The Relationship between Land Grabbing for Biofuels and Food Security, a Bane or Boon? The Food Security Implications of Jatropha Biodiesel Project in Northern Ghana

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Abstract

The rapid emerging interest in large scale biofuel investments in Ghana are fraught with debates and controversies among government agencies, non-governmental organizations and policy makers expressing concerns about the possible effects on the environment, land tenure, food security and livelihoods. Due to the wide readership of reports against biofuels, most Ghanaian Governmental and Non-governmental Agencies have expressed doubts in biofuels on grounds of perceived dire consequences on land tenure, food security and local livelihoods and hence the urgent need to halt such developments in the country. The paper argues that, contrary to the extant literature that express dire consequences of biofuels for food security and livelihoods, a socially and environmentally responsible biofuel investments can rather contribute to increased food production, employment creation and income generation to complement agrarian and rural development in economically deprived rural areas. To provide a framework to re-think how global discourses are cascaded to the local and the consequent effects on household food security and livelihoods, the paper thus provides empirical evidence depicting that, the relationship between biofuels and food could be either baneful or beneficial for particular local communities depending on specific contexts. It is then argued that negative publicity by vociferous actors involved in the biofuel debates that obscures specific contexts of biofuel investments could rather create a paradoxical effect of disrupting promising biofuel investments.

Key words: biofuel, discourses, food security, livelihoods, jatropha

Introduction

Evidence of climate change and the perceived dire consequences on agriculture, the need for energy security and to promote rural development has engineered an unprecedented interest in biofuels since the past few decades (Brittaine and Lutaladio, 2010, Dufey, 2006). However, the spate of biofuel investments and the size of land areas required has generated debates among environmental activists, national governments, policy makers about food security, the environment and livelihoods.

Ghana has currently joined countries in the forefront of biofuel investments. Prominent feedstocks identified for biofuel production in the country include jatropha and cassava, although the former is more predominant (Public Agenda, 2010). The cultivation of the feedstocks is intended for commercial plantations to produce ethanol and biodiesel and thus large areas are either acquired or in the negotiation process of acquisition in many parts of the country. Large scale biofuels investments in the country are primarily driven by foreign capital. Foreign biofuel companies operating in Ghana include Norwegian companies Scan Fuel AS in 2009 for jatropha biodiesel production in the Asante Akim North Municipal Assembly and Solar Harvest AS through its African affiliate, BioFuel Africa Ltd in Northern Ghana, Agroils of Italy in the Brong Ahafo region. Currently, European Union has launched a £2 million project for 500 hectares of jatropha at Walewale in the west Mamprusi district of Northern Ghana (Ghana Business News, 2010). Biofuel investors reported to be requesting for land for biofuel (jatropha) investments include Israeli company, Galten as well as an Indian company requesting for a land area of 50,000 hectares to cultivate jatropha (Public Agenda, 2010). The predominance of jatropha cultivation due to the widespread perception of production viability on marginal land areas, lack of competition with food crops and economic returns for small scale farmers (Ariza-Montobbio *et al*., 2010) especially in developing countries has been the main source of debates in Ghana.

Other known Ghanaian biofuel investments are either privately owned or an affiliate of foreign companies. Such investors include 700-acre jatropha cultivation by a privately-owned company, Biodiesel 1 Ghana Ltd. in Kwame Danso in the Sene district of Brong Ahafo. The biofuel company, Caltech through its Ghanaian affiliate, Banket Ltd operating on a land area of 1,180 hectares for cassava production for ethanol in the Volta region of Ghana. There are other small scale biofuel investments on-going in most parts of the country in the form of pilot studies by universities, churches and research centers. Although there are Ghanaian biofuel investors, biofuel investments undertaken by foreign investors are fraught with controversies due to the scale of operation and the fear of exploitation of local people through land alienation. Debates about the rapid emerging biofuel industry peaked with the acquisition of 400,000 hectares land area by Scan Fuel AS and BioFuel Africa Ltd which acquired a land area of 23, 000 hectares in 2008 in the Central Gonja and Yendi districts of Northern Ghana for jatropha plantation. Meanwhile, the country's food production does not match up with the high demand for food

especially in the populous urban areas which makes food imports (especially rice) inevitable. The food supply emergencies and the accompanying high food prices in the country is predicted to worsen given the spate of biofuel investments and consequent outsourcing of large land areas (Action Aid-Ghana, 2009, 2011). Most biofuel debates expressed through media reports and article publications have thus subscribed to populist discourses to indicate the urgency to ward off large scale biofuel investments especially in economically vulnerable rural communities in Northern Ghana that depends on extensive but seasonal agriculture where alternative livelihoods are almost non-existent. The paper seeks to contribute to a more nuanced knowledge about the relationship between biofuels and food security by focusing on my MPhil study which delved into Norwegian Biofuel investor, BioFuel Africa jatropha project in Northern Ghana which showcases how the failure of promising biofuel investments could correspondingly disrupt the livelihoods and food security in the project villages.

Background of BioFuel Africa Jatropha project

BioFuel Africa Ltd established jatropha plantation in March 2008 in three villages in the Yendi district of Northern Ghana. The company first began the jatropha project in Alipe, a village in the Central Gonja district of Northern Ghana in 2007 but suffered local opposition in Ghana from Non-governmental Agencies (NGOs), individual environmental activists and media debates on the grounds of perceived dire implications on local livelihoods and food security (Boamah, 2010). The project was abandoned in the village after a month-long of operation and the company subsequently moved to a new project site in the Yendi district where the jatropha plantation was established.

"The environmental benefits of biofuel are well-recognized and acknowledged throughout the world: carbon emission reductions, increased fuel economy, reduction of dependence on fossil fuels. But the creations of a biofuel industry in developing economies, like Africa, go far beyond environmental concerns. Jobs are being created, economies are being impacted, infrastructure is being built, services provided, and lives profoundly changed. … We believe in partnering with communities, tribes and governments to create lasting economic infrastructures and change lives "(BioFuel Africa Ltd., 2008). The above quote is the rationale for the biofuel investment by BioFuel Africa Ltd. Inspired by the win-win discourses, BioFuel Africa Ltd., gained the approval of Environmental Protection Agency-Ghana in February, 2008 for jatropha

biodiesel project on land areas of area of 23,762 hectares in the Central Gonja and Yendi districts in Northern Ghana (ibid.).

BioFuel Africal Ltd. was formerly owned by BioFuel AS. However, the two founders of BioFuel AS, Arne Helvig and Steinar Kolnes, acquired 100% of the shares in BioFuel Africa Ltd on March, 13, 2009 when the mother company was forced to file for bankruptcy on the grounds of corruption allegations (BioFuel Africa Ltd., 2009). The two founders bought all shares of BioFuel Africa Ltd. to assume all its debts as well as acquiring all the assets of the company. This paved the way for BioFuel Africa Ltd to continue its operations in Ghana. A new company, Solar Harvest AS has been formed in Norway and is now the sole owner of BioFuel Africa Ltd. The current owners of BioFuel Africa Ltd seek to bring to the global market a socially and environmentally responsible product to the world fuel market and also contribute to improved livelihoods and food security in the project villages.

Discourses driving biofuel debates

Dryzek sees a discourse as "a shared way of apprehending the world (Dryzek, 1997). Embedded in language, it enables those who subscribe to it to interpret bits of information and put them together into coherent stories or accounts. Each discourse rests on assumptions, judgments and contentions that provide the basic terms for analysis, debates, arguments and disagreements… " (Dryzek, 1997: 8). In short, a discourse refers to "a manner of perceiving and presenting a particular issue that is shared by more than one person" (Benjaminsen and Svarstad, 2010:387). When stronger or leading discourses dominate thinking and become translated into institutional arrangements, they are called hegemonic discourses (Adger et *al*., 2001). The adherents of a discourse contribute to its production, reproduction and transformation through written and oral statements (ibid.). Whilst discourses provide framework for interpreting environmental issues and thus to facilitate action (Dryzek, 1997), they may similarly obscure their proponents from seeing alternative interpretations and actions (Benjaminsen and Svarstad, 2010). Interpretation of specific issues, political decisions and the manner of addressing such issues can be thus seen as the result of adherence to specific discourses (ibid.).

Benjaminsen and Svarstad (2010) further distinguish between discourse, "what is said and written " and practice, "actions that are carried out " first to identify actors who play important

roles in the production of leading discourses and second, how and why the portrayal of specific discourses by involved actors may differ substantially from the observations we make of the same practice. Benjaminsen and Svarstad bring to the spotlight that, sometimes actors' contributions to the production of discourses deliberately relate specific practices in ways that deviate from their own knowledge about these practices. In short as a result of interest actors engaged in the production of a particular discourse may instead undertake practices which are congruent with a completely different discourse.

Biofuels debates are underpinned by particular competing discourses either in favor of its promotion or calling for its suspension. Mainstream discourses underpinning biofuels are the win-win discourses and the populist discourses. At the global level, the major actor subscribing to the win-win discourses are International Fund for Agricultural Development (IFAD) which see biofuels as pro-poor as well as a means to achieve energy security for rural communities in developing countries (IFAD, 2010). However, the main proponents of the populist discourses are International Food Policy Research Institute (IFPRI, 2007), Action Aid-Ghana International (AAI, 2008), Organization for Economic Co-operation and Development (OECD, 2008) which express deepening forces of land alienation, food insecurity and destruction of livelihoods and thus reinforcing the pre-existing forms of marginalization of the poor as a result of biofuel investments. Similar concerns have been expressed by research works from "hot spots" of biofuel investments (Ariza-Montobbio *et al*., 2010; Von Braun, 2007; Oxfam International 2008).

It is noteworthy that, the global discourses have encountered local discourses in the biofuel debates in Ghana and are thus used by actors to legitimize their arguments about the implications of biofuel investments. More compelling and elegant about biofuel debates are the use of narratives and as well as the narrative structures that are introduced. Whilst narratives 'begin as a story with a beginning, middle and end (Roe, 1991:288), narrative structures refer to the cast of 'victims', 'villains' and 'heroes' that emerge in the narratives (Adger *et al*., 2001). For instance few weeks after the approval of the BioFuel Africa jatropha project, two competing groups of Ghanaian actors emerged adhering to the above mentioned mainstream discourses to address the perceived consequences of the biofuel project in Ghana and Northern Ghana in particular. The [1]adherents of the win-win discourses in Ghana include BioFuel Africa Ltd, chiefs and the

[1] Interview with Kusawgu-Wura, 2009

majority of residents of the project villages as well as the Non-governmental Organization, Rural consult Ltd. BioFuel Africa Ltd claims that, biofuel investment contributes to environmental sustainability whilst improving food security and livelihoods in the affected communities (BioFuel Africa Ltd., 2008). "The environmental benefits of biofuel are well-recognized and acknowledged throughout the world: carbon emission reductions, increased fuel economy, reduction of dependence on fossil fuels. But the creations of a biofuel industry in developing economies, like Africa, go far beyond environmental concerns. …Jobs are being created, economies are being impacted, infrastructure is being built, services provided, and lives profoundly changed. … We believe in partnering with communities, tribes and governments to create lasting economic infrastructures and change lives "(BioFuel Africa Ltd., 2008). BioFuel Africa Ltd expressed the spill-over effects of the project to the 'benefit' of the project villages instead of being 'victims' and thus claimed could be 'heroes' of economic facelift.

The chiefs of the project villages who leased out the land areas to BioFuel Africa Ltd also expressed optimism in the Jatropha project because of the vulnerability of livelihoods in the project villages. Because of the existence of large areas of unused land, the chiefs hoped the project would improve livelihoods (Boamah, 2010a; Matondi *et al*., 2011b). Explaining the perceived spin-off effects of the Jatropha project on local livelihoods, Kusawgu-Wura remarked:

"I decided to lease a land size of 300 hectares initially for the start of the project and if I find out any sign of positive development, then part of the vast idle land will be given to them to continue their operations. ... We need them because, we believe that their operations will generate employment for our people and create development for us". (Interview with Kusawgu-Wura, 2009)[1]. The quote above recounts the hope of the project villages becoming beneficiaries instead of being 'victims' of the project.

The NGO, Rural Consult Ltd also expressed win-win outcomes of the jatropha project for the project villages (Boamah, 2010). The NGO conducted a study to examine the food security implications of the project on livelihoods. The results of the study which was published in Ghana's leading newspaper, *Daily Graphic*, opined that despite the land use changes and some losses in the affected communities, the positive impacts on livelihoods outstrip the negative

impacts. It concluded that, there is the need to weigh both impacts before drawing conclusions on the implication of the biofuel project (ibid.). The NGO thus dismissed the perceived doom consequences of the project on household food security and livelihoods and emphasized win-win effects of the project for the company and the project villages.

However, Ghanaian Non-governmental Agencies (NGOs) including Action Aid-Ghana, Regional Advocacy and Information Network Systems (RAINS), government agencies and a section of residents from the project villages expressed concerns on the food security implications of the project. As a result of the land areas encroached, the trees destroyed during the land preparation stage of the project as well as the claim of 'illegal land grabbing' by some village residents, the NGOs (Action Aid-Ghana and Regional Advocacy and Information Network Systems, RAINS) who work on the 'slogan' as environmental protection watch-dogs, guardians of livelihoods of the poor and the mouthpiece of the marginalized subscribed to the populist discourses in their campaign against the project. The concerns of the above mentioned Ghanaian actors adhering to the populist discourses unveils the 'dead end' of biofuel investments in the project villages as they become 'victims' of land alienation and encroachment as a result of the project.

The pioneering negative publicity against BioFuel Africa jatropha project began in Alipe where the project first began through the concerns raised by a native of Gonja, Nyari in 2008 who works RAINS and later joined by Action Aid-Ghana (2009) via internet publications and media reports respectively. The article captioned 'Biofuel land grabbing in Northern Ghana' portrays how populist discourses could be effectively used to promote environmental activism through the use of crisis narratives with a consequent effect of winning the support of environmental activist groups who share similar concerns. The article stated that:

"… *This is the story of how a Norwegian biofuel company took advantage of Africa's traditional system of communal land ownership and current climate and economic pressure to claim and deforest large tracts of land in Kusawgu, Northern Ghana with the intention of creating the largest jatropha plantation in the world. … When given all the information the community* [2]*successfully fought to send the investors packing but not before 2,600 hectares of land had been*

[2] Interview with Assemblyman of Alipe, 2009

deforested. Many have now lost their incomes from the forest and face a bleak future " (Nyari, 2008:1).

As evident in the above quote, a doom situation was created by the use of words with negative connotation to describe the consequences of the jatropha project. The intent of the 'negative words' is to communicate the imminent agony is to gain large readership for a sudden halt of the project. *'We need a more aggressive campaign to halt land grabbing'* (ibid: 2008:6), the article further opined. The outcries of the primary 'victims' of the project mentioned in the article were women especially those engaged in the shea nut business. The article quoted the lament by a shea nut business woman during the land preparation stage of the project stating that:

'Look at all the sheanut trees you have cut down already and considering the fact that the nuts that I collect in a year give me cloth for the year and also a little capital. I can invest my petty income in the form of a ram and sometimes in a good year, I can buy a cow. Now you have destroyed the trees and you are promising me something you do not want to commit yourself to. Where then do you want me to go? What do you want me to do?'

The quote from the above article conveys the untold hardships that must be expected in the households of vulnerable villages if large scale biofuels are encouraged in the country. The spread of negative reports against the project caught the attention of some village residents. Because shea nut business constitutes an important livelihood for women, reports of massive trees destruction frightened the people of Alipe village because the vegetation in the village is dominated by shea nut trees. One resident of Alipe thus lamented the presumed shea nut destruction by BioFuel Africa Ltd in Alipe by remarking that; '…*Shea nut is the cocoa in this community'* (Interview with Assemblyman of Alipe, 2009)[2]. The above assertion expresses economic importance of Shea nuts as a major livelihood in Alipe by referring to the cocoa wealth as a foreign exchange earner for Ghana and income generation for families engaged in cocoa farming.

The report of land grabbing in the Alipe village circulated through the article publication by RAINS attracted concerns from Action Aid Ghana, which is a Ghanaian affiliate of Action Aid International. As an affiliate of an international anti-poverty organization, Action Aid Ghana

joined RAINS in the fight against ‘biofuel land grabbing’ and livelihoods destruction through a publication in a leading newspaper in Ghana, *Daily Graphic* captioned "Re: The biofuel Debate: Action Aid-Ghana responds to Rural Consult’s Allegations ". The publication was a reaction to an NGO, Rural Consult Ltd which published reports about the promising effects of the jatropha project contrary to the doom reports. The report by Action Aid Ghana disputed the ideas of so-called managerial discourses espoused by Rural Consult Ltd asserting that:

"*AAG works with poor and excluded people to eradicate poverty. Consequently, right to food is one of our four thematic areas. It is in furtherance of that, when we noticed that large tracts of land were being taken for biofuel production, we (AAG) initiated the research to determine its implications for food security in particular and development in general. The results indicate that, the plantations pose a potential threat to food security of the people. … Because the destruction of the economic trees has become an issue, the company has the intention to replant them.*

What happens to the poor women and their families who hitherto earned their livelihoods from these economic trees after the good number of them have been destroyed? They now have no choice but wait and go hungry for the 20 years during which the replanted trees grow… " (Daily Graphic, 2009).

Like RAINS, Action Aid Ghana reports as evident in the above quote communicated the dire consequences of the jatropha project by the use of negative words to launch a campaign against large scale biofuels in the country due to the perceived long-term dire consequences on both household food security and livelihoods. In addition to the use of crisis narratives, visual images were used by RAINS and Action-Aid Ghana to convey the extent of the perilous consequences of the jatropha project on livelihoods and farmland encroachment. For instance, snap shots of land areas claimed stripped naked during the land preparation stage of the jatropha in the vulnerable peasant village were taken and displayed in the widely circulated article by RAINS. More so, snap shots of chiefs claimed to have been deceived by BioFuel Africa Ltd to lease out land by mere ‘thumb print’ and the ‘lure of token’ sums of money and ‘false promises’ of job creation were also displayed in the article by RAINS. The joint aggressive campaigns by RAINS and Action Aid Ghana peaked with the issue of order from EPA for the suspension of the project in Alipe (Boamah, 2010a; Matondi *et al*., 2011b).

After the suspension of the project in Alipe, BioFuel Africa Ltd moved to a new project site in Yendi district which is part of the 23, 000 hectares of land approved by the EPA-Ghana. The plantation was located along Tamale-Yendi road, about 55km distance from Tamale, the regional capital of Northern Ghana. It is noteworthy that, because of their resolute slogan to wage relentless opposition to capitalist investments, even after the relocation of the project to the Yendi district, the negative publicity by the NGOs (RAINS, Action-Aid Ghana) and other environmental activist groups shifted to the new project site where the plantation was established.

In the new project site, reports by the NGOs took the form of article writings in the newspapers, rejoinders as well as workshops sensitizing the public about how destructive the implementation of the jatropha plantation could be on livelihoods, environment and food security in the project villages. In the new project site in the Yendi district, more negative publicity work was done by Action Aid-Ghana by the use of visual images to communicate the perceived dire consequences of the project on local livelihoods. The workers of the NGO displayed snaps shots of farmland areas claimed to be encroached by the jatropha project at seminars or videos of residents claimed to have lost farmland areas following the implementation of the project. Most of such pieces of information were gathered by Action-Aid Ghana during their temporary visits to the project villages or when passing by the plantation site. During interviews with Food Span and Food Rights Units under the Action Aid-Ghana, I discerned that, the workers were bent on magnifying potential problems of the jatropha project whilst either concealing the benefits or even not informing themselves about the events in the plantation and the affected communities (Boamah, 2010a). The perceived dire consequences of the jatropha project circulated by Action Aid-Ghana and other local environmental activist groups coupled with the onset of the global economic recession in 2008, BioFuel Africa Ltd lost funding from donors (ibid.).

The context of the project villages

Both at the global levels and the case of Ghana, negative publicity against biofuels are not only widely circulated but also communicated in a style that seems appealing its audience or readers. However, contrary to mainstream crisis narratives that relay dire consequences of biofuels for

food security, my MPhil study found that the well established claim that land outsourcing for biofuels compromises food security and local livelihoods could be inaccurate and misleading if analyses are not contextualized. The study unveiled that, the local contexts and investment strategy of the investors is decisive of the food security implications of biofuels (Boamah, 2010a, Matondi *et al*., 2011b). BioFuel Africa jatropha project improved household food security in the project villages through employment creation in the plantation, increased petty trading activities as well as increased food production. The findings of the study have been augmented by later visits (between September 2010 and February, 2011) to the plantation site and the nearby project villages after the failure of the project (Boamah, 2011a).

The local context in this study refers to the ecological conditions, household size and composition, gender ideology, population density as well as the socio-economic conditions that characterize the project villages. Farming which is the major livelihood in the villages is predominantly undertaken by men whereas alternative livelihoods such as charcoal and firewood business, shea nut business and other petty trading activities are undertaken by women. Although some women undertake farming by way of assisting husbands or participation in family farm work, livelihoods in the project villages are gendered. Farming in the project villages are determined by the period of rainfall. The project villages experience seven month long period of drought between November and March-April but meager amount of rain within a five month rainfall period between May and October (Ghana Local Government, 2006). Farming being the predominant livelihood in the villages is thus limited to the short rainy season. Women's economic undertakings which are year-round provide only meager and irregular incomes (Boamah 2010a, 2010b, Matondi *et al*., 2011). There is thus high incidence of poverty and hunger in the villages especially among men during the dry seasons when farming becomes impossible. As a result, most residents especially men stay in the project villages temporarily for farming activities during the rainy seasons and then migrate to their permanent abodes in the nearby towns for off-farm employment avenues during the dry seasons. The ecological and socio-economic conditions in the villages thus warrant an urgent need for regular and year-round income-generating activities.

More so, the average household size of the project villages ranges between 15 and 21 (Boamah, 2010a). Another important characteristic of the households is the existence of the moral value of sharing especially food resources among relatives. As a result, food from farms is insufficient for the large household sizes, thereby making food purchases inevitable in most households. The project villages also practice shifting cultivation farming system which is characterized by relocation of farmers to new farmland areas due primarily to declining soil fertility. The farming system is augmented by the low population density of 26.6 persons per square kilometer of the Yendi district as well as in the project villages due to the temporal residence. There are thus large areas of unused land in the district level and the project villages in particular (ibid.).

The implementation of the jatropha project in the villages was accompanied by livelihood diversification. The importance of livelihood diversification to achieving food security has been noted by many researchers (Devereux and Maxwell, 2001; Maxwell and Smith, 1992). Livelihood diversification involves a spread of economic activities away from reliance on the primary enterprise whether livestock or cropping activities, typically seeking a wider range of on-and off-farm sources of income (Devereux and Maxwell, 2001: 86). During BioFuel Africa jatropha project, the employment opportunities generated directly (plantation workers) and indirectly (petty trading) for the residents in the project villages during provided regular income sources for household food provisioning and welfare (Boamah, 2010a, 2010b; Matondi *et al*., 2011b). Although, some residents expressed worries of unfairness in the recruitment of workers, about 60% of the total workers of 400 were recruited from the project villages earning between GHS 77 and GHS 1000 (ibid.). Majority of the residents employed either directly or indirectly used a large part of their incomes for food purchases which benefited their respective households due to the moral value of food sharing (Boamah, 2010a; Matondi *et al*., 2011b).

Commending the contribution of the project to generating diversified livelihoods, one resident of the project villages who was formerly engaged in firewood and charcoal business as well as farm work had an added livelihood source during the implementation of the project.

'*BioFuel Africa Africa Ltd has been good to me because… before joining the company, I had a small farm size less than 2 acres. When I joined the company, they ploughed part of their acquired land of 2 acres for me'. … I even own 7 goats and 5 sheep bought from my monthly*

salary from BioFuel Africa Ltd … now, I also give money to my husband to hire tractor and other things in the farm', (Interview with one of the residents of the project villages, 2009)[3].

BioFuel Africa Ltd initially cleared a land area of 1100 hectares but cultivated only 400 hectares with jatropha (Boamah, 2010a). Before the implementation of the project, about only 15% of the cleared land was in use for farming due to the declining soil which had compelled voluntary relocation of most farmers to new land areas leaving only 25 behind. Twenty out of the 25 farmers who ceded their land areas to the project were relocated to new land areas ploughed by the company whilst the remaining 5 continued farming in the plantation without compensation. In addition 19 out of the 25 farmers were employed to work in the plantation. Indeed, despite the land use change caused by the jatropha plantation, food production increased during the project partly as a result of the company's "food first policy ". The food first policy of BioFuel Africa Ltd which aims to increase food production in their project areas was implemented by the establishment of 16-hectare and 10-hectare maize farms for the project villages and plantation workers respectively within the 1100 cleared land area. Some residents from the project villages mostly women were allowed to cultivate maize in the jatropha plantation and hence most women had farms of their own during the jatropha project compared to the period before. During the peak of activities in the plantation, the land areas under cultivation had increased from 15% to about 21% (ibid.) and this invariably implies the extent of compatibility of the project with food crop production in the project villages. The case of the Yendi project villages contrasts sharply with Bagamoyo, Kilwa, Kisarawe areas of Tanzania which are important rich coastal land areas important for livelihoods of the residents but has been outsourced for foreign companies for biofuels production (Sulley and Nelson, 2009).

The local context of the project villages coupled with the goodwill of BioFuel Africa Ltd contributed to the improved household food security and livelihoods. However, negative publicity against the project by the NGOs (Action Aid-Ghana and Regional Advocacy and Information Network systems) on the grounds of perceived dire consequences for food security and local livelihoods, coupled with the global economic recession that peaked in 2009 led to loss of funding sources for the company towards the end of the year 2009. The company subsequently laid off about 300 out of the entire 400 workers and this correspondingly reduced the gains of the project in the project villages. Intercropping and other farming opportunities

[3] Interview with one of the residents of the project villages, 2009

which became available to most residents during the project ceased after the collapse of the project. The popular Ghanaian adage, *the full length of a frog is known upon its death* best explains how the residents evaluated the positive spin-off effects of the project on household food security and livelihoods after the project came to a standstill. The NGOs who claimed representing the interest and the concerns of the village residents were denied by most residents after the lay-off exercise. This was observed through frustrations and gestures exhibited by the residents during informal interviews in my later visits to the project villages. Petty trading activities such as food sales that sprang up during the peak of activities in the plantation suffered immediate decline after the lay-off. Lamenting the lay-off exercise, a resident of Kpachaa who was both employed in the plantation and indirectly employed through food sales in a nearby shop said:

'*Our businesses have not collapsed totally but we feel like enjoying today and crying the next day. We have closed the shop near the plantation and now gone back to the previous small shop in the house*', she further lamented (Interview with a resident of one of the project villages, 2009)[4].

BioFuel Africa Ltd sought for $ 2.5m loan from Agricultural Development Bank-Ghana in 2010 to continue the project but the conditionality attached to the loan was to undertake maize and soybean production to enhance its "food first policy" in the project villages. The company produced 80 tons of maize from a land area of 220 hectares for maize production in the 2010 farming season which employed about 37 permanent workers and 60 workers recruited from the project villages for harvesting on contract basis. However, a large part of the maize farms (93%) was destroyed by destructive rains plunging the company into further losses of about GHC 300,000 (Interview with Steinar Kolnes, Executive Manager of BioFuel Africa Ltd)[4]. By September 2010, the project had stalled with only 30 workers left in the plantation whilst majority of the ex-plantation workers from the project villages had either gone back to resume the seasonal and less profitable farm work or migrated to nearby towns for greener pastures (Boamah, 2010b). Currently (2011 farming season), BioFuel Africa Ltd has began the cultivation of vegetables (Onion and tomatoes) on a land area of 25 hectares from their own funding sources and a large majority of residents from the project villages are yearning for re-employment

[4] Interview with a resident of one of the project villages, 2009

meanwhile the company is unable to do so due to funding problems (Interview with Steinar Kolnes, Executive Manager of BioFuel Africa Ltd.)[5].

Why the paradoxical consequences of adherence to populist discourses?

Ghanaian actors involved in Ghana biofuel debates adhere to the ideas of either of the managerial and the populist discourses to justify the perceived consequences of biofuels and the interventions deemed appropriate. However, because of the negative antecedents associated with land grabbing in the developing countries especially by foreign investors and the rumors of exploitative land deals elsewhere (Philippines, Brazil, and Indonesia etc), Ghanaian NGOs and some government agencies primarily adhered to the populist discourses. More so, the entrenched positions against biofuels are stimulated by the doom biofuel reports circulated by IFPRI, OECD and FAO which are globally reputable knowledge sources. The adherents of the populist discourses involved in Ghana's biofuel debate pointed out the dismal situations that are likely to occur following large scale biofuel investments in the country. The relatively scant food production and the associated high food imports, the escalating food prices and vulnerable livelihoods in most rural areas are often cited to substantiate the perceived dire consequences of biofuel investments. It is therefore not surprising that, the BioFuel Africa jatropha project s local opposition from suffered earliest local opposition from Ghanaian NGOs.

Conclusion

Ghana's biofuel debate is part of the broader mainstream global discourses addressing the causes, mitigation measures and the consequences of climate change. Because of their entrenched slogans to safeguard livelihoods of the marginalized and promote agriculture which employs majority of the rural people, large scale biofuel investments are wrongly perceived by actors actively involved in the biofuel debates in Ghana and their ideas are becoming hegemonic in biofuel debates in Ghana in the absence of a comprehensive policy and regulatory framework

[5] Interview with Steinar Kolnes, Executive Manager of BioFuel Africa Ltd.

to guide biofuels. Meanwhile, notwithstanding the immense contribution of the agricultural sector to the economic development of Ghana, income generation and food production from the sector is inadequate. Government initiatives and policies intended to revive agribusinesses to create jobs and reduce rural poverty are inadequate. The case of BioFuel Africa jatropha project reveals the potential of socially and environmentally responsible biofuel investments to revive rural livelihoods and the consequent improvement in household food security and how the failure of the project on grounds of negative publicity and loss of funding disrupted livelihoods and food security in the project villages. The paper sheds light on the success story of a biofuel project and provides a useful lesson to policy-makers about how coordinated efforts and effective policy to guide biofuel investments could complement agrarian and rural development of Ghana. Biofuel investment in Northern Ghana has the potential to complement agricultural development in rural areas due to its unique ecological, demographic and socio-economic conditions.

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