



PERSPECTIVES ON ACCESS TO AND
CONTROL OVER LAND, LIVELIHOOD,
AND AGRICULTURAL PRODUCTION
OUTCOMES IN THREE DISTRICTS
WITH LAND INVESTMENTS IN GHANA

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Perspectives on access to and control over land, livelihood, and agricultural production outcomes in three districts with land investments in Ghana

John Kwame Boateng

Abstract

The paper explored perspectives about men and women's access to and control over land, water, energy, and food resources in the Sene West, Denkyembour, and Kwaebibirem districts of Ghana. Much of the literature suggests that while women may have access, they often do not have control over productive resources and that this lack of control is implicated in gender inequalities. The objectives examined perspectives and attitudes to women's role in the management of land and questions of access to land and other resources, as well as opinions about who has benefited from large-scale land acquisitions. Mixed methods, constrained by the outbreak of the Covid-19 pandemic were employed. Qualitative and quantitative research approaches were used. The quantitative part involved the use of a paper-based questionnaire given to 30 respondents and the qualitative study focused on six items developed in a study guide for six respondents; this was at the peak of the beginning of the Covid-19 pandemic in Ghana when Accra was under lockdown and most of the country was under severe restrictions. The traditional livelihoods of the people, based mainly on food and cash crop farming, agro-processing, and hunting, have suffered several impacts from the land grabs. These include loss of land, declined access to resources such as fuelwood, damaged ecosystems, deforestation, and lack of alternative ways to maintain food security. However, for those community members who found positions as workers in the large-scale investments especially at Kwaeb, in the Kwaebibirem municipality, the positive effects of the oil palm out-grower scheme have, in general, benefited not only the scheme out-growers but also the members of the communities surrounding the large-scale oil palm investment.

Keywords: Access, land resources, water-energy-food nexus, livelihood outcomes

Résumé

La présente étude a porté sur les perspectives concernant l'accès et le contrôle des hommes et des femmes sur la terre, l'eau, l'énergie et les ressources alimentaires dans les districts de Sene West, Denkyembour et Kwaebibirem au Ghana. Selon de nombreuses études, si les femmes peuvent avoir accès aux ressources productives, elles n'en ont souvent pas le contrôle et que ce manque de contrôle est impliqué dans les inégalités entre les sexes. Les objectifs ont consisté à examiner les perspectives et les attitudes à l'égard du rôle des femmes dans la gestion des terres et les questions d'accès à la terre et aux autres ressources, ainsi que les opinions sur les bénéficiaires des acquisitions foncières à grande échelle. Des méthodes mixtes, limitées par l'apparition de la pandémie de Covid-19, ont été employées. Des approches de recherche qualitatives et quantitatives ont été utilisées. La partie quantitative a consisté en l'utilisation d'un questionnaire sur papier remis à 30 répondants et l'étude qualitative a porté sur six éléments élaborés dans un guide d'étude pour six répondants ; ceci au plus fort du début de la pandémie de Covid-19 au Ghana, alors qu'Accra était sous confinement et que la majeure partie du pays était soumise à de sévères restrictions. Les moyens de subsistance traditionnels de la population, basés principalement sur l'agriculture vivrière et de rente, l'agro-industrie et la

chasse, ont subi plusieurs impacts des accaparements de terres. Il s'agit notamment de la perte de terres, de la diminution de l'accès à des ressources telles que le bois de chauffage, de la dégradation des écosystèmes, de la déforestation et de l'absence de solutions alternatives pour maintenir la sécurité alimentaire. Cependant, pour les membres de la communauté qui ont trouvé des postes de travailleurs dans les investissements à grande échelle, en particulier à Kwae, dans la municipalité de Kwabibirem, les effets positifs du programme de plantation de palmiers à huile ont, en général, profité non seulement aux planteurs, mais aussi aux membres des communautés entourant les investissements à grande échelle dans le palmier à huile.

Mots-clés : Accès, ressources foncières, lien eau-énergie-alimentation, résultats des moyens de subsistance

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Biography

Prof. John Kwame Boateng holds a PhD from the Pennsylvania State University (PSU, Penn State), USA. He joined the University of Ghana as Lecturer in 2013. He was a fellow of the University of Michigan's African Presidential Scholars (UMAPS) Program from August 2014 to February 2015. In 2016, and 2020 Prof. Boateng was promoted to the rank of Senior Lecturer and Associate Professor respectively. Prof. Boateng has over 20 years' experience in research, teaching, and academic publishing. His research areas cover, Development Education, Human Environment Interactions, Curriculum Development, Distance Learning, and Instructional Development. He is a material developer and a tutor of online courses.

Perspectives on access to and control over land, livelihood, and agricultural production outcomes in three districts with land investments in Ghana

John Kwame Boateng (PhD)

Introduction

This study aimed to examine the perspectives of female and male members of three communities with agricultural land investments in Ghana. Two districts of the Eastern Region of Ghana and one in the Sene West District were the focus of this study. The study explored the perspectives of community members (both male and females) on access to and control over land and its effects on livelihood and agricultural production outcomes in the three districts with land investments. The research was carried out mainly during the Covid-19 pandemic. This was preliminary research, done on a limited number of interviews (sample size was 30). The research was heavily challenged by the beginning of the pandemic, but the data collected can still contribute to the research questions and offer some important insights into how agricultural land investments have shaped the livelihoods of the communities within the districts and contributed to the transformation of these districts. The initial planning was to carry out qualitative engagements (in-depth interviews and focus group discussions) with some stakeholders in the communities where the three land investments are located. But as the pandemic got worse, it became impossible to engage stakeholders face-to-face, so the qualitative questions were transformed into questionnaires and sent out to respondents who completed and returned them. Subsequently, a subset of the respondents was engaged in in-depth telephone interviews to clarify some of the issues raised amidst challenges reaching out in difficult network connectivity conditions.

It was interesting to explore how the development of the three agricultural land investments has shaped the livelihoods of the communities within the districts and contributed to the transformation of these districts. Kuusaana and Gerber (2015) observed that Ghana's agricultural sector is a vital component of the Ghanaian economy and the country's survival is principally hinged on its growth. Increasingly, however, land has gone out of the hands of local custodians at an alarming rate to foreign investors (Nyantakyi & Bezner 2017) in ways often described as *land grabs*.

The European Coordination via Campesina (2016) defined land grabs as follows: "Land grabbing is the control - whether through ownership, lease, concession, contracts, quotas, or general power - of larger than locally-typical amounts of land by any persons or entities - public or private, foreign or domestic - via any means - 'legal' or 'illegal' - for purposes of speculation, extraction, resource control or commodification at the expense of peasant farmers, agroecology, land stewardship, food sovereignty, and human rights."

According to the Transnational Institute (2016), access to and control over land and natural resources constitute a pivotal part of rural working peoples' ability to make decent livelihoods, avoid marginalisation and exclusion as well as avoid abject poverty and hunger. However, the last decade has seen an unprecedented global rush for land, followed by various land deals and investments (Rafiee & Stenberg, 2018). The study explored and analysed perspectives of community members, both male, and female, in three districts in southern Ghana where there have been large-scale land investments from the Ghanaian government and

foreign investors as a contribution to the ongoing debate about the negative and positive impacts of land grabs.

According to Rasul & Sharma (2016), water, energy, and food are vital resources for human well-being, poverty reduction, and sustainable development. Demand for these resources has been on the increase because of population growth, international trade, migration, economic development, harmful practices of humans and livestock, and the resulting degradation of these resources as well as the impacts of climate change.

According to Hoff (2011), the World Economic Forum (WEF) has emphasised risks arising from security concerns and their implications for businesses and governance (Schwab, 2011). The Bonn Conference Framework identified urbanisation, population growth, and climate change as the main drivers that influence the WEF nexus through their effects on water availability and suggested actions in social, economic, and environmental dimensions using finance, governance, and innovation as enablers and incentives to achieve universal access, equitable development, and a resilient productive system (Bhattacharyya et al, 2015). Governance failure and economic disparity increase the risks of conflicts and the adoption of unsustainable solutions.

Nhamo et al (2019) presented the International Institute of Sustainable Development's (IISD) Eco-System-Based Framework, which considers the use, access, and availability dimensions of food, water, and energy and identifies the influences of each on the other in a holistic framework for specific geospatial locations. The advantage of this framework is that it captures the interactions between the ecosystem, built environment, and governance dimensions, thereby facilitating the identification of various levels of decision-making and policy influences that can affect the WEF nexus.

Perspectives about gendered access to land and associated resources - water, energy, and food - are many. Odeny (2013), noted that the need to improve access to land and strengthen women's rights in Africa has generated a lot of discussions, and women's rights activists have seized the opportunity to argue for increased access to land and other production resources. According to some researchers such as Hall & Osorio (2014), Amanor & Ubink (2016), Tsikata & Yaro (2014), Yaro et al (2017), and Yaro (2012), positive outcomes for rural communities are dependent on many factors, such as the prevailing agriculture and rural development model or the institutional, policy and regulatory framework in place, the type and degree of inclusiveness of the business models, commodification and contractual arrangements implemented, and the extent to which social and gender equity issues are considered.

This study focused on three districts with large-scale land investments. The three districts are Sene West with communities such as Bantama, Denkyemba District with communities such as Okumaning, and Kwaebibirem District with communities such as Kwae. The two districts of Kwaebibirem and Denkyemba in the Eastern Region of Ghana and Sene West is in the Bono East Region. The large-scale land investment in Sene West is the African Plantation for Sustainable Development (APSD), whereas the investments in Denkyemba and Kwaebibirem Districts are the Forest and Horticultural Crops Research Centre (FOHCHREC of the University of Ghana) and the Ghana Oil Palm Development Company (GOPDC), respectively.

FOHCHREC, in Okumaning near Kade, was established in 1957 as one of the three research centres of the School of Agriculture, College of Basic and Applied Sciences,

University of Ghana. Not quite a case of large-scale land acquisition by a private investor in the way that is generally known or understood; however, it was a large-scale investment by the government of Ghana with a vision to develop into a reputable Regional Research Centre, leading in humid tropical and horticultural research, teaching, extension and training in forest and horticultural crops. The mission of the centre has been to develop sustainable agricultural production systems suitable for the humid tropical environment, through research, training, and extension activities. For its establishment, the Centre took a total land area of 1090 hectares (2756.97 acres) of stool lands situated in the Denkyemba District in the Eastern Region of Ghana and is 125 km northwest of Accra.

The Ghana Oil Palm Development Company (GOPDC) was established in Ghana in 1975. A member of the Siat Group of Belgium, it is an integrated agro-industrial company specialising in the cultivation of oil palm, extraction of crude palm oil, and palm kernel oil. Being a good case of large-scale land investment, GOPDC has as its vision to conduct business in a more prosperous, safe, and environmentally sustainable manner that promotes the well-being of its shareholders, employees, customers, and community. It produces refined specialty oils for use by the food industry.

Africa Plantation for Sustainable Development (APSD) was established in 2007 as a 60MW biomass project but this objective changed. It is in the Sene West District near the Bantama town, Bono East Region in Central Ghana, on the western side of Lake Volta, some 400km north of the capital city of Accra. Since 2007, APSD has secured and developed a large concession of up to ca. 42,000 hectares, divided into four individual Stool Traditional Councils. The project is growing eucalyptus as biomass fuel, with approximately 9,000 hectares established out of a required 21,500 hectares with the rest of the area given, *inter alia*, to conservation, riparian areas, rehabilitation, and for use by local people for sustainable farming. Lisk 2013, has noted that access to land and its resources is important for many people around the world, but land is crucial to livelihood in Africa as smallholder production is still the backbone of the region's agriculture, and many smallholder producers depend heavily on land on which they can produce their food and maintain agricultural productivity. As a result, Schoneveld (2014), argued that agricultural investment in Africa is competing with the existing land uses, which in turn leads to the interruption of traditional production systems as well as dispossession. Nyantakyi & Bezner (2017), reveal that the cumulative effect of land acquisitions in Ghana is such that rural communities are already struggling with considerable land commercialisation and livelihood stress.

Debates concerning the benefits and harmful effects of land acquisitions by foreign interests in Africa are heated with promoter's environmental and social justice as well as human rights on one side and advanced capitalism on the other (Rafiee and Stenberg, 2018). International organisations such as the International Fund for Agricultural Development (IFAD), the Food and Agriculture Organization (FAO), and the International Food Policy Research Institute (IFPRI) support large-scale land acquisitions in African countries because they could help promote the production of much-needed food and raw materials to increase economic growth and reduce poverty (Rafiee and Stenberg, 2018). According to Wolford et al (2013), governments in African countries consider foreign direct investments in the agriculture sector to be an opportunity for economic development. Therefore, the perspectives of

community members whose lands are taken must be captured and understood in terms of the large-scale land investments in their communities.

Five research questions are asked and subsequently, five specific objectives are sought in the execution of this study as follows:

Research Questions

1. What are the perspectives of community members on who should have the responsibility of access to and control over land and natural resources?
2. What are the perspectives about benefits that accrue to households and community members when women have access to and control over natural resources?
3. What are the perspectives about benefits that accrue to households and community members when land and natural resources are taken over by investors?
4. What are the prevailing perspectives about large-scale land investments (LSLIs) pertaining to the water-energy-food nexus?
5. What are the perspectives about the roles of LSLIs in promoting equitable access to land resources and productive livelihoods?

Literature Review

Theoretical framework

This paper draws from the theory of political ecology to explain the interconnected factors associated with taking over land from Ghanaian rural folks and its ecological, socio-cultural, and economic impacts on the livelihoods of rural folks. Conceptually the paper is underpinned by the concepts of environmental justice, accumulation by dispossession, dispossession with benefits, and sustainable livelihoods. According to Rafiee and Stenberg (2018), political ecology as terminology was first used in the 1970s along with a growing environmental movement to conceptualise the relation between ecology and political economy. It seeks to connect social and environmental science to address environmental changes, conflicts, and problems.

Rafiee and Stenberg's (2018) analysis of the underlying factors of land grabbing and its ecological, socio-cultural, and economic implications on the livelihoods of rural populations in Ghana and Ethiopia was a clear case study carried out through a political-ecological lens. Lee (2009) shows that political ecology originated from the Marxist political economy and emphasised largely the role of the political economy and capitalism as a cause of instability. This paper seeks to understand the complex relations between nature and society through a careful analysis of what one might call access and control over resources and their implications for environmental health and sustainable livelihoods.

Forsyth (2004) shows that within the field of political ecology, the focus has largely been put on social justice and resource conflicts in developing countries. Unequal power relations are also a central theme within the field since this is often linked to the access to and control over natural resources and thereby also conflicts. Forsyth (2004) observes that a common view of the theory of political ecology is that injustices stemming from these power relations and conflicts affect poor, local populations as well as the natural resources these people depend on. As a result, Turner, and Robbins (2008), noted that there is a purpose in

analysing and explaining the economic and political factors that cause and maintain socio-ecological burdens for people, thus leading to unsustainable outcomes.

This calls for planning for the use of natural resources for agricultural production in the large-scale land investment areas to consider vulnerable people such as the youth, and women's traditional roles as caregivers; otherwise, the security of their livelihood, and that of their dependents, will be confounded (Mukoni, 2015). Odgaard (2003) further reported that, aside from the anticipated benefits from the transformation of local communities from the operations of LSLIs, the lives of some communities in the areas with large-scale land investments are negatively impacted, therefore it is incumbent on LSLI managers to promote case-based agricultural economy in the areas with large-scale land investments.

The objectives of this study, therefore, are to:

1. Examine the perspectives of community members on who should have the responsibility of access to and control over land and natural resources.
2. Explore the perspectives about benefits that accrue to households and community members when women have access to and control over natural resources.
3. Explore the perspectives about benefits that accrue to households and community members when land and natural resources are taken over by investors.
4. Investigate the prevailing perspectives about large-scale land investments (LSLIs) pertaining to the water-energy-food nexus.
5. Explore the perspectives about the roles of LSLIs in promoting equitable access to land resources and productive livelihoods.

Methodology

Description of study areas

The study was carried out in three districts namely Sene West, Denkyembour, and Kwaebibirem of the Republic of Ghana. In each of these districts there is a large-scale land investment: the African Plantation for Sustainable Development in Sene West of Bono East Region, the Forest and Horticultural Crops Research Centre in the Denkyembour District of the Eastern Region of Ghana, and the Ghana Oil Palm Development Company in Kwaebibirem District, also of the Eastern Region.

Kwaebibirem and Denkyembour Districts

The Kwaebibirem Municipal Assembly (KbMA) is one of the thirty-two (32) Local Administrative Authorities in the Eastern Region of Ghana (Kwaebibirem Municipal Assembly, 2019). It was created out of West Akim District as a district with its capital at Kade, in November 1988 by Legislative Instrument (LI) 1425. Geographically, it is in the southwestern corner of the Eastern Region of Ghana. The Kwaebibirem Assembly was among those from which new districts were created in February 2012. Denkyembour is the name of the new district created out of it, with Akwatia as its capital (Fig 1). Currently, the assembly is among the new districts whose status was elevated to a municipality. This effectively marks the coming into force of the new LI (2270) in November 2017. Kade remains the municipal capital of the Kwaebibirem Municipal Assembly (Kwaebibirem Municipal Assembly, 2019)

There is a high district population growth rate of 2.4% relative to the regional rate of 2.1%. This was a result of both natural increase and the influx of migrants into the district in

search of greener pastures in flourishing sectors such as mining and agriculture. Though the growth rate from 2000 to 2010 was 3.6%, the actual population figures for 2010 (113,721) have reduced as compared to the 2000 population figure (179,209) due to the creation of Denkyembour District from Kwaebibirem District with the projected population for 2019 being 138,361 according to the Kwaebibirem Municipal Assembly, (2019).



Fig 1. Kwaebibirem Municipality Demkyembour District

Agriculture

According to the Kwaebibirem Municipal Assembly, (2019), agriculture serves as the main economic activity of the people. It employs nearly 77% of the labour force in the district who engage in diverse agricultural ventures such as oil palm, cocoa, citrus, plantain, cocoyam, maize, rice, and vegetable farming as the main source of livelihood. The rearing of livestock such as sheep, goats, and cattle as well as poultry and fish farming is gradually catching up with farmers in the municipality (Kwaebibirem Municipal Assembly, 2019)

Industry in the district is mainly agro based: processing of palm fruit into oil palm and distilling of local gin (akpeteshie). The district is the leading producer of palm oil in the country. The Ghana Oil Palm Plantation Development Company (GOPDC), which is the leading oil palm processing company in Ghana, is in the Municipality (Kwaebibirem Municipal Assembly, 2019).

Vegetation

According to the Kwaebibirem Municipal Assembly, (2019), the entire municipality lies within the moist semi-deciduous forest region, which abounds with different tropical hardwoods with high economic value. The vegetation consists of low-lying species of wood of economic value

such as odum, ofram, teak, mahogany, wawa, sapele, edinam, and others. Large plantations of teak have been cultivated outside forest reserves. The district boasts of some forest reserves covering very large areas. Currently, the forest vegetation provides economic trees for lumber, furniture production, and construction as well as fuelwood for energy. The forest also provides game and wildlife species that serve as sources of food and medicine.

Key Issues

Environment

1. There is a high incidence of abandoned mining pits, sand winning, pollution of water bodies and its attendant effects on aquatic life.
2. The diversion of water channels as practised by some miners leads to frequent flooding of farmlands and places of residence.
3. The district, hitherto known for its wide forest cover, has become a pale shadow of itself due to sustained logging and poor mining practices.
4. There is also poor general sanitation due to indiscriminate dumping of refuse and a high rate of open defecation.

Agriculture

Many farmers lack skills and knowledge of modern agricultural practices and have challenges concerning credit facilities, storage facilities, and a lack of guaranteed market, leading to post-harvest losses.

Road Infrastructure

According to the Kwaebibirem Municipal Assembly, (2019),

1. Kwaebibirem District does not have a good road network, and this retards economic growth and development.
2. The market infrastructure is inadequate, leading to low economic activity in the municipality.
3. The health infrastructure is inadequate, leading to excessive pressure on the few existing facilities, especially the only government hospital at Kade.
4. The educational infrastructure is inadequate as most school buildings are in a deplorable state and some pupils attend school under trees.
5. There is a high number of vulnerable and needy people in the municipality such as women, and children (most of whom are orphans), as well as people living with disabilities, that should be supported and empowered.
6. There is a high incidence of crime such as armed robbery and other forms of theft as well as drug addiction among the youth, which calls for effective security interventions.

The Ghana Oil Palm Development Company (GOPDC), Kwae

GOPDC is wholly owned by SIAT of Belgium; it has 21,000ha of oil palm plantations at Kwae and Okumaning estates, of which about 13,000ha have been developed for about 6,000 out-growers. In total, there are over 1,860,000 oil palm trees spread over a radius of 30km, creating direct or indirect income for some 50,000 people. The processing facilities of the company

comprise a 60mt/h fresh fruit bunch palm oil mill, a 60 mt/day palm kernel mill, a 100 mt/day refinery and fractionation plant, and a palm kernel cake pellet plant. In 2012, GOPDC diversified into the cultivation of rubber trees (*Hevea brasiliensis*).

The Forest and Horticultural Crops Research Centre (FOHCREC), Okumaning, near Kade

The location is 114m above sea level on latitude 6.0854 °N and longitude 0°5400 °W. The vegetation is of secondary forest. The soils are derived from the Precambrian phyllitic rocks of the Nzema-Bekwai-Kokofu series. The mean annual rainfall is 1651mm; the mean annual rain days is 163; the mean maximum temperature is 30.2°C and the mean minimum temperature is 21.6°C. The principal crops under research include citrus, para rubber, avocado, cocoa, mango, cola nut, oil palm, rambutan, root and tuber crops, plantain, maize, vegetable crops, black pepper, aromatic and medicinal plants with an all-inclusive crop protection and management programme. FOHCREC also researches sheep under plantation crops.

Sene West District

According to the Ghana Statistical Service (2014), Sene West District is located between longitudes 0°15' E and 0°15' W and latitudes 7° N and 8° 30'N (Fig 2). In all, the district occupies a total land area of about 3,262.1 sq. km. It, therefore, constitutes about 8.2% of the region's land area, which is 39,557.08 sq. km. It extends from the Volta Lake in the north to River Obosom in the south. Sene West District shares common boundaries with the East Gonja District to the north (in the Northern Region), Sene East District to the east (in the Brong Ahafo Region), Kwahu Afram Plains North (in the Eastern Region) and Sekyere Afram Plains Districts (in the Ashanti Region) to the south and west respectively. To the west and north-west, it is bordered by Atebubu-Amanten and Pru Districts respectively.

Population structure

The population of the district is about sixty-seven thousand, two hundred and sixty-one (67,261) with a growth rate of about 2.7%. The female population constitutes about 49.3% while the male population forms about 50.7% of the total population. The total dependency ratio of the district is about 91.4%. The district has a high illiteracy rate of about 49.3%; thus, the literacy rate is about 50.7%. People with basic education qualification constitute about 38% while people with tertiary education form only 0.2%. The district is sparsely populated with a population density of about 106 persons per sq. km. There are about one hundred and thirty-seven (137) communities in the district. The district is predominantly rural with a rural-urban split of about 74.1:25.9. [Source: Report on the 2010 Population and Housing Census-Statistical Service June 2017 (Ghana Statistical Service (2014)).

District Economy

Ghana Statistical Service (2014) reveals that the employment rate in the district is about 73% of the active labour force. This figure puts the unemployment rate in the district at 27%. However, the unemployment rate in the region is about 34%, which is higher than the district's rate of 27%.

Agriculture

According to Ghana Statistical Service (2014), the major economic activities of the district fall under agriculture, forestry, and fisheries, which employ about 77% of the active labour force. Commerce, service, and industrial sectors employ about 8.1%, 3.9%, and 10.9% of the labour force respectively. The local economy is dominated by the agricultural sector which employs about 77% of the labour force. All three main sectors of agriculture, namely crops, livestock, and fisheries are practised in the district.

Road Network

The road network in the district is in a very deplorable state, which makes transportation of goods, especially farm produce, and human beings very difficult. The main trunk road from Atebubu through Kwame Danso to Kojokrom remains un-tarred (Ghana Statistical Service (2014)). The road becomes almost non-motorable during the rainy season. The only major market centre in the district is located at Kwame Danso but due to the poor road network, the patronage of the market is very poor. This situation prevents the assembly from mobilising the needed revenue from the market; work on the Kwame Danso-Kwadwokrom trunk road has however begun and is progressing steadily (Ghana Statistical Service (2014)).



Fig 2. The Sene West District

Education

The Ghana Statistical Service (2014) noted that 1,023 teachers in the district, 63.4% are trained teachers. The percentage of trained teachers in preschool, primary, and junior high school (JHS) is 12.2%, 64.2%, and 75.9% respectively. Comparatively, the teacher-pupil ratio in the

district is lower than the national and regional average at the basic and second cycle levels. The teacher-pupil ratio for KG, primary, and JHS are 36:1, 33:1, and 23:1 respectively. However, it has been revealed that despite the good pupil-teacher ratio there are quite several schools with very few teachers because those are hard-to-reach areas. The best performance of Basic Education Certificate Examination (BECE) for the last seven years was in 2012 when the district obtained 48%. The reasons for the poor performance include the presence of many untrained teachers, poor parent participation in education, and poor supervision of teaching and learning, especially in the remotest communities (Ghana Statistical Service (2014)).

Health

There are nine (9) health facilities in the district, one district hospital, one private clinic, and seven Community-Based Health Planning and Services (CHPS) Centres. These facilities are not only inadequate but also ill-equipped to serve the district. The numbers of the various categories of health personnel in the district are inadequate. For instance, the doctor-population ratio of 1:67,261 and high nurse-population ratios put too much burden on doctors, nurses, and other health professionals. These high ratios coupled with inadequate logistics support could impacts negatively on the health delivery system in the district (Ghana Statistical Service (2014)).

Water and Sanitation

According to Ghana Statistical Service (2014), the major sources of water supply in the district are pipe-borne water, boreholes with pumps, protected wells, unprotected wells, rivers/streams, dugouts/ponds/lakes/dams. Overall, 75 communities out of the 135 communities (representing 48.8%) have access to potable water. In percentage terms, it may seem the district is doing well in terms of water coverage as about 50% of the communities have access to potable water. However, going by the United Nations (UN) requirement of 300 people to a borehole, the water supply is woefully inadequate as the best community in terms of adequacy of water supply has a ratio of one borehole to over 400 people. There are 81 places of convenience in the district. Pit latrines serve most of the communities. The district can boast of only 39 modern public places of convenience.

Energy

The Ghana Statistical Service (2014) notes that about 20% of the communities in the district have been connected to the National Electricity Grid. However, seven communities in the district are benefiting from the Rural Electrification Project, which is being implemented by the Ministry of Energy. Three of the communities are benefiting from the extension of electricity to new sites while the remaining four have been connected to the National Grid. The 2010 Population and Housing Census draft report put the total number of households using electricity for lighting at 33.4% and the total number of households using firewood as energy for cooking at 83.7%. This situation leads to the depletion of the forest.

Key Issues

1. There is the need for improvement of local government services and institutionalisation of district level planning and budgeting

2. There is the need to boost revenue mobilisation, eliminate tax abuses and improve efficiency
3. The quality of teaching and learning needs to be enhanced
4. There is a problem with the quality of health service delivery including mental health
5. There is a problem with water and the need for improved investment in sanitation
6. There is a need for the promotion of adequate and diversified consumption of nutritious foods
7. Decent living conditions for people with disability need to be promoted
8. A national digital system for property identification needs to be developed and implemented
9. There is a need to integrate land use, transportation planning, development, and service provision
10. Investment in water needs to be improved
11. Ensure sustainable development and management of the land resources
12. Improvement of trade competitiveness
13. There is a need to promote effective disaster prevention and mitigation

Africa Plantation for Sustainable Development, Sene West District

Africa Plantation for Sustainable Development (APSD) was established as a 60MW biomass project, but this objective changed. It is in the Sene West District near the Bantama town, Bono East Region in Central Ghana, on the western side of Lake Volta, some 400km north of the capital city of Accra. Since 2007, APSD has secured and has developed 9,000 hectares out of a required 21,500 hectares with the rest of the area, inter alia, given to conservation, riparian areas, rehabilitation, and for use by local people for sustainable farming (Berkeley Energy, 2020).

Description of the target population

The populations targeted comprised community men and women, landowners, people who have lost land themselves or whose parents or grandparents and forefathers have lost land, farmers, male and female gender activists, district gender officers, district agriculture officers, community water officers, chiefs and queen mothers, traditional royal family members, teachers, health workers, researchers, workers from the LSLI companies and opinion leaders from areas around the three projects in the three districts – specifically; Kade, Okumaning, Kwae, Sene (that is Bantama and neighbouring villages and communities).

Description of Methods

As explained earlier on, this study was heavily constrained by the Covid-19 pandemic. The advent of Covid-19 made it impossible to reach out to the appropriate sample size as was desired for the study, but the data collected can still contribute to the research questions and offer some important insights. To arrive at the population for the study some key informants were contacted, and these helped to identify the population who were able, given the circumstances of the time, to provide valid and needed information within the study sites. The estimated population as shown in the tables below.

The study employed mixed methods namely, quantitative, and qualitative approaches. The quantitative approach used a paper-based questionnaire sent through e-mail and printed at the study sites by research assistants and administered. One hundred and thirty respondents were reached through the quantitative approach. Of this number, 77 were male and 53 females. Table 1 shows the distribution of respondents selected randomly from their communities for the study.

Table 1. The sampling of respondents for the quantitative study

Respondent communities	District	Estimated population based on key informant advice	Sample drawn	Male	Female
Okumaning	Denkyembour	50	4	2	2
Kwae	Kwaebibirem	100	4	2	2
Kade	Kwaebibirem	50	8	4	4
Bantama and neighbouring villages	Sene West	200	114	69	45
Total		300	130	77	53

The estimated population with specific stakes in the issues at hand was three hundred. A sample of thirty respondents was randomly selected. First, the sample population was stratified, the major criteria being the district and occupation of respondents. The stratified sample comprised three strata made up of, district/community, occupation, and gender. According to Sarantakos (2005), stratified sampling is a probability sampling procedure in which the target population was divided into several strata, and the sample is drawn from each stratum. Out of the sample of 130 respondents, 119 were farmers who had connections with land that had been taken, 3 were traders, 1 was a teacher, and 1 a health worker, and 6 were research fellows who have familial connections with the local systems of stakeholders. Respondents were purposively selected because they are linked to some decision-making processes in their respective communities. The questionnaire for the quantitative part of the study comprised 13 items. The raw data obtained from the survey was cleaned up and processed for analysis. Data was analysed using frequencies and percentages tables. The Statistical Package for Service Solution (SPSS) version 16.0 was used to analyse and interpret the data collected from respondents. Data was encoded before entry into the computer.

A qualitative study with six respondents

Additionally, 6 respondents were selected for an in-depth telephone interview where the issues under study, especially key findings that came up from the quantitative analysis that needed further clarification and investigation were examined. Table 2 shows details for the qualitative sampling. The

convenience sampling technique (Bryan, 2004) was used to select the 6 respondents. Of the 6 respondents, 3 were males and 3 were females. The interview guide was made up of 6 items. All information gathered was organised for processing and analysis. The interview guide provided a reliable and comparable qualitative database. The in-depth phone interviews were transcribed. The qualitative aspects of the data were summarised in the form of text for easy description and analysis. The transcribed data was analysed thematically.

Table 2. The sampling of respondents for the qualitative study

Respondent communities	Estimated population based on key informant advice	Sample drawn	Male	Female
Okumaning	50	2	1	1
Kwae	100	1	1	0
Kade	50	1	0	1
Bantama and neighbouring villages	100	2	1	1
Total	300	6	3	3

Results

Findings from the study indicate that majority of respondents were male, 57% as against 43% of females (Table 3). Seventy-seven per cent (77%) of respondents were married. 13% were single and 3% widowed. Thirteen per cent (13%) of them resided at Okumaning in the Demkyembour District, 27% at Kade and 13% at Kwae, in the Kwaebibirem District and 47 % in Bamtama and surrounding communities in the Sene West District. Fifty per cent (50%) of the respondents were farmers, 10% were traders, 3% were in the teaching profession, 3% were in the health profession, and 20% were research fellows working in the study area. The average age of respondents was 42 and they had an average of 4 children per household.

Table 3. Demographic Characteristics of Respondents (n=130)

		Respondents	Percentage (%)
Gender	Male	77	56.7
	Female	53	43.3
Marital Status	Married	100	76.7
	Single	30	13.3
	Widowed	1	3.3
	Non-Response	2	6.7
Place of Residence	Kade	8	26.7
	Kwae	4	13.3
	Sene	114	46.7
	Okumanning	4	13.3
Profession	Farming	115	50.0

	Trading	3	10.0
	Teaching	1	3.3
	Health Officer	1	3.3
	Research Fellow	6	20.0
	Non-Response	4	13.3
	Average		Min-Max
	Number of children respondents have	3.69	0-8
	Age of study respondents	41.78	25-64

In this study (Table 4), respondents’ generally (taking the face value) believed that the responsibility of taking care of land resources – such as water, energy, and food - should be either men’s mandate (43%) or the responsibility should be jointly shared between males and females (47%); women’s mandate (20%). Forty-one percent (41%) of respondents had ‘yes’ or approval perspective while 32% had no or disapproval perspectives and 17% of respondents did not give response. For respondents with disapproval perspectives, 45% considered that, it should not be man’s responsibility of taking care of land resources and 27.5% considered that the responsibility should not be a shared one between males and females and 27.5% considered that it should not be a women’s responsibility take care of land resources. From the Table 4, majority of respondents with approval perspectives supported a jointly shared responsibility between males and females in taking care of the land resources such as water, energy, and food. With the question, who (men, women or jointly) should determine the right one has over a piece of land, 27% of respondents, had yes response, 42.5% had no response and 30.5% did not give a response.

Of respondents’ answering yes, 38% believe that men should have the right to determine who has right over a piece of land. No respondent believed that women should have the right to determine who has control over a piece of land. Interestingly, 34% believed that it should be a jointly shared right between men and women and 28% believe that it should be determined by the laws of the land. Of those responding no for an answer, 36% did not consider that, right over a piece of land should be determined women. With the question ‘who access to land resources should have such as water, energy, fuelwood, and food?’ 51% of those with approval perspectives indicated a jointly shared access to land, energy, and food resources and 32% of those with disapproval perspectives indicated that women should not have the access to such resources. The question about traditionally, who should have access to land resources such as water, energy, fuelwood, and food, had a similar response with 65% of respondents with approval perspectives saying that it should be a jointly shared responsibility between men and women. Fifty-three percent (53%) and 41% of those with disapproval perspectives said, it should neither be women nor men to traditionally have access to land resources, which falls in line with the shared or joint responsibility between men and women.

Access to land and its resources – water, energy, and food - is an indicator related to livelihood improvement and knowing the roles that African women traditionally play in these things, the findings opened the opportunity to further probe female opinion leaders in the qualitative study for their take on these responses.

A female respondent with a traditional royalty background made the observations that “The traditional system of matrilineal inheritance gives women authority over land in terms of ownership and management.” She said everything belongs to women in the Akan tradition – the land, the wealth in gold, and the children and name it all. The queen mother is the one who appoints the king or chief. Asked why this should be so, she had this to say, “Our traditions have perpetrated what we see today. There is a saying that *‘if a woman buys a gun, it is the man that keeps it in his hut’*; another saying is that *‘the hen awakens to the dawn first, but it allows the cockerel to announce it’*. The land belongs to the women but the men, by their nature and prowess, must behave as if they are in charge.”

The respondent supports males and females being jointly responsibility for access to, care for, and management of land resources.

From the literature, more (2019) shows that patrilineal succession (a patriline) has dominated family units in that names, property, titles, and other valuables have traditionally passed on through a male line. Females did not inherit unless there were no male heirs. Even then, according to More (2019) distant male relatives would inherit over close female relatives like daughters. Property passed from father to daughter or through daughter to father indirectly, usually through dowries on a daughter’s marriage, which was paid to and came under the control of her husband or her husband’s father or another male relative. In matrilineal succession, women inherited titles and names from their mothers and passed them down to their daughters. Matrilineal succession did not necessarily mean that women held the power and property and titles. Sometimes, men in matrilineal societies were the ones who inherited, but they did so through their mother’s brothers and passed their own inheritances along to their sisters’ children (More, 2019).

Table 4. Perspectives of respondents on who should have access to and control over land resources

	YES (Approval)	NO (Disapproval)	Non-Response
The responsibility of taking care of land resources – water, energy and food should be			
Men’s mandate	13 (43.3%)	13 (44.8%)	4 (16.7%)
Women's mandate	10 (20%)	8 (27.6%)	12 (50.0%)
Equally divided between men and women	14 (46.7%)	8 (27.6%)	8 (33.3%)
Total	37	29	24
The right over a piece of land should be determined by			
	YES (Approval)	NO (Disapproval)	Non-Response
Men	12 (37.5%)	13 (25.5%)	5 (13.5%)
Women	0	18 (35.3%)	12 (32.5%)
Both men and women	11 (34.4%)	8 (15.7%)	11 (29.7%)
The law and not by gender	9 (28.1%)	12 (23.5%)	9 (24.3%)
Total	32	51	37

Who should have access to land resources such as water, energy, fuelwood, and food?			
Men	8 (21.6%)	13 (27.7%)	9 (25%)
Women	4 (10.8%)	15 (31.9%)	11 (30.5%)
Both men and women	19 (51.4%)	5 (10.6%)	6 (16.7%)
The law and not by gender	6 (16.2%)	14 (29.8%)	10 (27.8%)
Total	37	47	36
Traditionally, who should have access to land resources such as water, energy, fuelwood, and food?			
Men	10 (29.4%)	13 (40.6%)	7 (29.2%)
Women	2 (5.9%)	17 (53.1%)	11 (45.8%)
Both men and women	22 (64.7%)	2 (6.3%)	6 (25%)
Total	34	32	24

Benefits to the households and community when women have access to land resources

Table 5 asked 4 questions, 2 on the benefits to the household and the community when women have access to land resources. Results are shown in the table with the majority indicating that there are positive outcomes when women have access to land resources.

Table 5. Benefits from large scale land investments

	YES	NO	Non-Response
Access to income by more females	8 (26.7%)	17 (56.7%)	5 (16.7%)
Access to income by more males	13 (43.3%)	13 (43.3%)	4 (13.3%)
Empowerment of more females to participate in decision-making	8(26.7%)	18 (60%)	4 (13.3%)
Empowerment of more males to participate in decision-making	17 (56.7%)	9 (30%)	4 (13.3%)
More fairness in agricultural input distribution to females	13 (43.3%)	13 (43.3%)	4 (13.3%)
More fairness in agricultural input distribution to males	17 (56.7%)	8(26.7%)	5 (16.7%)
Female participation increased in employment	11 (36.7%)	15 (50%)	4 (13.3%)
Male participation increased in employment	22 (73.3%)	3 (10%)	5 (16.7%)
Sub-leasing of land to more female out-growers	7 (23.3%)	18 (60%)	5 (16.7%)
Sub-leasing of land to more male out-growers	13 (43.3%)	12 (40%)	5 (16.7%)

In response to the question of sub-leasing of land to more female out-growers because of the companies' operation in the area, 23% of respondents agreed, while 43% of them were against the idea. The above observations clearly showed that the large-scale land investment companies were discriminatory in favour of males rather than females in benefits that accrued to the community people. This became an inquiry of interest, and it was taken up in the subsequent in-depth studies with leaders and opinion leaders associated with the three large-scale land investment companies in the three districts. From the land investment at Okumaning, FOHCREC, a senior member had this to say:

“There are no gender differences in access to collateral benefits from FOHCREC. The services of FOHCREC to its clients are not discriminatory in terms of gender differences. However, gender differences are only considered when it comes to employing field labourers for specific farm operations. For example, men are preferably employed for harvesting palm fruits than women while women are also more considered when it comes to nursery activities (filling of polybags, planting, and maintenance).”

Similarly, a senior member from the GOPDC operations in Kwae in the Kwaebibirem district had this to say:

“At Kwae (GOPDC), gender differences come into play when it comes to recruitment for field labourers. Harvesting of palm fruits and chemical weed control by spraying is done by men while most women are employed for collecting of harvested fruits from the ground and for record-keeping”.

Another officer from the GOPDC had this to say:

“I think there are no differences in collateral benefits.”

A respondent from the Sene West District had this to say on equitable access to collateral benefits from the land investment company in his district:

“Apart from the royalties paid to the chiefs, some members' in the communities around the APSD investment have been fairly supported in agrochemicals and farmland preparation inputs irrespective of their gender.”

Effects on the water-energy and food

Table 6 shows respondents' views on the effects on their environment because of past and recent developments in their area, variables most adversely affected include access to electricity, quality of soil, access to arable land, food production, household food security, household income, youth employment, quality of water, production of charcoal, access to fuelwood, and general wellbeing. Asked to explain what factors have brought about effects on the water, energy, and food nexus, resulting in poor agricultural production, respondents from all three districts highlighted the major themes that had to do with the loss of land for farming and grazing livestock in the case of Sene West (Table7).

Table 6: Perceptions of respondents on the effects of large-scale land investments on water, energy, and food in the three districts with large-scale land investment operations

	Minimum effects	Maximum effects	Mean	Std. Deviation
Food production	1.00	5.00	3.3846	1.12090
Quality of soil	2.00	5.00	3.5385	1.12660
Access to arable land	2.00	5.00	3.3846	1.32530
Food prices	2.00	5.00	3.0000	1.08012
HH food security	2.00	5.00	3.3077	1.25064
HH income	1.00	5.00	3.3077	1.43670
Youth employment	1.00	5.00	3.3077	1.60128
Access to water	1.00	5.00	3.0769	1.70595
Availability of water	1.00	5.00	3.0000	1.63299
Quality of water	1.00	5.00	3.2308	1.69085
Access to firewood	1.00	5.00	3.1538	1.34450
Production of charcoal	1.00	5.00	3.2308	1.23517
Access to electricity	1.00	5.00	3.6154	1.66024
Poverty and vulnerability	1.00	5.00	3.0833	1.44338
General wellbeing	1.00	5.00	3.3077	1.18213

A major emphasis in having access to and control over land is the relationship between the security of the tenure and agricultural productivity. Duncan and Brant (2014) noted that there is empirical evidence that indicates a direct link between insecure land rights and lower agricultural productivity. This, the authors ascribed to the farmers' weak incentives for land maintenance and improvement, their lack of interest to invest in permanent crops, and their lack of collateral for credit that can be used to purchase improved inputs and fertilisers (Fong and Bhutan, 1996).

On the other hand, according to Duncan and Brant (2014) research conducted by Migot-Adholla et al. in Ghana, Kenya, and Rwanda (1991), did not show a clear link between tenure insecurity and low agricultural output. By their observations, land titling was not a major factor influencing the agricultural productivity of farming households. Rather, factors such as the availability of credit, marketing opportunities, input supplies, extension services, health, education, and infrastructure appeared to have a greater impact on agricultural productivity. As noted earlier in this paper, Quisumbing et al. (1999) argued that transferring ownership of land to women (e.g., through land reforms) is unlikely to increase the productivity if there are no improvements in their access to inputs for agricultural production (e.g., seed, tools, animal, or motor traction), better technology, capital, credit, labour, and agricultural services.

The Ghanaian Gender and Agricultural Development Strategy Document of 2001, similarly, draws from this argument. The Ministry of Food and Agriculture in Ghana, acknowledges that the agricultural productivity of women farmers in Ghana is hampered by their insecure access to land as well as their limited access to financial services and to labour, the lack of appropriate technologies, skewed extension services delivery, heavy workload resulting in time constraints and their lack of involvement in decision-making. From the above

table, it can be inferred that the operations of the large-scale land investments in the country have brought about some improvements in the agricultural productivity of women farmers.

Table 7. Separate Effects on Water, Energy, and Food Inter-connections by district through the operation of the large-scale land investments

WEF inter-connections	Denkyembour			Kwabibirem			Sene		
	% Worse	% No Change	% Better	% Worse	% No. Change	% Better	% Worse	% No. Change	% Better
Food production	14	43	43	60	0	40	100	0	0
Food prices	43	29	29	60	0	20	100	0	0
HH food security	29	57	14	60	20	20	100	0	0
HH food availability	29	43	29	60	20	20	100	0	0
HH income	29	14	57	40	20	40	100	0	0
HH access to water	0	43	57	20	20	60	0	0	100
Availability of water	0	43	57	20	20	60	0	100	0
Quality of water	43	43	14	60	20	20	100	0	0
Access to firewood	43	43	14	60	20	20	100	0	0
Access to electricity	0	14	86	40	20	40	0	100	0
Access to fuel oil	14	29	57	20	40	40	0	100	0
Employment opportunity	0	14	86	20	0	80	100	0	0

When one of the female respondents was asked during the in-depth interview why it is that all attempts made so far to improve women’s access to land, credit, seeds, extension, and advisory services as well as other resources they needed to enhance agricultural production had failed, she had this to say:

“Natural resources such as land, water, energy, forests and other resources like credit, extension and advisory services, seeds, fertiliser, and labour are productive resources that are fundamental to the security of rural women’s livelihoods. However, women are mostly excluded from the decision-making processes associated with the resources and inputs described.”

Table 8: LSLIs’ roles are to promote equitable access to land resources, for productive livelihoods

Survey Items	Mean	SD	Item-Total Correlation	α if item deleted
1. There is fair participation in decision-making between males and females on issues relating to natural resources	2.98	0.95	0.45	0.70
2. Females and males have equitable access to land and its associated resources: water, energy, food	2.92	0.99	0.52	0.72
3. There were gendered implications for labour as well as household and community dynamics – in particular, impact on household water, energy, and food security.	3.12	1.20	0.71	0.67
4. LSLIs created impacts on tenure security and women’s land rights	2.99	1.18	0.62	0.68
5. LSLIs created links between access to land and livelihood/household outcomes such as income, food security, water security, energy, health, and welfare.	3.17	1.10	0.45	0.70
6. LSLIs created gender differences in access to collateral benefits such as access to farming inputs (fertilisers etc.) and access to infrastructure and/or social services provided as part of the investment.	3.12	1.21	0.5	0.68

Six statements in the survey questionnaire were used to assess factors that respondents viewed as critical for promoting equitable access to land resources for productive livelihoods. The reliability analysis yielded a Cronbach α value of 0.74, suggesting that all the statements reliably measured views expressed for factors critical for promoting equitable access to land and its resources for productive livelihoods. Table 9 shows the outputs from the analysis. The correlation matrix did not show that the items of the survey were highly correlated, and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.67 ($p=0.000$). The use of the 5-point Likert scale meant that a mean of 2.5-3.3 and above was in uncertainty to the statement posed whereas a mean below 2.5 disagreed with the statement and a mean above 3.3 can be termed as in agreement. From Table 8 it can be concluded that respondents had mixed feeling about all the questions posed. The in-depth interviews were needed to provide focus and gain a better understanding of the reasoning behind respondents’ agreement and obtain views from respondents from the large-scale land investments.

Discussion

The goal of the study was to explore prevailing perspectives about access to and control over land and natural resources stemming from land grabbing in three districts in Ghana. The study was also to examine perspectives about how local livelihoods are affected by benefits that have accrued because of the land grabs. Furthermore, the study was conducted drawing from grounded theories of political ecology, where concepts such as environmental justice and the poor, accumulation by dispossession, sustainable rural livelihoods and food security were highlighted.

Although the study did not have the freedom to cover the required number of respondents as was required and needed because of the Covid-19 pandemic, the results were obtained with a convenient sample of 30 in a survey, and 6 in an in-depth interview, but the data collected can still contribute to the research questions and offer some important insights about the ways in which livelihoods of community members where lands have been taken are affected. The findings, i.e., results, show that in all three locations where data was gathered, socio-economic and environmental implications have occurred due to land grabbing projects, which have in some ways negatively, and in others positively, affected the livelihoods of rural populations.

The populations in Kwaebibirem and Denkyembour on the one hand and Sene West on the other (although different in the terms of livelihood activities, density, cultural background, and surroundings), share many similar experiences following the arrival of investors to ‘take’ their lands. The case of Denkyembour was different in the sense that it was not an investment from the Ghana government to conduct research, training, and capacity building activities. Although things are as they are, perspectives are that in all three locations they have all experienced procedural injustice, as community members and their forefathers who were the original owners of the land have been excluded both from considerations before the investments took place as well as consultations in the initial phase of implementation.

This may have stemmed above all from the unequal power that the locals have in relation to the stool, which owns all lands in the three districts under study. There was a prevailing perspective that, large-scale agriculture was more effective than traditional smallholding and the rural populations are subordinated to the community chiefs, paramount chiefs, and the government, who have the authority to decide what the land ought to be used for and do not concede to the demands or wishes of locals during decision processes. These unequal power relations result in procedural injustices, which in turn result in other injustices and conflicts to the detriment of the local, indigenous populations. This confirms similar findings by Rafiee & Stenberg (2018) who did a comparative study of Ghana and Ethiopia.

The perspectives of respondents were inclined toward men having more access to and control over of land and its resources than women in terms of their position in the household, family, community, and society. This finding confirmed what the literature on access to and control over land between males and females has established as in Sikira & Kashaigili (2016), Plateau (1996) and Odgaard (2003). In a similar argument, Bikketi et al (2016), showed that men in Kakamega got the lion’s share of incomes from contracted sugarcane farming despite overburdening workloads on women, while in Mbeere, both men and women derived incomes from Khat (Catha Edulis) enterprises. The overall perception about the impact of women’s access to and control over land resources was likely to increase the agricultural productivity of

women, improve the household's access to food and enhance the family welfare. However, this can be achieved only when their access to and control over land and other resources such as agricultural inputs, credit, knowledge, and labour is not constrained.

Perspectives about women alone or in a joint (with men) access to and control over land could have the potential to reduce poverty, ensuring sustainable food security and promoting water security, energy, health, and family welfare. When women are allowed to take key positions in livelihood/household outcomes, there is mostly a positive impact on the household. When a farmer, female or male has land for farming (oil palm) as an out-grower or an independent farmer, s/he can sell her/his fresh fruit bunches to GOPDC, and this helps in getting extra income for the household and community at large with which they could access other services like education for children, health, electricity, and potable water. The above contributions of respondents' tie in well with the position of the Ghanaian Ministry of Food and Agriculture as captured by the Gender and Agricultural Development Strategy (2001) and the argument of Quisumbing et al. (1999) that farmers with secure access to and control over land have a greater incentive to sustain the land and develop ways of preserving and regenerating it.

Perspectives of respondents in this study revealed that individuals and community people have benefitted in various ways from the establishment of land investments. The ASPD project is growing eucalyptus as biomass fuel, with approximately 9,000 hectares established out of a required 21,500 hectares with the rest of the area given, inter alia, to conservation, riparian areas, rehabilitation and for use by local people for sustainable farming. The company at the onset employed about 500 individuals at the nurseries and the plantation fields.

FOHCREC conducts research on staple food crops, fruit crops, plantation crops, vegetable crops, medicinal, and aromatic plants, and integration of livestock in plantation crop management in the forest areas. Although FOHCREC, is not a private sector investment, under the European Coordination via Campesina (2016) definition of land grabbing, the acquisition and operation of the University Research Centre at Denkyemba District is captured as a case of land grabbing but one that has benefited the community people in uncountable ways. The core mandate involves teaching, training, and extension of research results to agricultural students, farmers, extension officers, and stakeholders in the agro industry. FOHCREC is well-positioned to develop, disseminate, and build capacity for sustainable food and industrial crop productivity to enhance livelihoods. The centre has developed adaptable crop varieties such as plantain, banana, cocoyam, citrus, and vegetables for release to farmers through research and established large model commercial plantations, it has also developed appropriate pest, disease, and pesticide management practices for the major crops under study.

The Centre has also developed improved technologies to produce large quantities of disease-free planting materials. Farmers from all over the country and especially from the surrounding communities have been trained; they have acquired improved technologies to sustainably enhance their farming activities. These farmer trainees are sometimes sponsored by NGOs or are self-sponsored. The Centre has also been hosting the Leventis Farmers Training School programme. Young farmers are selected across the country to participate in this training programme. Farmers are also supplied with improved planting materials of crop varieties to increase yield. Similarly, the other large-scale land investment, GOPDC, provides many benefits including free water, free electricity, schools, health care services and free

accommodation as well as some cash allowances. Besides these, the investments sponsor some sporting activities in the communities where they operate. Benefits are never differentiated based on gender with both males and females, adults and children benefiting equally, in principle.

Conclusion

In conclusion, it has been observed that, in the Eastern Region of Ghana, large-scale investment in land (such as the GOPDC) have offered immediate access to improved tree crop technology capable of employing thousands of workers and growers while generating taxable revenue bases for government investment in fundamental public goods such as education and health. However, the threat of land alienation requires significant negotiations and dialogue with local communities.

It was perceived in the study from the expression of opinions from a section of the respondents that, irrespective of who has access to land and over community resources the household and community outcomes of income, food security, health, energy supply, and welfare remain essentially the same. However, in real situations, when men's income improves, they tend to marry more women and leave the running of the family in the hands of the women, neglecting the children.

Further opinions expressed in the study indicated that women were more cautious in entering into the out-grower schemes. They preferred to keep their lands and used them to grow food crops for the subsistence of the family. Secondary data about numbers and statistics from the GOPDC system confirmed that males dominated out-grower schemes. Perspectives from respondents were that women faced difficulties in having equitable access to opportunities offered by the schemes. This was perceived to be partly so because of the role men play as household heads, where they used their positions in the family as decision-makers to put themselves out for such opportunities. And women with land were perceived to be more sceptical about giving their land away in out-grower schemes.

In terms of labour opportunities offered by these large-scale investments in land, women were perceived to be at a disadvantage because of the strenuous nature of activities involved in the establishment and maintenance of plantations. In both GOPDC and FOHCREC there were expressed opinions that, activities such as climbing tall trees to harvest palm fruits, weeding, herbicide application, and harvesting were the domain of male workers while females gathered harvests and were more involved in less strenuous activities.

There was the expressed opinion, however, that when females participated actively in out-grower schemes, there was always a positive impact on the households because, in many rural communities, women play a key role in ensuring household food security and access to water and energy.

Opinions expressed by respondents point to the fact that the large-scale land investments at Kwaebibirem provided the communities surrounding the operations (about twelve in number) with access to resources such as water and sanitation, electricity, education, technologies, and road infrastructure. In the case of Sene West, some of such benefits were provided but not in as massive a way as the GOPDC had done in the Kwaebibirem district, according to opinions expressed. Such investments also built the social and human capital of rural communities as observed in the three case studies.

In the case of the studies at Okumaning, Kwae and Kade, a cross-section of the respondents, who got direct benefits as employees, attest to the fact that the large-scale acquisition of land has increased the communities' access to water, electricity, and other resources, as well as employment and that the acquisition of the land has in no way negatively affected the livelihoods of the people in the area. However, another group of respondents, whose family lands had been 'taken' expressed negative sentiments about the injustice done to them and decried the environmental degradation that has gone on and the fact that they have even lost their rights to go back to their 'own' lands and harvest firewood. There were more of such opinions expressed at Sene West than in the Kwaebibirem and Denkyembour districts. The technologies developed by FOHCREC have been used by the communities, particularly the youth, to generate income. Most of the youth in the area are involved in the establishment of tree nurseries all over the country because of the technologies they learned from the Centre.

References

- Agarwal, Bina (2003), Women's Land Rights and the Trap of Neo-Conservatism: A Response to Jackson, in: *Journal of Agrarian Change*, Vol. 3, No. 4, pp. 571-585.
- Agarwal, Bina (2008), Environmental Management, Equity and Ecofeminism: Debating India's Experience, in: *The Journal of Peasant Studies*, Vol. 25, 1998 – Issue 4, pp. 55-95.
- Agarwal, Bina (1994) *A field of one's own: Gender and land rights in South Asia*, Cambridge, U.K.: Cambridge University Press.
- Amanor, Kojo. S. and Janine M. Ubink (2008), *Contesting Land and Custom in Ghana. State, Chief and the Citizen*, Zuid-Holland, Netherlands: Leiden University Press.
- Behrman, Julia et al. (2012), The gender implications of large-scale land deals, in: *Journal of Peasant Studies*, 39(1), pp.49–79.
- Africa Plantation for Sustainable Development (APSD), Back to Investments, in: Berkeley Energy, online: (accessed: 9.4.2020)
- Bhattacharyya, Subhes et al. (2015), A Bottom-up Approach to the Nexus of Energy, Food and Water Security in the Economic Community of West African States (ECOWAS) Region, in: *Nexus Network Thinkpiece Series ESRC*, pp 1-31.
- Bobadoye, Ayodotun et al., (2016), Assessing Climate Change Adaptation Strategies among Rural Maasai pastoralists in Kenya, in: *American Journal of Rural Development* 4(6), pp.120-128.
- Bryman, Alan (2004), *Social research methods*, Second Edition, Oxford University Press: New York.
- Bikketi, Edward et al. (2016), Gendered division of labour and feminisation of responsibilities in Kenya; implications for development interventions, in: *Gender, Place & Culture*, Vol.23, No. 10, pp. 1432-1449.
- Block, Walter E. (2011), Coase and Demsetz on Private Property Rights, in: *Journal of Libertarian Studies*, Vol. 1, No. 2, pp. 111-115, 1977.
- Bugri, John Tiah (2012), *Improving Land Sector Governance in Ghana*, World Bank: Washington D.C.
- Brody Carinne et al. (2015), *Economic Self-help Group Programmes for Improving Women's Empowerment: A Systematic Review*, Campbell Systematic Reviews, online (accessed: 15/05/2020.).
- Duncan Beatrice Akua and Caroline Brants (2014), *Access to and control over land from a gender perspective: A study conducted in the Volta Region of Ghana*, Ghana: Food and Agriculture Organisation of the United Nations.
- Fong, Monica S. et al. (1996), Toolkit on Gender in Water and Sanitation, *World Bank*, online: (accessed: 15/05/2020.)
- Forsyth, Timothy (2002), *Critical Political Ecology: The politics of environmental science*, First Edition, London: Routledge.
- Hall, Derek (2013), Primitive Accumulation, Accumulation by Dispossession, and the Global Land Grab., in: *Third World Quarterly*, Vol. 34, No. 9, pp. 1582-1604.

- Hall, Ruth, and Martha Osorio (2014), *Agricultural Investment, Gender, and Land in Africa: Towards inclusive equitable and socially responsible investment*, Institute for Land and Agrarian Studies, Faculty of Economics and Management Sciences, University of Western Cape, South Africa.
- Hoff, Holger (2011), *Understanding the Nexus. Background Paper for the Bonn 2011 Conference: The Water, Energy and Food Security Nexus*, Stockholm Environment Institute (SEI), Stockholm, Sweden, online: (accessed: 15/05/2020.)
- Gillespie, Stuart and Suneetha Kadiyala (2005), *HIV/AIDS and food and nutrition security: from evidence to action*, Washington, D.C.: International Food Policy Research Institute.
- GOK (2013), Government of Kenya. County Government of Kajiado, County Integrated Development Plan 2013-2017.
- Kameri-Mbote, Patricia (2007), Access, Control and Ownership: Women and sustainable environmental management in Africa, in *Agenda > Empowering Women for Gender Equity*, Vol. 21, No. 72 pp. 36-46
- Kevane, Michael (2004), *Women and development in Africa: How gender works*, Boulder, Colo., U.S.A., and London: Lynne Rienner.
- Kuusaana, Elias Danyi and Nicholas Gerber (2015), Institutional Synergies in Customary Land Markets— Selected Case Studies of Large-Scale Land Acquisitions (LSLAs) in Ghana in: *Land*, Vol. 4, No. 3, pp. 842-868.
- Kwaebibirem Municipal Assembly (2019), *Composite budget for 2019-2022. Programmeme Based Budget Estimates for 2019*, online: (accessed: 9.4.2021).
- Lee, Hosuk (2009), *The Political Ecology of Environmental Justice: Environmental Struggle and Injustice in the Yeongheung Island Coal Plant Controversy*, Tallahassee: Florida State University.
- Lisk, Franklyn (2013), ‘Land grabbing’ or harnessing of development potential in agriculture? East Asia's land-based investments in Africa, in: *The Pacific Review*, Vol. 26, No. 5, pp. 563-587.
- Meinzen-Dick, Ruth, and Esther Mwangi (2008), Cutting the web of interests: Pitfalls of formalizing property rights, in: *Land Use Policy*, Vol. 26, No. 1, pp. 36–43.
- Meinzen-Dick, Ruth et al. (2010), *Engendering agricultural research*, International Food Policy Research Institute Discussion Paper 973, online: (accessed: 16.05.2020).
- Migot Adholla, Shem E. et al. (1994), Land, security of tenure and productivity in Ghana, in: *World Agroforestry*, online: (accessed: 16.5.2022)
- More, Hemant (2019), *Kinds of families*, online: (accessed: 09.04.2021)
- Mukoni, Manuku (2015), *Traditional Gender Roles of Men and Women in Natural Resources Conservation among the Vhavenda People in Zimbabwe: Implications for Sustainable Development*, in: *Internweational Journal of Humanities and Social Science*, Vol. 5, No. 4, pp. 76-84.
- Nhamo, Luxon (2019), The water-energy-food nexus. Climate risks and opportunities in Southern Africa, in: *Water*, Vol. 10, No. 1: 567.
- Nyantakyi-Frimpong, Hanson and Rachel Bezner Kerr (2017), Land grabbing, social differentiation, intensified migration, and food security in northern Ghana, in: *The Journal of Peasant Studies*, Vol. 44, No. 2, pp. 421-444.

- Odeny Millicent (2013), Improving Access to Land and Strengthening Women's Land Rights in Africa, Paper prepared for presentation at the Annual World Bank Conference on Land and Poverty 2013, Washington D.C.: World Bank.
- Odgaard, Rie (2003), Scrambling for land in Tanzania: Processes of Formalisation and Legitimation of Land Rights," in: Benjaminsen, Tor A. and Christian Lund (eds), *Securing land rights in Africa*, 1st edition, London, UK: Routledge.
- Paulson, Susan, and Lisa L. Watts (2005), *Political ecology across spaces, scales, and social groups*, New Brunswick, N.J.: Rutgers University Press.
- Platteau, Jean Philippe (1996), The evolutionary theory of land rights as applied to sub-Saharan Africa: A critical assessment, in: *Development and Change*, Vol. 27, No. 1, pp. 29-86.
- Quisumbing Agnes (1999), Women's Land Rights in the Transition to Individual Ownership - Implications for the Management of Tree Resources in Western Ghana, *Food Consumption and Nutrition Division Discussion Paper No 58*, International Food Policy Research Institute.
- Rafiee, Vincent Said and Emma Stenberg (2018), *Land grabbing and its implications on rural livelihoods in Ghana and Ethiopia – A comparative study*, online: (accessed; 9.4.2021)
- Rasul, Golam and Bikash Sharma (2016), The nexus approach to water-energy-food security: An option for adaptation to climate change, in: *Climate Policy*, Vol. 16, No. 6, pp. 682-702.
- Sarantakos, Sotirios (2005), *Social research* (Third edition), Sydney: MacMillan Press Ltd.
- Schoneveld, George C. (2014), The challenge of governing Africa's new agricultural investment landscapes: An analysis of policy arrangements and sustainability outcomes in Ethiopia and Nigeria, in: *Forests*, Vol. 6, No1, pp. 88-115.
- Schwab, Klaus (2011), The Global Competitiveness Report 2011 – 2012, *World Economic Forum*, Geneva, Switzerland.
- Ghana Statistical Service (2014), *2010 population and housing census. District Analytical report. Sene West District*, online: (accessed: 9.4.2021)
- Sikira, Anna N. and Japhet J. Kashaigili (2016), Gendered Access and Control Over Land and Water Resources in the Southern Agricultural Growth Corridor of Tanzania, in: *Journal of Natural Resources and Development*, Vol 6, No. 12, pp 108 – 117.
- The European Coordination via Campesina (2016), *More farmers, better food*, online: (accessed: 9.4. 2021).
- Transnational Institute (2016), *State of Power 2016*, online: (accessed: 9.4.2021)
- Tsikata, Dzodzi and Joseph Awetori Yaro (2014), When a Good Business Model is Not Enough: Land Transactions and Gendered Livelihood Prospects in Rural Ghana, in: *Feminist Economics*, Vol. 20, No. 1, pp. 202-226.
- Turner, Billie L., and Paul Robbins (2008), Land-Change Science and Political Ecology: Similarities, Differences, and Implications for Sustainability Science, in: *Annual review of environment and resources*, Vol. 33, pp. 295-316.
- Turner, Naomi (2003), Women and plants: gender relations in biodiversity management and conservation, in: Patricia Howard (ed.) *Passing on the News: Women's Work, Traditional Knowledge and Plant Resource Management in Indigenous Societies of North-Western North-America*, London: Zed Books, pp.133-149.

- Thuo, Simon et al. (2017), *Gender Responsive Planning for the Water-Energy-Food Nexus in the Context of Devolution: Reflections and Lessons from Laikipia and Machakos in Kenya*, Pegasus Institute Policy Brief 3/17.
- Wolford, Wendy et al (2013), Governing global land deals: The role of the state in the rush for land, in: *Development and Change*, Vol. 44, No. 2, pp. 189-210.
- Yaro, Joseph Awetori et al. (2017), Agricultural commercialisation models, agrarian dynamics, and local development in Ghana, in: *The Journal of Peasant Studies*, Vol. 44, No. 3, pp. 538-554.
- Yaro, Joseph Awetori (2012), Re-Inventing Traditional Land Tenure in the Era of Land Commoditization: Some Consequences in Periurban Northern Ghana, in: *Geografiska Annaler: Series B, Human Geography*, Vol. 94, No. 4, pp. 351-368.