just enough			Inadequate/Lacking			Reason
		F	M	Y	F	M	Y	F	M	Y	
Rice	Before										
	Now										
Cassava	Before										
	Now										
Vegetables	Before										
	Now										
Bush Meat	Before										
	Now										
Fish	Before										
	Now										
Palm oil	Before										
	Now										
Imported vegetable oil	Before										
	Now										
Domestic animals	Before										
	Now										

The answers will be provided with a number of (5-10) kernels/seeds to place in the categories: sufficient or more than sufficient = 67 – 100%, just enough= 33-66%, inadequate or lacking= 0-32% and in the time range before and now.

29. What quantity of food do you buy for the home last 12 months?

Food Accessibility	Counters (score)	Sufficient/more than sufficient			Just enough			Inadequate/Lacking			Reason
		W	M	Y	W	M	Y	W	M	Y	
Rice	Before										
	Now										
Cassava	Before										
	Now										
Vegetables	Before										

	Now										
Bush Meat	Before										
	Now										
Fish	Before										
	Now										
Palm oil	Before										
	Now										
Imported vegetable oil	Before										
	Now										
Domestic Animals	Before										
	Now										

30. How much food is consumed daily by you/family in the last 12 months?

Food consumption	Counters (score)	Sufficient/more than sufficient			Just enough			Inadequate/Lacking			Reasons
		F	M	Y	F	M	Y	F	M	Y	
Cassava	Before										
	Now										
Rice	Before										
	Now										
Vegetables	Before										
	Now										
Fruits	Before										
	Now										
Bush Meat	Before										
	Now										
Fish	Before										
	Now										
Palm oil	Before										
	Now										
Imported vegetable oil	Before										
	Now										

They will be required to rate their consumption on a daily basis. 4 – 5 Kernels = Sufficient and more, 3 Kernels = Just enough, 1 – 2 Kernels = Inadequate

31. How has the food production situation changed for your family since the coming of the company?

- a. We now produce more food than we used to do
- b. We now produce less food than we used to do
- c. The variety of crops we produce has fallen as a result of the company
- d. We now have more diversified food resources than we used to do



32. Which of the following problems directly affect food production situation in your family in the last 12 months?

	Often	Sometimes	Rarely	Rank
Lack of capital				1 2 3 4 5
Insufficient land				1 2 3 4 5
Lack of labour				1 2 3 4 5
Health issues				1 2 3 4 5
No clear land status				1 2 3 4 5
Difficulties accessing quality seed				1 2 3 4 5
Difficulties accessing fertilizer				1 2 3 4 5
Fertilizer is too expensive				1 2 3 4 5
Difficulties selling agricultural products				1 2 3 4 5
Destruction by animals (birds, insects)				1 2 3 4 5
Farm gate price is very low				1 2 3 4 5
Lack of technology information				1 2 3 4 5
Lack of water for agriculture				1 2 3 4 5
Floods				1 2 3 4 5
Drought				1 2 3 4 5
Land conflict with company				1 2 3 4 5
Soil fertility decline				1 2 3 4 5
Problems of soil erosion				1 2 3 4 5
Rainfall associated problems				1 2 3 4 5
Other.....				1 2 3 4 5

33. Are you worried whether food would run out before the next harvest season for your household in the last 12 months?

- a. Often true



- b. Sometimes true
- c. Never true
- d. Don't know
34. Are you worried whether food would run out before you got money to buy more for your household in the last 12 months?
- a. Often true
- b. Sometimes true
- c. Never true
- d. Don't know
35. Did you have money to get more food for your household in the last 12 months?
- a. Often true
- b. Sometimes true
- c. Never true
- d. Don't know
36. Could you afford to eat balanced meals in your household in the last 12 months?
- a. Often true
- b. Sometimes true
- c. Never true
- d. Don't know
37. In the last 12 months, (was your child/ were the children) ever hungry but you just couldn't afford more for ? Yes No
38. In the last 12 months, did (your child/any of the children) ever not eat for a whole day because there wasn't enough money for ? Yes No
39. How would you describe the contribution of the company in this community?
- a. An opportunity to provide economic development to this region
- b. An opportunity to provide needed infrastructure in this area
- c. An opportunity to improve my family's economic situation
- d. An opportunity that benefits people not resident in the area
- e. An opportunity that benefits rich people only of this area
- f. We see very limited benefits from such large-scale land use
- g. We see no benefits from such large-scale land use
- h. We feel less food secure as a result of the presence of these companies
- i. These companies have contributed in impoverishing us
- j. Our community is now more lawless than before
- k. Our access to local resources has been impeded
- l. Other:
-
-
40. Are you happy with the company operating in your community or are you not?
- a. I am happy with the company operating in our community
- b. I am not happy with the company operating in our community
41. Would you want the company to continue operations in your community or not?
- a. Yes, I want to company to continue operations in our community
- b. No, I do not want to company to continue operations in our community
42. What in your opinion should be the future of land investment companies in this area?
- a. They should continue their work - it is important for us
- b. They should meet the promises they made to the community
- c. They should employ more of us in their activities

- d. They should hand back the lands and leave
- e. They should take part of the land and leave some for us
- f. They should respect local authority
- g. Other:
- h. Other:



Declaration in lieu of oath

By

Edward Thomas Fatoma

This is to confirm my Master's Thesis was independently composed/ authored by myself, using solely the referred sources and support.

I additionally assert that this Thesis has not been part of another examination process.

Place and Date

Signature

