

Large Scale Commercial Farming and Its Environmental Impacts: The Case of Gambella Regional State

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Abstract

The change in Ethiopia's economic policy from small scale farming to large scale farming began with the global food and fuel crisis in 2007/8. This has led many countries including the Gulf States and several East Asian countries, to re-evaluate their strategies and secure land and water essentially to produce food and fuel. Consequently, in Ethiopia, more than four million hectares of land has been leased to investors for large-scale commercial farming out of which the total land area of 524,202.58 hectares has been distributed for both local and foreign investors in Gambella Regional State. Hence, the main purpose of the study was to assess the impacts of large-scale commercial farming on the sustainability of environment in Gambella regional state. To this end both primary and secondary data sources were utilized. The study found that, though the large-scale commercial farming is contributing to the economy both at national and regional level, it has adverse impacts on the environment. To mention a few, the unconstitutional procedure followed in land transfer, investors' undue concern and care for natural resources, and the absence of guidelines and frameworks endanger the environment. In addition, the absence of synergy among actors contributed towards drastic environmental problems. Besides, the study found that the investment in the region is disconnecting the environment from its dependents (local people) and putting the sustainability of the environment in a query unless it is managed with immediate interventions by the concerned bodies.

Keywords: *Large Scale Commercial Farming, Environment, Sustainability, Investment*

Introduction

In the past two decades small-scale farmers were seen as the catalysts of the country's economy, and agricultural development policies of Ethiopia mainly focused on smallholder farmers. However, the government claimed that smallholder-focused development strategies were proved to have limited economic and social success in Ethiopia, and it became necessary to introduce large-scale commercial agriculture (De Zoyas 2013 in Mesay, 2015). To this end, the government has particularly encouraged export-oriented investments in order to boost foreign exchange earnings and trade, and ultimately to finance capital imports to enhance industrialization (MoFED, 2006).

The transformation from smallholders' agriculture to the large-scale mechanized farming was clearly indicated on the 2006 Government's Economic Plan for Accelerated and Sustained Development to End Poverty (PASDEP) (MoFED, 2006). Accordingly, the government has been trying to attract investment by easing regulatory frameworks and providing various incentives (Ambaye, 2013). Accordingly, more than 4 million hectares of agricultural land has been rented at low rates to companies that were to set up enormous commercial farms (Bertelsmann Stiftung, 2014). In between October 1995 and July 2011, the Ethiopian Investment Agency issued investment licenses for 1,055 FDI projects with a total of about 4,219,780 hectares of land to be cultivated (Getnet 2012).

The issuance of investment licenses was mainly focused on the lowland areas of Gambella, Oromia, Benishangul-Gumuz and Southern Nations, Nationalities and Peoples Regional state (SNNPR). Particularly, Gambella and Benishangul-Gumuz were by far the main locations of land identified for future investment where 42% of the total area coverage in Gambella and 14% of Benishangul-Gumuz were identified for future investment. In Gambella Regional State, the total land area of 524,202.58 hectares has been distributed to 960 domestic and foreign investors (Gambella Investment Agency, 2014).

The shift of focus and the allocation of land to investors in different regional states have created debates and contestations among politicians and scholars. As land the main economic and political resource for developing countries like Ethiopia, it is likely for different actors to develop competing interests over land (Desalegn, 2011, 2013). One of the debates on large-scale commercial farming has been about its impact on the sustainability of environment. It encourages the utilization of land and land-based resources. Besides, there are wastes and chemical diffusions from commercial farming and these diffusions result in environmental pollution (Alufohai & Oyoboh, 2013). The land transfer in Ethiopia, including the case in Gambella, was related to the global food and oil crisis of 2007/08 that has enhanced the proliferating of land acquisition in developing countries.

Different studies (see OI, 2011a, 2011b; HRW, 2012; Moti, 2015) have been made to analyze the political, economic and social effects of large-scale commercial farming in Gambella regional state. However, there is a dearth of researches on the impact of large-scale commercial farming on environmental sustainability. Moreover, I found that the publications and resources available on the subject are not adequate enough to justify the results presented by the methodologies followed. Most materials are institutional reports with visible partiality of arguments. Therefore, this study strives to fill

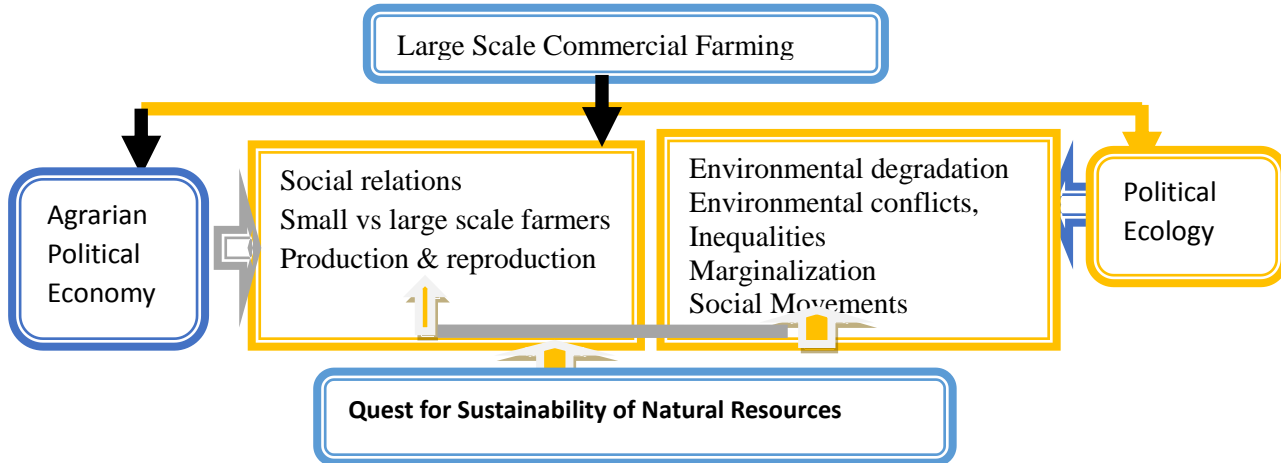
Large Scale Commercial Farming and Its Environmental Impacts

the gap by looking at the issue by focusing on environmental impacts of large-scale commercial farming by using vivid scientific methodologies and keeping the neutrality of arguments.

Conceptual Framework

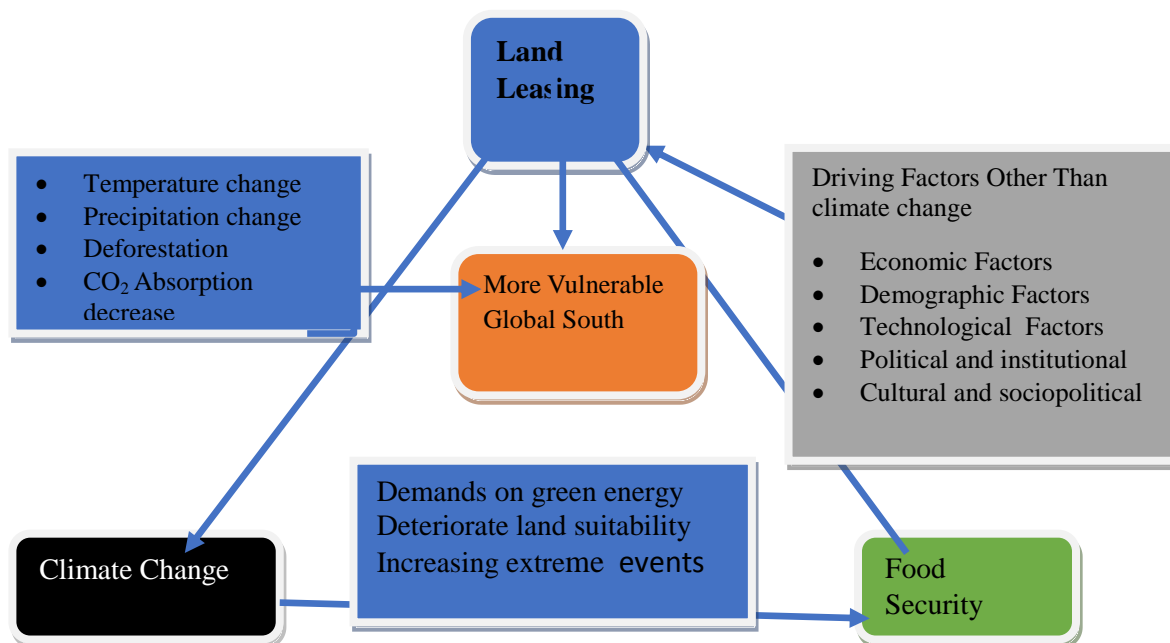
This study employed the following three conceptual frameworks in order to analyze the impacts of large-scale commercial farming on environmental sustainability. Firstly, the Agrarian Political Economy theory deals with the social relations, and the dynamics of production and reproduction in the agricultural system (Bernstein & Byres, 2001). It frames the relationship between the capitalist mode of production and its impacts on small-scale farmers by questioning, “Who owns what? Who does what? Who gets what? What do they do with it?” (Bernstein, 1992). Thus, the framework has been used to analyze the interactions and impacts of the large-scale commercial farming on local small-scale farmers’ environment by articulating from the views of who owns what? Who does what? Who gets what? What do they do with it?”.

Secondly, the Political Ecology theory deals with the complex interactions between the environment, politics, economics, technology and social traditions (Bryant & Bailey, 1997). Besides, the theory also deals with the diverse topics such as environmental conflicts, marginalization, environmental degradation and conservation, environmental identities and social movements (Robbins, 2004). Thus, the framework has been employed to understand the new power structures and relationship created among different stakeholders that has been generated and reconfigured following the introduction of large-scale commercial farming in the region.



Source: Author (2018)

Finally, Kihwan and Natalia (2012) have shown that the relationship between land leasing, climate change and food security is inseparable, and there is vicious circle among these variables. As it has been discussed in the above section, the large-scale agribusiness often yields disastrous environmental repercussions that stem from mono-cropping, improper disposal of chemicals and fertilizers, and overuse of water (Emily, 2017). In most cases, it leads to deforestation, which contributes to climate change. Accordingly, Burley and Bebb (2010) stated that climate change is likely to affect food security by increasing extreme weather events (e.g. extended drought, frequent and severe flood, cyclones, and hailstorms) that change land suitability for food production. Climate change in turn becomes a driving force of increasing severe weather events and green energy demands, reduces food security and increases demand for arable land (Kihwan & Natalia, 2012).



Vicious Circle of Climate Change, Food Security, and Land Grab (Lease) Model (Kihwan and Natalia (2012)

Research Design and Methodology

The present study employed descriptive research design and the data were collected through interview, observation and focus group discussion. Among the three approaches (qualitative, quantitative and mixed approach) described by Creswell (2009), qualitative approach was employed. Both primary and secondary data sources were utilized. Primary data were collected from investors, community leaders, local community, and from government authorities at different levels. Information from books, journal articles, international legislations and guidelines, magazines, organizational and institutional publications like UN reports, AU guidelines and reports, and government progress reports were also used as secondary sources.

Regarding data gathering tools and instruments, observation, in-depth-interview and focus group discussion were used. The researcher used observation to observe farming areas in order to reflect on the discursive conclusions about the myth of idle land, and photo capturing has been used as evidence in the analysis. Besides, the researcher organized seven Focus Group Discussions with local people in the seven village centers surrounding investment projects in order to elicit the impact of investments on the environment.

In the process of identifying informants, purposive sampling was used. Seven investors were selected purposively where two of them were foreign investors (KARATURI, and SAUDI STAR), while five of them were local investors in different Woredas. These investors were selected purposively as they took large areas of land in the region, and, media coverage in terms of the debates and contestations of land leasing case was higher on these investors than others. Besides, office representatives like Ministry of Federal Affairs Gambella Region Representative, Gambella Investment Agency Directorate, the Directorate of Ethiopian Agricultural Investment and Land Administration Agency (EAILAA), and the seven Woreda administrators were interviewed, and the data collected were analyzed qualitatively.

Large Scale Commercial Farming in the study area

Land acquisition and commercial farming are not entirely new phenomenon in Ethiopia since there have been attempts made to modernize land utilization system by giving the title either to the peasants who till the soil or to large-scale farming programs (Adil, 2010). Though their land tenure system and land administration system seem to be totally different, both the military (1974-1991) and EPRDF (1991-present) regimes have tried large-scale commercial farming practice with different justifications.

The 1995 constitution of Ethiopia (Article 40.3) states that “the right to ownership of rural and urban land, as well as of all natural resources, is exclusively vested in the State and in the peoples of Ethiopia, and land is a common property of the Nations, Nationalities and Peoples of Ethiopia and shall not be subject to sale or to other means of exchange”. Contrary to the constitutional provision that claims land belongs to the government and the people, and should not be subject to sale, the government has been leasing lands for both local and international investors. International investors from Western countries, South East Asian countries and the middle East are engaged in land acquisition from Ethiopia (Adil, 2010).

Predominantly, Gambella region has a titanic potential for agricultural productions and possesses enormous arable land suitable to both small-scale and large-scale commercial farming. Ethiopian government identified the region as one of the regions in Ethiopia that is suitable for agricultural investment and classified most parts of the region as “*underutilized*”. Due to this, the government has awarded thousands of hectares of fertile lands to foreign investors often in long-term leases and at bargain prices of less than 2 USD per ha annually (Dassalegn, 2011, 2013). According to Gambella Investment Agency (GIA), land-leasing process has been carried out in the seven woredas (Etang, Lare, Abobo, Gok, Godare, Gambella, and Dima), and the total land area of 524202.58 hectare has been distributed for both local and foreign investors.

Land Allocation Processes in Gambella Regional State

In Gambella region, there has been diverging politics and compelling interests of different tiers of government over the ownership and management of land (Ojot 2013). For instance, under military regime, the land and land related the government-handled issues by its slogan of encouraging state farms. The government of the then used large areas of the region as a potential and strategic site for state farming project (Eshetu 1978). After the collapse of Derg, EPRDF government has changed the usage and ownership of land throughout the country through different phases.

Large Scale Commercial Farming and Its Environmental Impacts

According to Ministry of Finance and Economic Development (1993), EPRDF's first decade (1983-1993) was fully covered by the policy of Agricultural Development Led Industrialization where smallholder farmers were given major emphasis. Whereas, the second decade (post 1993) has shifted the pattern to the promotion and development of large-scale commercial farming. Particularly, since early 2000, emphasis has been given for large-scale commercial farming in lowland areas including Gambella regional State (Dessalegn, 2011, 2013). The flow of investors to the region showed dramatic increase in between 2007-2009 (Gambella Investment Agency 2014), and the land leasing process had been carried out in two forms.

In the first case, the regional government (Gambella Investment Agency) took the responsibility, and the regional offices in the sector handled all the processes. In the second case, with the push and persuasion from federal government, the regional state has delegated federal government to process the land leasing system in the region. Although there is conflict of interests and debates about the delegation of land processing power to the federal government, it has been justified by the inefficiency of the region to handle the large-scale land deals. As a result, the Agricultural Investment Support Directorate (AISD) was established for handling land-leasing process (the now Ethiopian Agricultural Investment and Land Administration Agency (EAILAA). This delegation was done without any legal ground, and it is against (out) of constitutional provisions. Thus, as EAILAA is delegated for it, the order of the office would be implemented without any denial or question from the region. Gambella Investment Office Director stated that the initiation to delegate the process of land leasing has been initiated by the federal government and said;

... in principle it is the mandate of regional government to process land lease process, but by the push of federal government to request and by the request of regional government, the mandate has been delegated to the federal government and we do have a memorandum of understanding about land leasing which has no constitutional and legal ground, and not binding agreement too...

Accordingly, 3.67 million hectare of land was demarcated for and managed by federal land bank. From 2009-2013, the Agricultural Investment Support Directorate was mandated to give a land of beyond 5000 hectare for investment for both local and foreign investors. Therefore, once the authority to allocate the land within Federal Bank is delegated to the Ethiopian Agricultural Investment and Land Administration Agency, Gambella Investment Agency and other Woreda administration offices become powerless to decide on the land and to question EAILAA about for whom? How much?, Why? and How ? Land

would be given to investors. This takes us to the agrarian political economy and political ecology conceptualizations on state-society relations in the process of utilization, management and administration of agricultural land.

Besides, the regional official stated that land leasing process at federal level goes as follows: if the investor is new to the system (office), land requisition form must be submitted to EAILAA by the investor. The office would provide full information about land types available in the region to the investor. On the other hand, if the investor is not new and demands for additional land for extension of the project, he/she must come to the office with identified/marked appropriate land area. In either of the cases, investors would be asked to submit project document to the MoARD along with business plan. The memorandum of understanding between regional and federal government binds EAILAA to provide only land within the federal land bank. Thus, if the investor is new, only land in the federal bank would be shown and given. If the investor has come with identified/marked land as an extension, the office would check whether the land is within the scope of federal bank or not. Thus, after checking the land, investor's business plan would be evaluated as per the offices' criteria, which include financial capability, citizenship, and past financial statement.

If investors' business plan is believed to be effective, EAILAA writes a letter to the regional investment office to demarcate and hand-over the land to the investor. Then, the investor would make an agreement with Woreda administration and would pay land lease fee for Woreda administration. Finally, the receipt of lease payment and the map of land demarcated would be submitted to EAILAA. The following sample is taken from one of the orders sent to local governors (GRIA) from federal government (EAILAA) to provide land for investors.

Ethiopian Agricultural Investment and Land Administration Agency

No.xxxx

Date.xxxxx.

To: Gambella Region investment Agency

Subject: Giving Investment license

As per his request to be engaged in agricultural investment, Mr. xxxx is already accepted by the office (Ethiopia Agricultural Investment and Land Administration Agency) by fulfilling all the necessary criteria's needed to be fulfilled for becoming an investor and also, he has presented his business plan. Therefore, 10,000hect of land is given for him by the office (Ethiopia Agricultural Investment and Land Administration Agency) in xxxx Woreda. Hence, hereby the office would like to request you to provide him with investment certificate and to demarcate the land for him.

Source: Gambella Region Investment Agency

Large Scale Commercial Farming and Its Environmental Impacts

Receiving this letter of order, the Gambella region's Investment Agency would immediately write an order to the woredas. Investors directly go to the woreda administration offices and take the land.

Secondly, the Regional Investment Agency has the power to handle the land leasing process in which the land amount must be less than 5000 hectare, and outside of federal land bank. In this case, the regional investment agency plays the land administration and its investment related process in parallel to federal government. The presence of these two separate processes of land allocation has the following impacts up on the sustainability of the environment.

- As the land is allocated from both sides, it makes the control, management and administration complex.
- It has created a blame shifting scenarios between the federal and regional government where negative impacts have been observed.
- It has opened a door to some investors to misuse the natural resources during their investment progress. For example, some investors destroyed forests for charcoal production, and they exported it to many cities including Ababa.

The impacts of Large Commercial Farming on Environmental Sustainability

Under Article 44 (1) of Ethiopian Constitution, it is clearly stated, "all persons have the right to clean and healthy environment". Art (92) also states (1) Government shall endeavor to ensure that all Ethiopians live in a clean and healthy environment; (2) The design and implementation of programmes and projects of development shall not damage or destroy the environment; (3) People have the right to full consultation and to the expression of views in the planning and implementations of environmental policies and projects that affect them directly and, 4) Government and citizens shall have the duty to protect the environment.

Hence, in any context (developmental or non-developmental) citizens deserve clean and healthy environment, and they have the right to be consulted and express their views in any decision regarding their environment. Besides, with in the policy document of Ministry of Work and Urban Development (2008), the goal of Environmental Policy of Ethiopia is indicated as "to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development". Thus, unquestionably, Ethiopian government and the people have the commitments and responsibilities to

preserve and protect the environment. As the environmental issues affect the present and the future generations' fate, any initiatives and projects be it developmental or not must consider the legal and policy frameworks available to guide the best performances.

In Gambella regional state, with expanding large-scale commercial farming and the increasing number of investors, environmental issues are becoming the center of discussions for different stakeholders. The data gathered through focus group discussion and key informant interview indicated that investors in various sites of investments exercise environmentally destructive practices. The region's Investment Agency Directorate said, "We have tried to visit what investors are doing and how they are doing in different Woredas. During these field visits, we observed that the investors were cleaning and extremely destroying the forest" (interview with Investment Agency Directorate, 2014).

Besides, all Woreda administrators confirmed the problems, and added that investors are focusing only on their present profit, and giving undue focus for natural resources like water resources, wild animals and other natural resources. They claimed that, the EAIAA has never developed any guidelines, and code of conducts for investors, and there is no authorized office formed to control environmental impacts related to the investment. The local people living around the investors' farming projects supported the arguments and one of the respondents said;

In our culture forest is all in all for us", it is our food from where we find roots and leaves for eating. It is our medicine that we use it for all sickness; it is our building materials which we use it for building our houses.....so our land and its forest are all in all for us.... But, today investors are focusing on cleaning this forest without any question and control (Mr.X informant, March, 2015)

The people stated that their ecosystem is more than any of their resource that they inherited from their fathers and grandfathers, but the investment in the region is affecting water resources, wild animals and forest ecosystem. Besides, the local people pointed out that they are working as laborers in the commercial farm, and as a result, they lost access to medicinal plants and other sacred spaces. As per the view of Ovied(2011), this practice can be stated as "action which, may undermine community's right over communal resources and deprive local communities of full access to vital resources such as water, forest, and other natural resource as "marginalization of Communities Right". Moreover, investors also confessed that they are not yet working on the protection of the environment. One of the Managers of the projects said:

In the process of extending land for investment we might have affected the environment. We never lie by saying there is no chemical releasing, no forest clearing, and related impacts ...we do not have a guideline and code of conduct developed either by our

Large Scale Commercial Farming and Its Environmental Impacts

management or by the government. But, in the future, as much as possible, we will try to work on it (anonymous informant, April 2015).

Accordingly, Gambella Regional State's investment agency stated that, investors in the region come (especially those with the capacity to invest on more than 5000 hectare of land) to the region with approved and finished process. Thus, the divided nature of the power of land allocation has made the issue of management over environmental impacts a difficult issue. The Ethiopian Agricultural Investment and Land Administration Agency stated that the economic, social and environmental impact assessments are presented after the land is taken over by the investors. In order to triangulate and validate the data, investors were also asked whether they carried out social, economic and environmental assessments. Investors stated that they do have a business plan and they undertook business feasibility assessments, and they didn't present an impact assessment for the land they never know (took over). Thus, from the investors' point of view, there is misunderstanding of social, economic and environmental assessment documents with the business plan submitted to the office. Therefore, based on the analysis of the empirical data, the following conclusions are made on the impacts of large-scale commercial farming on environmental sustainability of the region:

- **Deforestation:** In the lowland regions where most of the current large-scale land investments are taking place, there are no studies so far on the rate of deforestation. However, Ojot (2013) stated that, at the moment, it is clear that much of the land that has either already been leased to large-scale investors or is still in the federal land bank marketed as available for investment is in areas that are covered by forest or woodland. Due to this, all these huge tracts of land that have been leased out to investors are being deforested. For instance, in Gambella regional state, 10% of the region is already allotted to investors, and bulldozers have already cleared this amount of land. If all of the areas identified as a potential investment area are leased out to investors, 47% of the region will be cleared of forests and woodlands in the coming few years (OI 2011a).

Besides large-scale commercial farming, high financial return from charcoal production is also fuelling the scale of deforestation in the country as a whole and in Gambella region in particular. Even though the production of charcoal is forbidden by the law in Ethiopia, it is a common and widespread practice in both rural and urban areas of the region (Ayalneh, 2002). Local dwellers also confirmed that local investors are using the land they have taken for investment to charcoal production. According to Ojot(2013), some investors are using the land only for charcoal production than the

project they have taken for. He added that even some investors left the region for good after getting cleared all of the trees on their plot of lands.

During the observation, the following photos have been taken to confirm the information from informants.



Source: Captured By Author (2015 & 2014)

- **Climate Change:** According to IPCC, climate change is “... a statistically significant variation in either the mean state of the climate or in its variability which is caused either natural internal processes or external forcing to persistent anthropogenic changes in the composition of the atmosphere or in land use.” It affects average global surface temperatures and sea levels, soil moisture and local precipitation, among other variables (Rosenzweig et al, 2002). Tropical forests do not only serve as reservoirs, sinks, and sources of carbon in the world, but also provide several ecosystem services that have impacts on a region’s climate. Among these services are; the maintenance of elevated soil moisture and surface air humidity, reduction of sunlight penetration, weaker near-surface winds and the inhibition of anaerobic soil conditions (PielkeSr et al, 2002). Therefore, large-scale commercial farming where there is no guideline produces significant effects on climate change, primarily through the production and release of greenhouse gases such as carbon dioxide, methane, and nitrous oxide, which on the other hand, affects the productivity of large scale commercial farming through affecting temperature, precipitation and glacial run-off (United Nations Report (2007).

Gambella region has huge potential for agricultural productions and possesses enormous arable land suitable to both small-scale and large-scale commercial framings (Dassalegn2011, 2013). Accordingly, in Gambella, since the mid-2000s, the government has awarded millions of hectares of fertile land to rich countries, and this resulted in tremendous environmental devastations, like clearing and burning of forest, draining of wetland and increasing number of people being largely dependent on international food aid and financial assistance, in the region (Azeb 2017;Azeb & Wolfram, 2017). The data gathered from FDG and the key informants’ from respective offices, local peoples, and investors indicated that there is dramatic change in terms of climate. The change has seen in the form of increasing level of temperature and changing nature of rain.

Large Scale Commercial Farming and Its Environmental Impacts

- **Food Insecurity:** There are also indirect impacts of large-scale land deals on the livelihood of local people. These include loss of access to seasonal resources for non-resident groups such as transhumant pastoralists, shifting of power from women to men when the commercial value of land gets high, eviction of local users from higher-value lands to marginal lands that could create more pressure on the latter (Cotula et al, 2009). According to Kihwan and Natalian (2012) large-scale commercial farming in the peripheral areas contributes to rural food insecurity in two forms. Firstly, in developing countries, land deals result most of the time in the displacement, dispossession and disenfranchisement of local communities so that they often lack formal property titles over the land and can easily risk losing access to it (Von Braun & Meinzen-Dick, 2009).

This results in the reduction of production and productivity of the dependents that leads to food insecurity. Secondly, large-scale commercial farming results in food insecurity as there is perception that the land given for investors is free, abundant and underutilized land. This perspective is in contrast to the fact that it is already being used by local people as shifting cultivation and as the sources of food in different ways. For instance, in Gambela, the government has signed deals with investors from India, Saudi Arabia, China and other countries since 2008 for large-scale agricultural projects in the region. The deals have given foreign investors control of half of Gambela's arable land (GRAIN, 2011). All land allocations recorded are classified as involving 'wastelands' with no pre-existing users, and without any information or consent for the sale and purchase of such territories, the surrounding communities have lost the forest they use for refuge in times of violence, an excellent source of medicinal plants, and a valuable reserve of food during famines (GRAIN, 2011, Kihwan & Natalian, 2012).

One of the participants of interview from local people stated as:

In our culture forest is all in all for us", it is our food from where we find roots and leafs for eating. It is our medicine that we use it for all sickness; it is our building material which we use it for building our houses.....so our land and its forests are all in all for us.... But, today they (Investors) focused on cleaning this forest without any question and control (anonymous informant, April 2015).

- **Diminishing Bio-Diversity:** Forests and national parks are the main sources of foods, and serve as the multiple means of livelihoods for the people living in Gambella Regional State mainly in rural areas. Nevertheless, both regional and federal governments allotted large hectare of lands to foreign and local investors within the National Park. For instance, Saudi Star rice farm that owned 10,000 hectares has largely cleared forest and savanna that were commonly understood as part of Gambella

National Park (Azeb, 2017a,b). Oakland Institute (2011a) referring Ethiopian Wildlife Conservation Authority (EWCA) stated that in the early 2008, around 438,000 hectares of land have been awarded to investors in the vicinity of the Gambella National Park without environmental impact assessments. The institute stated that large-scale investors, including Karuturi and Saudi Star, have already cleared lands that local people have always presumed to be part of the park.

Besides, Azeb (2017) and Azeb and Wolfram (2017) stated that, wetlands with abundant fish populations and birdlife are presently being altered for rice production while extensive forest cover in nearby areas has been completely cleared without consultation of communities. Though International Union for the Conservation of Nature and Natural Resources (IUCN) categorized Gambella National Park as protected area, large-scale farm companies have currently invaded the national park. Therefore, as investors are continuously destroying the forest for extending extra land for investment, diminishing bio-diversity is one of the problems happening in the region. One of the local people stated that:

Our land and our forest is a home for our cattle, our wild animals, and for our people. Hence, the more the investors are clearing our forest the more they are clearing our fate. For example, previously both consumable and non-consumable birds and wild animals were seen openly. Due to the deforestation in the region, right now wild animals and bird species are fleeing to south Sudan (anonymous informant, April 2015).

Therefore, it is possible to understand that environmental sustainability is in question, and officials also pointed out that during their visits to the commercial farming sites, they have seen the effects in terms of deforestation, which directly results in the diminishing nature of biodiversity. Mesay (2015) also confirmed that the impact of large scale land transfer on the bio-diversity of ItangWereda has further contributed negatively to ItangWereda's food security by affecting the livelihood of traditional bee-keepers, hunters and fishermen who depend on the bio-diversity.

- **Environmental Pollution:** Other experts are concerned about as yet un-measurable environmental impacts that are commonly associated with industrial-style agriculture such as increased toxicity, creation of new weeds, disruption of nature's system, and the spreading of genetically engineered genes to indigenous plants (OI, 2011a).

Large Scale Commercial Farming and Its Environmental Impacts

Alufohai and Oyoboh (2013) stated that pollutants from commercial farming emerge in the form of agricultural chemicals used or misused or ignored, and this happens in scenarios like pesticide drifts or in soil contamination, groundwater and water pollution as well as air pollution (spray drift). Pesticides include those based on organo-chloride or Pesticide residue in foods or else Pesticide toxicity to bees (in list of crop plants pollinated by bees and pollination management). In Gambella regional state, investors stated that they are using pesticides, especially those based on organo-chloride. Local administrators and local people have also confirmed this. Thus, chemicals being used by investors pollute the environment, and damage the ecosystem. Local inhabitants also raised their concerns during FGD on the impacts of fertilizers and pesticides used by investors on their water resources, and its contribution to the diminishing fish and honey production.

- **Drying Water Resources:** Though there is no evidence of mechanisms for determining the impacts of water use on downstream users or surrounding environment, given the critical importance of downstream water quantity and quality, the cumulative impacts and stresses on water systems are of great concern (Oakland Institute, 2011a,b). These impacts include total water withdrawals/use, water quality issues, climate change considerations and etc (ibid). For instance, Mesay (2015) stated that some of the tributaries of Baro River dried up due to extensive irrigation schemes in the dry season thereby altering the flow of the river, this in turn affect downstream users in the form of reduced water supply. Moreover, the participants of focus group discussion revealed that the investment projects in the region are contributing to the absence of water resources, and contributing to the negative relationship in between local people, local people and government, and local people and investors' relationship.

Causes of Environmental Damages in Gambella Regional State

- a) **Double Coincidence of Power:** Constitutionally, Article 52 (d) of FDRE, states that the state is given with the power to administer land and other natural resources in accordance with federal laws. Thus, Gambella regional state is responsible for managing the land and other natural resource of the region. In contrary to this, the federal government took a delegation to itself to process land leasing process of the region, and the region has the power to give a land less than 5000 hectare. Whereas, the land constituting beyond that amount could be only processed by federal government. Therefore, this double coincidence of power among the federal and regional governments led to the confusion of who

would be responsible to manage the impact of commercial framing on environment and on other aspects.

b) **Myths of Free Land:** Worldwide, the areas being targeted for this kind of large-scale farming are being portrayed on paper as ‘empty’, ‘marginal’, ‘idle’ or ‘degraded’ land, largely unpopulated, unused, unproductive, and unlikely to compete with local food production (TNI, 2012). Accordingly, all the federal and regional officials stated that the land given for all investors is a free land, which has not been used by anybody. Moreover, investors also believed and considered that the land never belonged to anybody else, and it was idle/free land. As a result, they give less consideration for the impacts of their acts on the environment. Thus, out of the four myths in the region (food security, unused/free land, employment and Foreign Direct Investment), the dominating myth in Gambella Regional State is the "myth of free land". However, the reality is that as the local pastoral and agro-pastoral communities shift from place to place, there is no empty, idle, or unused land among pastoral and semi pastoral communities.

C) **Absence of Framework and Guiding Code of Conducts:** Generally, there are no laws, regulations or directives that oblige benefit sharing between investors and the public (Tamrat, 2010). For instance, in Oromia, any investor is obliged to plant native tree species in at least 2% of the project land, whereas the federal contracts do not impose such obligations but require projects to ‘conserve tree plantations that have not been cleared for earth works’ (Getnet, 2012). But, in Gambella regional state, there is no well framed code of conduct for investors or a framework guiding the broader large-scale commercial farming.

c) **Ethnic and Political affiliation of Investors to the Ruling Party:** According to GIA's official report of 2013, out of 960 investors investing in Gambella region, 424 of them have received land for agricultural investment in Seven woredas. In addition to the land provided by regional office, EAIAA has also provided 308015 hectares of land for the total of 45 investors, out of which 19 of them are foreign investors, and the remaining 26 are local investors. From this, it is possible to conclude that, the number of local investors investing in the region is greater than the number of foreign investors. Whereas, out of the local investors except very few investors in Anuwaa Zone, almost all of the local investors investing in Gambella regional state are the “*highlanders*”.

On the other hand, Sindayigaya (2012) stated that in developing countries domestic investors and elites governing are also claimed to be the member of land grabbers. Backing this argument, Tinyade(2012) stated that alternatively, governments and their elites are active land grabbers of such land themselves, and government elites may have stakes in the "investment project”. Accordingly, out

Large Scale Commercial Farming and Its Environmental Impacts

of the highlanders, as per the official record of Gambella Regional Investment Agency, more than 90percent the total local investors are from Tigray. Oakland Institute (2011a) institute also stated that majority of the investors in the region are Tigrians (the ruling party's ethnic group) and many of these Tigrian investors seem to have limited, if any, farming experience. Many of them seemed to be engaged primarily in land clearing and charcoal production activities. Thus, such affiliation enabled investors to get political backing both during getting the land and in the aftermath of the land acquisition.

e) Absence of Communal Participation: Art 43 (2) of Ethiopian constitution entitled with “the right to development” states that “...*Nationals have the right to participate in national development and, in particular, to be consulted with respect to policies and projects affecting their community....*”. Therefore, from the views of Ethiopian constitution and other scientific approaches, peoples' participation in development project or program, which affects their life, is very important.

Accordingly, local people should be given the opportunity to participate in making decision about the nature of commercial farming, its cost and benefits for local communities and surrounding environment. But, the data gathered from local people revealed that they had no clue about the large commercial farming operating in their region. Local people were not given the opportunity to be consulted about the projects operating in the region. Beyond this, even regional officials stated that the absence of participation is not only for local people, but for regional concerned bodies too. This is due to the fact that federal government undertakes the process of land leasing. Thus, the absence of local communities' participation in the process has led the local communities to externalize and hate the commercial farming in progress. This resulted in the absence of common understanding among investors and local communities, and contributed to the absence of synergy in working to protect the environment.

Conclusions

Large-scale commercial farming has become a fashion of business especially after the 2007/08 food and oil crisis in the world. The rush for global free and arable land also made Ethiopia one of the targets of local and international investors. Resultantly, huge amount of land has been leased out to investors in Gambella Regional State and the study addressed the impact of this investment up on the

environmental sustainability of the region. Hence, the study articulated that the large-scale commercial farming in Gambella regional state has resulted in crisis like deforestation, climate change, pollutions, soil degradations, diminishing biodiversity and food insecurity. The causes of the problems were; double coincidence of Power, myths of free land, absence of framework, ethically and/or politically affiliation of investors to the ruling party, and the absence of communal participation. Therefore, though it is impossible to avoid large commercial farming, it is very important to at least minimize the level of negative impacts by giving responsibilities to different concerned bodies, developing frameworks, and developing guiding principles and code of conducts.

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