

PAPER SUMMARY - Towards Sustainable Biofuel Development: Assessing the Local Impacts of Large-Scale Foreign Land Acquisitions in Ghana

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INFORMATION

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ABSTRACT

This paper assesses the effectiveness of the Ghanaian legal and institutional framework in managing the trade-offs of large-scale land acquisition, particularly for biofuel feedstock expansion. The research focuses on the central Ghanaian regions of Brong Ahafo and Ashanti, which encompass the often densely vegetated forest-savanna transition zone. This is coincidentally also the region where most of the large-scale foreign land acquisitions are taking place for the cultivation of *Jatropha curcas* L. (a feedstock for biodiesel).

It was observed that large contiguous areas of suitable land were easily obtained by foreign companies through direct negotiations with Traditional Authorities, often through opaque, non-participatory and partially documented negotiations purportedly locking up large tracts of land for periods of up to 50 years. In this context, many affected households were forced to relinquish their land without any form of compensation or guarantees of future returns. Many land losing households consequently experienced a marked decline in livelihood quality as a result of reduced incomes, increased food insecurity, and loss of access to vital forest products. Large areas of secondary forest and rehabilitating fallow lands were observed to have been converted to plantation monoculture.

One of primary reasons for this is that many plantations are being developed outside the purview of both government and affected households, depriving these actors of the opportunity to assess site suitability and steer companies' practices to leverage more sustainable and equitable outcomes. Only a small minority of foreign companies in Ghana was found to have registered at the appropriate government agencies and to have obtained the mandatory environmental permits, and affected communities were often unaware of the content of these 'high-stake' deals. Lack of cross-accountability between different agencies severely undermines their capacity to effectively regulate these land-based investments.

1. Background

Foreign direct investments (FDI) are widely perceived by many governments in developing countries to be one of the most important drivers of economic development, often constituting an integral component of development strategies. Extensive literature has been devoted to the role of FDI in economic development (see Caves, 1996; Baldwin and Gorecko, 1991; Bernard and Jensen, 1999; Djankov and Hoekman, 2000; Borensztein, et al., 1998), frequently citing export earnings, fixed capital formation, employment generation, and technological transfers as potential benefits. Following the Asian experience, governments across Africa have by and large taken a highly liberal and accommodating stance towards FDI. Accordingly, many African countries have sought to enhance their attractiveness as a FDI destination by enacting investment policies that provide a host of incentives (such as tax and duty exemptions, freedom of international capital flows, and support services), while trimming investment restrictions. Despite this, FDI flows to Africa remain comparatively minor, with the relative abundance of natural resources being the most important determinant of the expansion of investments on the continent (UNCTAD, 2007).

The lion's share of foreign investments in Africa is directed at extractive industries such as mining, quarrying, and fossil fuels. Countries with vast fossil fuel reserves (Nigeria, Angola, and Equatorial Guinea in particular) are some of the largest FDI recipients in Africa (UNCTAD, 2009). Although other primary sectors have in the past not been a major FDI target, a rapid increase in foreign interest in the cultivation of agricultural commodities has been observed in recent years. While this is

not immediately discernable from existing FDI data¹, numerous recent publications provide anecdotal evidence of increasing participation of foreign governments and private sector actors in the agricultural sector, most notably in Africa (see Cotula et al., 2009; Kugelman and Levenstein, 2009; von Braun et al., 2009; GRAIN, 2008). This wave of new investments is driven largely by global food security concerns (sparked to some extent by the 2007-2008 food crisis) and the increasing incorporation of liquid biofuels derived from agricultural raw materials in the energy matrix of industrialized countries (prompted by blending mandates). Many African countries are considered to have a competitive advantage for crop production, owing to abundant areas of land that are both agro-ecologically suitable and presumed to be "available"² and the low cost of production factors (importantly land and labor).

Most African countries are net importers of agricultural products despite having the agronomic potential to be net exporters. This can be ascribed to chronically low agricultural productivity, resulting from low capital formation in the sector, poor infrastructure, institutional shortcomings, and limited access to support resources, such as finance and technologies. With more than half of the employed population active in the agricultural sector, this significantly contributes to poverty and food insecurity. As such, increasing foreign investments are widely viewed as promising means to induce the upgrading of

¹ The World Investment Report 2009 by UNCTAD even shows a relative decline in the share of agricultural FDI stocks and inflows between 1990 and 2007. In Africa, FDI stock remained stable at 7 percent of total FDI stock.

² Using data from IASSA (2009), almost 350, 330, and 190 million hectares are both suitable and available for the cultivation of soybean, maize, and cassava, respectively, in Africa.

agricultural markets, contribute to rural development, enhance domestic food and energy security, and assist African economies in capitalizing on new export opportunities.

Little is known, however, about the actual impacts of these investments. As foreign investors are seeking large areas of land for the cultivation of food and energy crops, this could significantly increase competition between different land uses, potentially leading to increased tenure and livelihood insecurity by rural communities and deforestation. Since foreign investments in the sector are largely undocumented or undisclosed, terms of agreement opaque, and relevant policies often inadequate or poorly implemented, detailed assessments of the potential trade-offs of these developments are warranted. In contribution to these research needs, this paper seeks to provide insight into the potential impact pathways of large-scale land acquisitions in Africa by means of a case study of *Jatropha* expansion in Ghana.

2. FDI and Large-Scale Land Acquisition in Ghana

In Ghana the agricultural sector is the backbone of the economy, accounting for 34 percent of GDP and employing 55 percent of the economically active population (World Bank, 2010). Yet Ghana is a chronic net food importer, often unable to meet the domestic demand for staple foods such as wheat and rice with domestic production. The agricultural sector (in the case of both food and cash crops) is dominated by smallholders, who account for almost 90 percent of landholdings and approximately 80 of agricultural output (Chamberlin, 2008). In this regard, FDI in the sector could arguably contribute to smallholder productivity and market access by improving rural infrastructure, enhancing their access to agricultural inputs, and increasing their participation in global commodity markets. Furthermore, such investments could help alleviate Ghana's agricultural trade deficit.

In recent years, evidence of rapidly increasing agricultural FDI to Ghana for the cultivation of biofuel feedstock is emerging. However, little conclusive evidence is available on the scale and implications of this trend. Since most major agricultural investments have only been established in recent years, many of the potential benefits of these investments are yet to materialize. Hence any assessment of impacts will likely present a one-sided and overly bleak picture. Despite this, many adverse social, economic, and environment impacts can be minimized, or even prevented, during the establishment phase; for instance, through the adoption of appropriate (corporate) impact mitigation strategies and the effective application of legal and regulatory provisions. This ultimately shapes the nature of land use change, the magnitude of costs and benefits, and how these will be distributed among different actors in the long term.

This paper draws lessons for policy through the analysis of the process by which large-scale foreign land acquisitions take place in Ghana and its consequences. Specifically, it will focus on companies involved in biofuel feedstock cultivation. In so doing, this research aims to support efforts by the Ghanaian government to effectively capitalize on this investment trend, while simultaneously ensuring both benefits and costs are equitably distributed.

3. The State of Biofuel Development in Ghana³

In Ghana, a total of 17 commercial biofuel developments have been identified by the research. Fifteen of these companies are foreign-owned and/or financed by the Ghanaian diaspora, with all but one adopting business models that require large-scale feedstock plantations of more than 1,000 hectares. Although almost half of the foreign companies involved in plantation development plan in time to engage smallholders through outgrower agreements, no such schemes are yet to be observed. As the CEO of one company remarked, "It is first important to establish yourself a market before committing anything to smallholders".

Thirteen of the foreign companies focus primarily on the cultivation of *Jatropha Curcas*, a plant which produces non-edible oil seeds, one on cassava and another on oil palm. By August 2009, it is estimated that these companies collectively had access to 1,075,000 hectares of land, 730,000 hectares of which is located in the forest-savanna transition zone of central Ghana's Brong Ahafo and northern Ashanti regions. The high concentration of investors in this area can presumably be attributed to the high agro-ecological suitability of land in the area, relatively low population densities, the ease of obtaining large contiguous areas of land, and the physical accessibility to key markets.

Only a fraction of these lands have, however, actually come under cultivation, with no more than 10,000 hectares likely to be under cultivation by these investors. Based on remote sensing data, the largest contiguous areas under cultivation are located in central Ghana, where three plantations cover approximately 1,250 hectares, 1,050 hectares, and 850 hectares of land (the oldest plantations dating back to early 2008), as depicted in Figure 1. Few companies in Ghana have commenced feedstock cultivation in earnest, with many companies still assessing productivity with small pilot plantations or having become 'dormant' following the financial crisis.

4. Impacts of Land Acquisitions in Central Ghana

This research sought to assess the social, economic, and environmental impacts of large-scale land acquisitions, focusing specifically on the large-scale *Jatropha* monoculture plantations that are especially prevalent in the densely vegetated forest-savanna transition zone of central Ghana. This is an area where forests comprise approximately 52 percent of the land area, based on analysis of the ESA Globcover dataset. Data was collected in July and August of 2009 through key informant interviews, site visits (nine plantations), focus group discussions with neighboring communities (four plantations), and comprehensive socio-economic surveys of 31 employees and 64 land losing households at one plantation.

³ In Ghana only anecdotal and typically inaccurate information is available on the nature and scale of large-scale foreign land acquisitions in the agricultural sector. As corporate data is often unreliable and government statistics incomplete and incomprehensive, precise data on the state of sector development is unavailable. The data presented here may therefore not capture all relevant developments. Data was obtained through interviews with various government agencies and ministries at national, regional, and district level, company interviews, remote sensing analysis, and site visits.

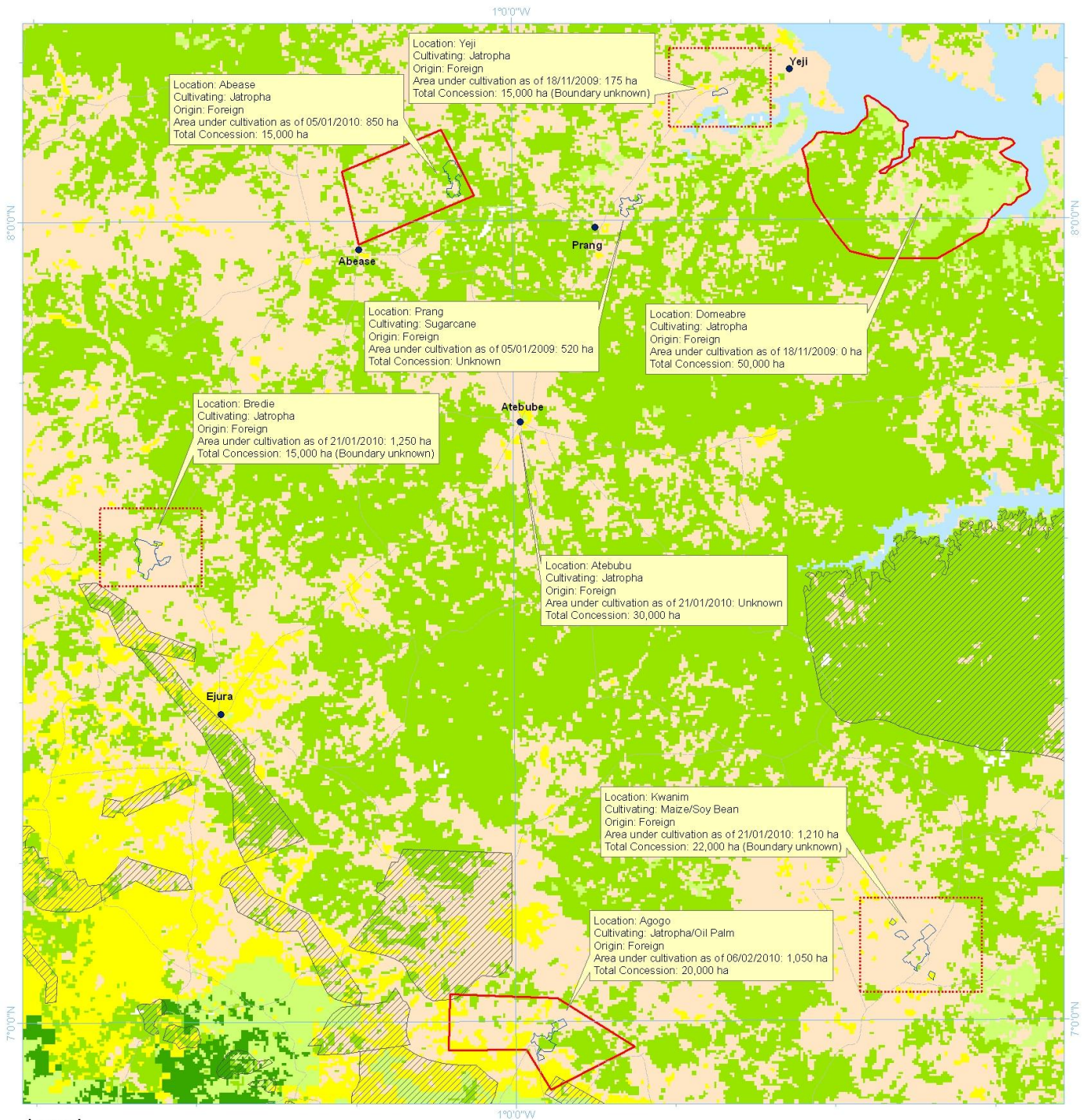


Figure 1: Large-Scale Land Acquisitions in Central Ghana

Source: Figure derived from LANDSAT images (USGS) and the Globcover dataset (ESA)

4.1 Land Acquisition Processes

In the regions of Brong Ahafo and Ashanti almost all foreign investors acquired land that is under customary tenure, which comprises between 80 and 90 percent of Ghana's total land area (Kasanga and Kotey, 2001). Companies typically directly engage with Traditional Authorities, often with the support of the Ghana Investment Promotion Center, who manage the land according to customary law and make the ultimate decisions on land allocation. In the study area, Traditional Authorities lease areas of land to companies for a period of between 25 and 50 years. While some companies opt for the payment of a yearly lease, other companies enter into profit-sharing agreements. Most companies also make (often unwritten) promises of social infrastructure, such as improved roads, boreholes, schools, and medical facilities. While in almost all situations contracts have been signed between company and Traditional Authority, as of August 2009 none of the companies in Brong Ahafo and Ashanti had obtained formal leasehold titles.

In all the plantations assessed in this research, households were required to relinquish landholdings for the purpose of plantation development. At the majority of plantations, directly affected households were not consulted by the company, nor did they formally acquiesce to transferring their land. With the exception of one company that promised to pay approximately US\$ 1 per acre per year to those losing land, no formal compensation measures have been proposed by other companies or by the relevant Traditional Authorities. Essentially, the Traditional Authorities have the authority to re-allocate community land at their discretion, often with no formal downward accountability to community members who enjoy no formal rights to the land they use. Despite the limited participation of land losers and the lack of any formal or informal means of redress, most land losing households hold relatively positive perceptions of plantation development, typically with the hope that any immediate hardship will be compensated in due time by 'development'.

Although it is difficult to accurately gauge the motives of Traditional Authorities and speculate how well and to what ends future land revenues will be used, there is undeniably considerable risk of elite capture. Relationships between different groups and layers of hierarchy are decidedly complex, falling beyond the scope of this study. Nevertheless, skepticism as to the benevolence of Traditional Authorities appears to be endemic in the region. The veracity of these perceptions is perhaps best encapsulated by a statement of a Paramount Chief himself: *'Many households neglect to pay their homage to us (a bottle of schnapps and 10 tubers of yam annually) at the end of the season. The money from the company is far, far better.'*

4.2 Local Impacts of Land Acquisitions

The most direct and immediate impact of biofuels relates to land loss. In the in-depth case study, an area of approximately 800 hectares was claimed by a company for jatropha cultivation (from a 15,000 hectare lease) at the time of research. An estimated 55 percent of the land area was formerly under usufruct rights, forming part of a system of shifting cultivation, with the remaining land under secondary forest cover. Some 70 households from three communities were involuntarily vacated from their lands, without any form of restitution, following the

harvest of yam (the primary cash crop) from the 2008 growing season. For two of the villages this equated to between 40 and 50 percent of households. Of those households that lost land, on average nearly 60 percent of their total landholdings were acquired by the company. Only 20 percent of households were able to obtain some replacement land, with most households unsuccessful in recovering both the quantity and quality of land lost to the plantation. These households cited increasing land scarcity and land quality concerns as key obstacles. Most alternative lands were considered unsuitable for cultivation due to either waterlogging or soil quality concerns. It was observed that settler farmers, most of who migrated from the north in the late 1980s, lost disproportionate amounts of land, with almost 75 percent of land losers stemming from this group despite it being a minority. Moreover, their ability to obtain new land was also found to be substantially lower than native households, with the average native households recovering three times as much land as the average migrant household.

The primary livelihood activity for almost all land losing households was yam cultivation, functioning as the most important income generating activity and subsistence crop. Although a significant number of other cash and subsistence crops were cultivated, the degree of off-farm diversification was negligible prior to land loss. This high dependency on on-farm activities creates high household vulnerability to external shocks of this kind. In response to land loss, the composition of household economic activities and the type of livelihood strategies employed did not change substantially⁴. For 75 percent of households, the three most important livelihood activities before land loss, which consist entirely of agricultural activities, remain the most important activities following land loss. However, in order to cope with lower agricultural incomes, a few households expanded the scope of activities to include livestock rearing and off-farm activities such as salaried employment on the plantation (five percent of land losing households) and small-scale trading of consumer goods. Lack of skills and financial capital are considered by these households to be the most significant barriers to livelihood diversification.

As a result of land loss, households resort to reducing the area they have under cultivation and increasing cropping intensity – thus shortening the fallow period. Not only do these trends significantly reduce immediate household income levels and food security, but are also likely over time to lead to land degradation and reduced carrying capacity. As some households only lost fallow lands, the immediate impact on these households has not been significant; however, this impact will increase in subsequent planting seasons as farmers are forced to turn to recently utilized plots and soil fertility decreases. While the impacts of the shortened fallow are not yet manifest, almost three-quarters of households who have lost land to the plantation have nevertheless already experienced a significant decline in their standard of living. Most of this change was due to a considerable drop in crop yields as fields were cleared for jatropha and minor crops (many of which are the domain of women) were destroyed, thereby reducing household incomes, availability of food crops and income flows to women.

⁴ This may be in part due to the limited time that has lapsed since displacement, with most households having lost land only 9 to 14 months prior to fieldwork.

In addition to declining areas under cultivation, almost all households were impacted by loss of access to forest products. A significant proportion of the acquired area was forested, from which households obtained medicinal plants, fuelwood, game, wild fruits and shea nuts – some of these products being significant income earners. The effect of this is most profound on women, as forest products such as shea nuts and *dawa dawa* (a local spice) contribute significantly to their income earning potential. Furthermore, almost three-quarters of land losing households assert they are now forced to spend more time gathering firewood, a burden borne disproportionately by women. With charcoal production being the most important source of dry season income for many households, lower production volumes are reducing off-season income flows.

As local forest areas have decreased substantially, remaining forests have and will continue to come under increasing pressure, especially due to an increase in fuelwood harvesting intensity and scarcity-driven expansion of agricultural lands. Plantation development has therefore led not only to deforestation/forest degradation directly, but also indirectly. Similar issues have also been raised by communities impacted by other plantations in the area, where the clear-cutting of economic trees and other vegetation have significantly reduced access to forest products.

4.3 Impact of Employment Generation

Despite the negative impacts of land loss, large-scale agricultural enterprises can produce numerous benefits to affected communities. One of the most obvious and direct benefits is employment generation. In the case of *jatropha* plantations, two large foreign companies in Ghana estimate that 60 full-time employees will be required per 1,000 hectares under cultivation (0.06 employees per hectare). At the case study plantation approximately 120 persons (both part time and full time) were employed for an area of approximately 800 hectares (0.15 employees per hectare). As this plantation is still in the labor-intensive land preparation and planting phase, this number will likely reduce to approximate estimates made by other companies. There is therefore significant risk that many employees will lose steady employment once trees mature and expansion ceases. This has already occurred at one *jatropha* plantation (100 hectares), where the original workforce of approximately 50 reduced to four within four years. Considering the relatively low labor intensity of *jatropha* cultivation, the opportunity costs are therefore considerable when agricultural land is converted. By means of illustration, the annual economic value of yam alone is approximately equal to the direct economic value of employment at the case study plantation. However, when assuming a reduction in long-term labor intensity to 0.06 employees per hectare, while assuming yam yields remain consistent, then the ratio of the value of yam to employment increases to more than 2.5 to 1.

Despite this, plantation employment does provide immediate benefits to those employed. For example, most employees considered plantation employment to have positively affected their livelihoods. Few of these respondents equated this to a change of income. Rather, the majority of respondents considered increased security and stability of income flows to be the most important contribution. This, in turn, has increased

their capacity to consistently cover medical and educational expenses. Prior to employment, most employees were involved primarily in agricultural activities, with almost all continuing to do so following employment, albeit at a smaller scale. Farming activities remain important to household income and food security, with plantation employment typically complementing, rather than substituting, these activities. As employees are typically young adults who contribute significant labor to household farming activities, a decrease in their engagement places strain on other household members, especially during planting and harvesting seasons. The majority of respondents thus indicated that plantation employment increased the household labor burden.

5. The Effectiveness of the Legal and Institutional Framework in Governing Trade-offs

Effective governance of the sector is essential for enabling Ghana to benefit from large-scale foreign investment in land-intensive activities. If the government is able to effectively control and monitor the manner in which projects are developed, many of the identified local impacts can be mitigated and instead be transformed into meaningful long-term development benefits.

One of the most profound consequences of biofuel development through large-scale monoculture plantations in Ghana relates to the inefficiency of local level benefit capture by communities granting land to these plantations. One of the primary underlying reasons for this is that many plantations are being developed outside purview of governments and affected households, depriving these actors of the opportunity to assess site suitability and steer companies' social, economic, and environmental (impact mitigation) practices. At the time of research only three foreign companies had obtained an environmental permit from the Environmental Protection Agency (EPA) by conducting a mandatory environmental impact assessment (EIA). Furthermore, only five foreign companies were registered at the Ghana Investment Promotion Council (GIPC), from whom all foreign companies must gain approval prior to commencing operations.

Although the district-level governments, in almost every observed case, are cognizant of the developments taking place in their respective districts, there are no formal mechanisms or incentives for them to liaise with regional and central government to ensure companies follow established regulations. Rather, district governments appear to take a more accommodating stance towards these companies, driven largely by the assumption that concomitant developmental benefits will come to pass (e.g. employment and infrastructure). Even the regional EPA office in Brong Ahafo, which in theory would be the most important point of contact between government and these companies for regulating land use practices, has only limited knowledge of these developments. They, too, assumed these developments to be largely beneficial. Lack of financial and human resources – with only five technical staff for a region the size of the Netherlands – appears to severely impede the EPA's ability to conduct monitoring activities and ensure compliance.

Although the three companies with environmental permits have comprehensive impact mitigation strategies (on paper), some potential impacts have not been thoroughly assessed and documented in their EIA reports. For instance, none of the companies disclosed the terms and conditions of land acquisition, nor incorporated any provisions to ensure land revenues are equitably distributed, notably to those displaced from their farmland. There is mention of preferential employment policies where affected communities would be favored, though tangible provisions for realizing this are lacking both on paper and in practice. Furthermore, the analysis of impact on flora and fauna is cursory at best, typically limited to a single paragraph. In order to ensure biofuel developments are carbon neutral (a fundamental logic of biofuels) and do not deteriorate environmental services or local livelihoods, it is crucial that such analyses be comprehensive and independently verified.

Another issue relevant to the mitigation of adverse local impacts relates to the process through which land is acquired and impacted persons compensated. The 1999 National Land Policy includes far-reaching principles regarding the protection of customary rights, though mechanisms to translate these provisions into practice are lacking. There are many incidences in Ghana, for instance, where biofuel companies are in the process of registering their land at the Lands Commission (LC) prior to having acquired the necessary environmental permits. In these situations, the LC does not appear to consult or inform the EPA. In the Brong Ahafo region, there is limited collaboration between these two government agencies. This interaction, however, is of vital mutual importance, as this would provide an opportunity for the EPA to learn of large land-based investments and for the LC to learn of the potential adverse impacts of these large land transfers. In practice, the LC appears to have little actual influence over how land deals are negotiated. When companies register their leaseholds, for instance, the LC merely assesses the legality of the contracts, not the conditions laid out in them or the manner in which land will be used.

Lastly, there are few real controls on Chiefs and Traditional Authorities for ensuring they act in the interests of customary land users. The 1999 National Land Policy is somewhat contradictory in this regard, stating that "An individual can have access to land in any part of Ghana, provided that he agrees with the land owner to adhere to the covenants and other customary practices governing the disposal of the land." In terms of compensation, it also states that the "open market or *negotiated land values* will determine prices for private land transactions" – thus leaving customary authorities subject to the goodwill of the investor in negotiating terms favorable to them and their constituencies, without the involvement of affected households or mediation by government entities to ensure equitability. Furthermore, since Traditional Authorities are legislated to act according to customary law there are no formal accountability measures in place to ensure land revenues are used with providence.

6. Conclusions and Recommendations

Some of the most significant obstacles to sustainable development from agricultural FDI in Ghana are the limited

oversight of government agencies and limited downward accountability (and foresight) of Chiefs. The negligence of many companies in obtaining the necessary permits and registering at the appropriate agencies limits government capacity to monitor adverse impacts. Lack of coordination between different government agencies and levels of government, caused in part by capacity constraints and the absence of mechanisms and incentives for collaboration *and effective oversight*, are partially responsible for this phenomenon. Also of concern is the now 'customary' tendency for Traditional Authorities to act with impunity and customary land users to throw up their hands in the face of Chiefly authority. Finally, limited awareness of the true value of land, limited foresight of the magnitude of future impacts (both benefits and costs) and weak negotiation skills by both Chiefs and customary land users will undermine any efforts to leverage simplified processes for enhancing "local participation" or "local consultation" as means to leverage more meaningful benefits.

Although some of the observed impacts may be specific to jatropha monoculture, most observed impact pathways are equally relevant to other types of agricultural enterprise. Considering the scale and scope of the issue in Ghana, regulating these developments, regardless of end-market, should become a political priority. In view of this, the government of Ghana should seek to enhance cross-accountability of relevant government agencies to ensure these land-based developments comply with relevant legislation. Moreover, these agencies should be mandated to ensure land lease agreements are enforced and equitable in their distribution of costs and benefits. In regards to the latter, it is imperative that mechanisms be adopted to enhance the accountability of Traditional Authorities to their constituents to ensure that: (i) all economic losses are duly compensated for; (ii) alternative livelihoods at equal or greater value are secured; and (iii) meaningful co-benefits for local communities (e.g. infrastructure and social services) are integrated into contractual agreements between companies and Customary Authorities. The development of detailed land acquisition guidelines to this effect would be an important first step in fostering more meaningful local benefit capture. Additionally, the development of comprehensive guidelines on the content and validation mechanisms of Environmental Impact Assessments for these companies would contribute to ensuring that acquiring an environmental permit does not become a tool for "green washing" unsustainable business practices.

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