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I. INTRODUCTION

Agriculture plays a key role in Sub-Saharan Africa (SSA). The agricultural sector, which accounts for 30% of GDP, is an important source of export earnings and remains the major sector absorbing the growing labor force 50% of the economically active population works in the agricultural sector. As a result, agriculture could be a driver for economic growth and poverty reduction. In the rural sector, famm activities continue to provide the main share of household immes and most farm households grow staple foods and are sets ufficient. In spite of this central role, Schaharan Africa's agricultural sector has not overcome its food supply challenges. The level of rural poverty is still alarming and the region has tope with adverse agricultural policies initiated in the North.

To conduct the semistructured interviews, a research guide was created. It focused on three main areas: a) context of the project and its implementation; b) investment, consultation and land acquisition processes; and c) socioeconomic effects on local communities. Triangulation techniques

- x Jatropha Technology farm, an Italian company requested 050,0a in the Nétéboulou rural community (Tambacounda, East of Senegal) and obtained 500 ha and a promise for expansion up to 50,000 ha by 2015.
- x Société Boulonnerie Europe, an Italian company, aims to 1900/000 ha of jatropha at Mbeude Dieng (near Merina Dakhar, north of Thies region).
- x Durabilis, a Belgian foundation received an allocation of 5,000 ha for jatropha production in the rural community of Bokhol (north of Senegal).
- x Plantations Vertes, a Spanish company was allocated 20,000ha in the rural community of Mbane (north of Senegal) for biofuel production.
- x Senethanol/Senhuile, an Italian company received 20,000 ha in the rural community of Fanaye (north of Senegal).

These large scale land acquisitions are symptomatic of the underlying business models. Most of the investors implement plantation models that allow full control over the jatropha production. This implies taking over smallholder farm lands and convertiesset farmers into agricultural laborers. In most cases, farmers are dispossessed from their most fertile lands without compensation. Where payments exist, they are extremely low. This is the case for instance of this farmer in Ourour (Center of Senegad) leased his land for \$40 per ha for 99 years and is now employed as a guard in the farm.

In Ndoga Babacar (East of Senegal), the investor contracted directly with farmers who were asked to use their land traditionally devoted to cereals cultivation if tercropping. Although this business model does not require land allocation from the rural council and seems to leave control of the land to the farmer, it has disastrous consequences on food security, especially if farmers are not fully informed that intercropping is impossible beyond a couple of years, once the jatropha plant has fully developed. Farmers are paid to cultivate but they have little control if any on the jatropha crop.

It is widely believed that jatropha is cultivated in "marginal" laradhd demands less water. As Francis et al., (2005) points out:

"Jatropha curcasis known to thrive on eroded lands, and to require only limited amounts of water, nutrients and capital inputs. This plant offers the option both to cultivate wastelands and to produce vegetable oil suitable for conversion to bio diesel."

Surprisingly, almost all jatropha projects in Senegal are located on arable lands and were located in water accessible sites. Jatropha projects are predominantly in the north of Senegal where irrigation is easier and in the south where the level of rainfall and the quality of land are more appropriate.

Investors take advantage of lower rural incomes to gain access to land resources. The prospects of employment opportunities for individuative response to the promises of delivering social infrastructure such as schools, wells and health centers to the community are extremely attractive. Sometimes rural councils are reluctant to provide a positive response to foreign investors' requests (example Neteboulou, East of Senegal). In those

satisfy the extremely high demands. Thus, forests are often cleared to allow for jatropha

Bank sponsored development intervention known as the Community Based Rural Development Project (CBRDP) also made a financial commitment of USD 5 million for the rehabilitation of degraded ecosystems through the cultivation ability pha which is said to have a positive inpact on soil erosion.

Though the country has no biofuels policy as yet, a Jatropha National Program has been established and aims at the development of about 1 million hectares of jatropha plantations by 2014 with the sole objective of achieving the following benefits among others:

- x Production of crude jatropha oil and biodiesel to replace fossil diesel and avoid the Emissions of Green House Gases (GHGs)
- x Production of fertilizer to support local agriculture
- x Job ceation through the maintenance of jatropha farms and the reaping of physic nuts for sale leading to the creation of wealth and the reduction of poverty in local communities
- x Soil conservation and erosion control and
- x Biodiversityprotection

Ghana's Jatropha National Program is the initiative of Anuanom Industrial Projects Limited. A wholly private entity, this company pioneered the exploitation of jatropha curcas in Ghana on a commercial scale as feedstock for the production of biodiesel and orfgatilizer from presscake and fruit compost. The program subsequently enjoyed the support of all the local government authorities in the country. It subsequently established a National Jatropha Project Planning Committee with a number of continuitees that are mandated to run the project in Ghana. To date, all the uctures remain ineffective.

Of Thump Prints and Promises:

Exposing the hoax in land acquisition strategies in Ghana

In a developing country such as Ghana, biofuel production involves thefusteductive land contrary to claims that unoccupied idle land and for that matter,-feotile lands are secured for production. Subsequently, there has been a mad rush for vast tracts of rich agricultural lands for the commercial cultivation of jatrophas feedstock for biofuel production in Ghana with Food Security Ghana (FSG) particularly reporting, based on extrapolation on figures on Ghana provided by the World Facts Book, that more than 37% of Ghanaagricultural land have been acquired for themomercial cultivation of jatropha (2011). Translating into a total arable land mass of about 769,000 ha, this vast piece of land has been acquired by companies such as Agroils (Italy), Galten Global Alternative Energy (Israel), Gold Star Farms (Ghana), Jatropha Africa (UK/Ghan), Biofuel Africa (Norway) ScanFuel (Norway) and Kimminic Corporation (Canada) for the plantation of jatropha (ibid.).

In a presentation during a World Bank conference on Land Policy and Administration in 2010, Ghana's Ministry of **5d** and Agriculture openly admitted that on the whole "Ghana remained food insecure as it is **selu**fficient only in roots and tubers but generally deficient in cereals where it produces 51% of its needs, 60% of its fish requirements, 50% of its requirements meat and less than 30% of the raw materials needed for **-bagse**d

Similar to the busiess model employed in Senegal, most of the deals in Ghana are premised on their potential to generate direct benefits to the host communities in the form of transforming rural agrarian economies by boosting farm productivity, employment creation, infrastructure development, technology and skills transfer, higher statemues and rural development.

In what could be described as unauthorized biofuel developments in Ghana, it has been discovered that the Norwegian company, Scanfuel is operating what **isntly** known to be the largest Jatropha plantations in Ghana without the permission and consent of the central and local governments, and the local people who are directly affected by the operations of the company. Their modus operandi is typically to **idedte** land owners by raising their hopes to temporarily win their support and by enticing the villagers with the promise of jobs and income. It takes the following course as described and revealed by Nyari (2008):

"The imaginations of a few influential leaders in the community are captured. They are told about prospects for the community due to the project and they were swayed with promises of positions in the company or with monetary inducements. The idea is that these people do the necessary "footwork" 2010). It identified some 70 households from three communities which were involuntarily removed from their lands, without any form of compensation after the 2008 growing season and concluded that "in all the plantations assessed, households were required **intouish** landholdings for the purpose of plantation development at best, an annual compensation package of US\$ 1 per acre" (ibid.). These findings corroborate Steinar Kolnes' statement that BioFuel Africa Ltd does not pay any compensation the investments.

Investments, consultations and land acquisition processes

There is no homogenous system of land tenure in Ghana as the majority of lands in Ghana are in customary ownership. Customary ownership of land occurs "where the right to use or

and a better future often lure communitize to give away their lands for the commercial production of ethanol and biodiesel, only to regret for such actions in the future as the loss of land deprive them of the safetyet function that asset fulfils.

IV. WHERE DO THE EUROPEAN UNION AND THE UNITED STATES STAND ON ENERGY AND FOOD SECURITY ISSUES? ARE THERE VIABLE ALTERNATIVES?

The current narrative in the US and the European Union is that green energy is the future; it is absolutely wonderful and should be promoted with state or federal funds. The craze for land investments in green energy has subsequently been premised on the need to secure the sustainable energy supplies of these countries in the face of the dwindling stocks of current energy sourcesupled with the rising cost of crude oil whilst helping to stem the tide of global warming. Regardless however of these hypothesized benefits, there are certain adverse socioconomic, environmental and technical consequences related to the cultivation these first generation crops used as feedstock in developing countries that the the policy community in the investor countries need to be aware of. These include the food versus fuel debate; loss of land and livelihoods; loss of biodiversity; deforestation and soil erosion and the negative impact of biofuel cultivation on water resources.

These negative effects of green energy on the economy of developing countries have subsequently sparked huge confrontations between agricultural investors and logalepeo whose lands have been acquired for these agricultural investments. Such confrontations have sometimes resulted in the loss of investments on the part of foreign investors. The potential for these green energy initiatives to drive conflicts in developing countries, with far reaching consequences on the global political economy, is something that should be of significant interest to policymakers in the global north. Likewise, the lacge production of biofuels threatens food security of a large part the population. Therefore, this production trend contains germs likely to trigger more intense migratory movements towards Europe and the United States with very few possibilities to avert them.

In an increasingly globalized world, the impacts of the expansion of biofuel markets on developing countries' food and land markets will definitely go beyond the developing world and will generate consequences detrimental to consumers globally. The current energy policies in the north fail to address real issues has the oveconsumption of oil in the developed world. The United States policies aimed at fostering energy security and increasing farmers' income, notwithstanding their internal positive impacts, have had serious negative consequences on food prizzed food security around the world.

Revising the U.S. targets and giving greater attention to the excess demand for energy is certainly an avenue worth undertaking. Enhancing energy efficiency standards may contribute significantly to the demand for energy fore responsible policies would factor in the need to advance rural livelihoods in the developing world and thus to create additional markets and opportunities for European and American investors. In this light, policymakers in the north should draft mer policies that would increase opportunities for their southern partners to achieve food security via a sustainable production of food.

V. CONCLUSIONS AND RECOMMENDATIONS

Lately, the United States and the European Union have promoted biofuels as a means to achieve energy security. U.S. energy policies setting targets for agrofuel consumption, and European biofuel directive setting a target of agrofuels in the total trarts puel mix, are likely to constitute an engine for increased agricultural foreign direct investments in agrofuels in SulSaharan Africa. The choice of the plantation business model with its large scale land mobilization, the foreign destination of the output to satisfy non African energy demands and the diversion of lands previously used for food production are different 3(ne)3(r fo)2(r)10(he)3(o)0(ue)3(l)4(udi)4(v)7s a4(o)1sitmundt9(5m)4(o)d Snd mnohe nih0(fo)od

- 4. Supportcan be provided to research institutions in SSA to develop biofuel crops that require less land and use fewer resources, such as water, than current biofuel crops do. This is where donors can provide support for the generation of renewable fuels from algaewhich can make use of unprofitable land and waste water from different industries. Investments in algae as an alternative fuel crop does not affect the land or freshwater needed to produce current food and fuel crops and hence does not raise the challengestated above.
- 5. Not all biofuel investment programs perform equally in terms of their impact on energy security, the environment, climate and ecosystems. With this in mind, the policy community can contribute to securing the energy and food security situation in both donor and recipient countries by enacting and enforcing appropriate federal, state or even regional legislation that would seek to shift the biofuel program away

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