# Effects of Large-Scale Land Acquisition on the Livelihood Outcomes of Smallholder Farmers in the Pru District of Ghana

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**Abstract**

*The study focuses on the effects of large-scale land acquisition on the livelihood outcomes of smallholder farmers in the Pru district. This study therefore went beyond establishing the relationship between large-scale land investment and farmers' livelihood to provide an in-depth analysis on the effects that befalls on farming households' livelihood outcomes as a result of large-scale land investment activities. The study employed a mixed method approach as it used both qualitative and quantitative methods and further employed multi-stage and cluster sampling procedures to select the Pru district, the study communities and the respondents. The study administered 332 questionnaires, conducted 14 Focus Group Discussions (FGD). The Pearson correlation results showed that large-scale land acquisition has a significant effect on employment, food security, income levels and healthcare but not nutrition of the smallholder farming households in the Pru district of the Bono East region. The Pearson correlation coefficients of 0.129, 0.080 and 0.128 suggested the effects of large-scale land acquisition on employment, food security and healthcare. To restore farming households to normalcy, this study strongly recommends that Metropolitan, Municipal and District Assemblies (MMDAs) must formulate by-laws to ensure that large-scale land investors employ people from the host communities to participate in projects. As part of the recommendations, compensation package in the form of start-up capital sufficient to guarantee the livelihood of farming households should be given to households losing farm lands as a result of large-scale land acquisition.*

**Keywords:** Livelihood outcomes, investors, large-scale land acquisition, smallholder farmer, employment, income, nutrition, food security

## *1. Introduction*

The desire to achieve energy efficiency, increase production, maximize profit, expand to other nations, and achieve food sufficiency explain why rich individuals, international and multi-national corporations and governments are playing engineering roles in the recent investment in large-scale land acquisition in Latin America, Eastern Europe and Africa (Cotula, Vermeulen, Leonard & Keeney, 2009).

Recent statistics indicate that the global share of large-scale land acquisition among the continents are 66.2 percent for Africa, 21 percent for Asia, 8.2 percent for America, 2.3 percent for Europe and 2.3 percent for Oceania. (Anseeuw,

Wily, Cotula & Taylor (2012), citied in Malkamuu & Zakaaryaas, 2012). Schoneveld (2011) observe that Sub-Saharan Africa (SSA) has become an attractive destination for these investors. Woodhouse (2012) attributes the SSA's attractiveness to large- scale land investments to its weak legislative and regulatory frameworks to protect the interests of existing land users or the general public. Makutsa (2010) adds that the conventional perception that Africa has vast and suitable lands for agricultural purposes has made the region attractive to large-scale land investors.

The Food and Agriculture Organisation [FAO], (2008) and Right and Resource Initiative [RRI], (2012) observe that the large land acquisition for agricultural purpose displaces families from their homes and farmers from their fields. This has the potential to interfere with their livelihoods and ultimately deprive them of their basic needs (Thurmond, 2007). The increasing trends for land to undertake investments in plantations by the powerful national on the weak and vulnerable global south and developing nations, governments desire to accelerate development has also led to the acquisition of large-scale land from the poor rural farmers, for biofuel and cash crops plantation resulted with the foreign pressures on Africa lands have affected livelihood activities of the weak people in land size, output savings and total development. (Chizoba, Gwen, Abiola, Chinny, &Chike–Jideani, 2012).

Several studies have assessed the effects of large-scale land investments on the environment and socio-economic dimensions of large-scale land acquisition (Bosch & Zeller, 2013; FAO, 2012, 2013; Schoneveld, German &Nutakor, 2010b; Hughes, Knox & Jones-Casey, 2011). The findings from these studies are mixed. While Bosch and Zeller (2013) and FAO (2013) observed that such investments enhance employment opportunities, improve biodiversity and increase revenue in the host communities; Schoneveld et al., (2010b) and Hughes et al., (2011) provide evidence to suggest that the investments lead to impoverishment. ActionAid (2009) disclosed that jatropha plantation denies households the access to non-timber forest products, which are often considered as common-pool resources and also poses numerous unintended consequences on food security in the host communities in the Bono East region due to the conversion of lands used for the cultivation of food crops to cash crops.

Also, there exist several literatures on large-scale land acquisition and farmers' livelihood. But these studies concentrate on establishing relationships between large-scale land acquisition and farmers' livelihoods with little effort tailored towards measuring the extent to which farmers' livelihood is affected by large-scale land activities. This study therefore went beyond establishing the relationship between large-scale land investment and farmers' livelihood to provide the depth of large that befalls on farming households' livelihood as a result of large- scale land investment activities. This will guide stakeholders to formulate specific policies to mitigate the rising effects of large-scale land acquisition on the livelihood of smallholder farming households in the region. This study focuses on the livelihood outcomes in the Pru district as a result of large-scale land acquisition on smallholder farmers.

## *2. Literature Review*

### 2.1 Livelihood

The term 'livelihood' is complex to define. An attempt to develop a universally accepted definition has been said to be difficult (Department for International Development [DfID], 2000). Some definitions have however been developed through extensive learning and practice to reflect the complexity of the concept. The most widely used definition of a livelihood system is from the work of Chambers and Conway (1992). They defined the concept to comprise people, their capabilities and their means of living, including food, income and assets. The authors indicate that livelihood has a tripartite relationship where people survive by using their capabilities to make productive uses of their assets, which are both tangible (resources and stores) and intangible (claims and access).

According to Lakwo (2006) and Murray (2001), a livelihood comprises the capabilities, assets (that is stores, resources, claims and access) and activities required for a means of living. These assets are generally recognized within sustainable livelihoods theory as also identified by Carney (1998) and Ellis (2000) are summarized below:

i. Natural (environmental) capital: natural resources (land, water, wildlife, biodiversity, environmental resources, and others).
ii. Physical capital: basic infrastructure (water, sanitation, energy, transport and communications), housing and the means and equipment of production.
iii. Human capital: health, knowledge, skills, information, ability to labour.
iv. Social capital: social resources (relationships of trust, membership of groups, networks, access to wider institutions).
v. Financial capital: financial resources available (regular remittances or pensions, savings, supplies of credit).

This asset can be stored, accumulated, exchanged, or depleted and put to work to generate a flow of income or other benefits (Rakodi, 2002). This study therefore adapts the definition of Lakwo (2006) & Murray (2001) as a lens through which livelihood would be viewed.

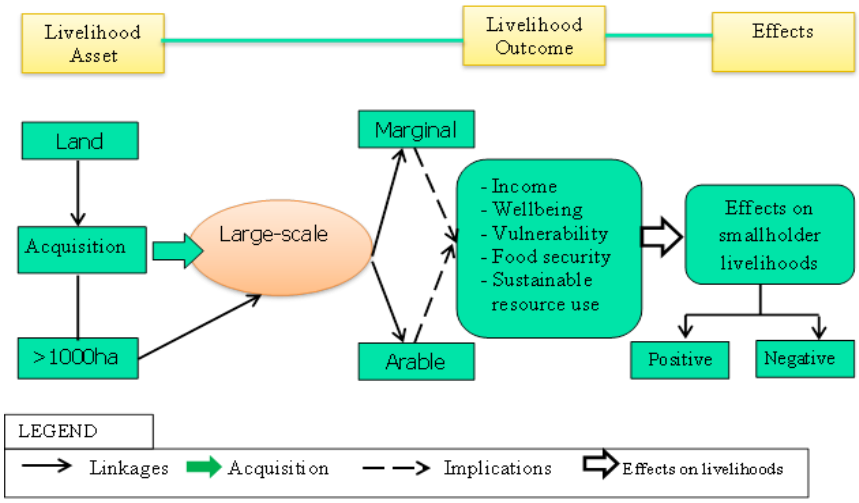
### 2.2 Comparison of DFID Sustainable Livelihood Frameworks

It is difficult to pin down the significant differences between these three livelihoods frameworks. They all portray sustainable livelihood as an approach towards poverty reduction. They also use similar definitions of what constitutes sustainable livelihoods, share the view that livelihood resources must be conceptualized broadly, not only to include physical and economic assets but also human and social assets and also stress the need to take into consideration the impact of overriding policies and economic structures of the livelihoods of the poor.

United Nations Development Programme (UNDP) and Cooperative for Assistance and Relief Everywhere (CARE) use it to facilitate the planning of concrete projects and programmes. The DFID's Sustainable Livelihood framework is more of a basic framework for analysis than a procedure for programming, and it is also used to assess and review on-going projects and programmes to make them more sensitive and responsive to the conditions and needs of the poor. It is an instrument to enhance the poverty reduction of different kinds of activities supported by the agency, not just sustainable livelihood projects or programmes (Krantz, 2001).

A second comparison is in the level of implementation. CARE supports household livelihood security primarily at community level. UNDP and DFID work at community level, but also lay emphasis on the enabling policy environments, macro-economic reforms, and legislation is equally important for effective poverty reduction. Thus, for DFID, although the analysis of people's livelihoods usually takes place at a household or community level, the aim is not just to identify constraints or opportunities that could be harnessed or remedied at that level. Equally important is to get an understanding of how policies and other institutional factors, for example, impinge upon people's livelihoods at the local level, but have to be addressed at higher, policy levels. Two other points which are mentioned by Carney et al., (1999) cited in (Krantz, 2001), but could not be documented as environmental factors and areas of specialization. UNDP in particular and to some extent DFID, include environmental criteria in their Sustainable Livelihoods definitions, but CARE emphasizes 'household livelihood security' over 'sustainable livelihoods' and is more concerned with immediate subsistence needs than long-term environmental effects. UNDP specializes in technology development and social and economic investment, and so tends to look to those areas to improve people's livelihoods.

**Figure 1: DFID Sustainable Livelihood Framework**




Source: Authors' own construct, 2020

Any large-scale which is above 1000 hectares are classified as large-scale land. Large-scale land can be arable and marginal but each has socio-economic uses that is likely to favour humans. The perception of giving investors large-scale land for plantation are; for employment, development such as infrastructure, income development and to pave way for maximum use of other ideal land. The backlash; is the inability to fulfil their promises, damage to the environment and others hence large-scale land acquisition can be positive or negative.

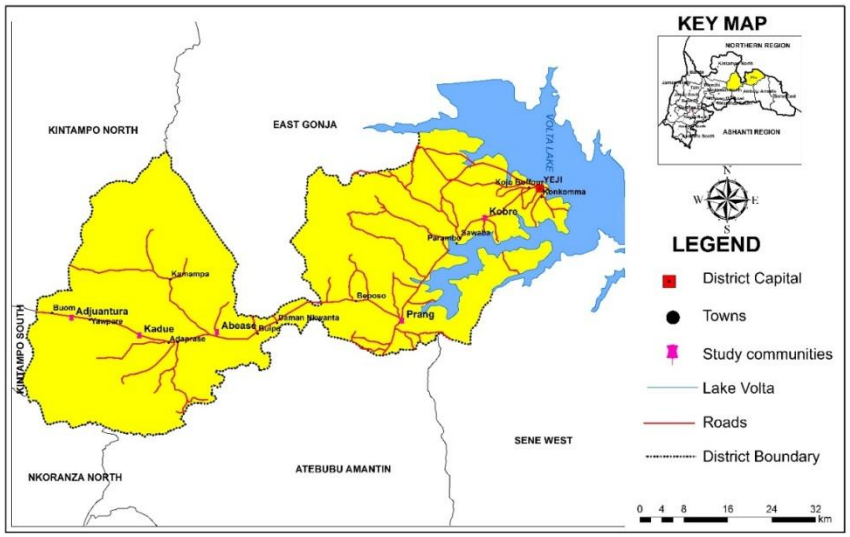
## *3. Research Methodology*

### 3.1 Description of the Study Site

The Pru District was created on the 18th of February, 2004 under Legislative Instrument 1778 of 2004. Pru District was created out of the then Atebubu District. The physical, economic and socio-cultural conditions have shaped and influenced lives in the Pru District. It is therefore relevant to put these issues into perspective to enable a fair appreciation of the current state of the district. There are core natural and anthropogenic factors that have influenced economic production, consumption, reproduction, health, sanitation and the overall welfare of the people in the Pru district.

The study communities include Kobre, Kadue, Abease, Prang and Adjentura. The Pru district lies between Longitudes 0030" W and 1026" W and Latitudes 7050" N and 8022" N. It shares boundaries with seven other districts, namely East Gonja to the North (Northern Region), Sene East and West to the East, Nkoranza and Atebubu-Amantin to the South and Kintampo-North and South to the West, all in the Bono East Region. The District covers an area of 3220.7kmsq.

**Figure 2: Map of Pru district showing the study communities**




Source: Ghana Statistical Survey (2015)

### 3.2 Research Approach

Survey research approach was used for the study. The survey research was considered to be most appropriate research approach to provide the required quantitative descriptions of the effects of large-scale land acquisition on the livelihood outcomes on smallholder farmers in the Pru District. Data from farming households were gathered using structured questionnaires. The research further collected a mixture of quantitative and qualitative (descriptive) data.

The approach makes provision for quantitative method (designed to collect numbers) and qualitative method (designed to collect words/descriptive in nature). By using these approaches the mixed-method research design was fully adopted to answer research questions. The methodological eclecticism inherent in the mixed research design results in superior results (Johnson and Onwuegbuzie, 2009). The strength of this strategy is that the weakness of one will be compensated for by using an alternative method (Bryman, 2008 cited in Alatinga & Fielmua, 2011). Focus group discussions was also used to obtain data from farmer-based associations in the Pru District. This is purely qualitative.

The quantitative data were obtained through a cross-sectional survey from smallholder farming households in the study communities in the Pru District. The qualitative techniques on the other hand were used to assess the interviews of traditional authority, investors, district assembly officials, environmental protection agency and other agencies in the Pru district in abating the effects of large-scale land acquisition on livelihood outcome on smallholder farmer in the study communities of the Pru District.

According to Morse & Field (1996), qualitative research refers to inductive, holistic, subjective and process-oriented methods use to understand, interpret, describe and develop a theory on a phenomenon or setting.

### 3.3 Sample Size for the study

Based on the sample frame of 2,554 households in the communities, a sample size of 346 was used for the study. Out of the 346-sample size, 332 was for the households whereas 14 was for focus group discussions. The sample size of 346 was derived by using Slovin's mathematical method expressed by equation (1)

$$n = \frac{N}{1 + N(\ell)^2} \quad (1)$$

Where 'n' is the sample size, "N '' is the sample frame and '' $\ell$ '' is the error margin. The use of the formula should contribute to ensuring reliability and validity in the research. The sampling frame is the total number of units likely to be included in the study. In determining the sample size for the cross-sectional survey, a total of 332 sampled small holder farming households were obtained from the communities in the Pru District at 95% confidence level and 5% error margin.

### 3.4 Sampling Techniques

#### 3.4.1. The Cross-sectional Survey

A multi-stage sampling technique was employed. Multi-stage sampling is an extension of cluster sampling. It is the use of variety of sampling methods. Samples in the Pru district were taken in stages using smaller sampling units at each stage. These samples were later divided into various clusters in which affected communities in the district were captured.

Cluster sampling ensured that all communities affected by land grabbing are represented in the final sample. Cluster sampling was used for the five (5) communities which were the focus of researchers. These five (5) communities were divided into cluster of groups comprising of Kobre, Kadua, Abease, Prang and Adjentura communities. After dividing the communities into various clusters, the researchers adopted to focus group discussions to solicit responses from respondents. The Pru district in the Bono East region was purposively selected based on the reason that it is the most affected with activities of land grabbing in Ghana. The last stage involved proportionate simple random sampling technique which was applied to select the smallholder farming households in each cluster (study communities).

## *4.0 Results and Discussion*

### 4.1 Socio-Demographic Profile of Farming Households

The socio-demographic characteristics of farming households determine the magnitude of the effects of large-scale land acquisition on their livelihoods outcomes. The socio-demographic characteristics of farming households considered by this study are age of household head, household size, household income per annum, and total acres of farm land owned by households, number of acres of farm land lost by farming households to large-scale land investors, sex of household head and the educational level of household head. This is presented in

Table 1.

**Table 1: Descriptive Statistics of Sampled Smallholder Farmers**

| Variable | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| Age of HHH | 35.49 | 1.27 | 24 | 58 |
| Household Size | 5.40 | 3.00 | 1 | 18 |
| Household income | 1700.83 | 78.04 | 180.00 | 3900.00 |
| Land size owned By HH (acres) | 8.87 | 3.92 | 4 | 23 |

Source: Field Survey, 2020

The youngest household head was 24 years while the eldest household head was 58 years. The average age of household heads in the Pru district was 35.49 years with a standard deviation of 1.27. This shows that the sampled households comprise of youthful members who can energetically carry out farming activities. Meanwhile, the minimum and maximum household sizes were 1 and 18 respectively with an average of 5.40 members. Larger household size is a source of labour for farming activities by a household.

The mean household income was GH¢1700.83 with a standard deviation of 78.04. The minimum and maximum household incomes were GH¢180.00 and GH¢ 3900.00 respectively.

The size of farm land owned by a household also determines the extent to which households' livelihoods are adversely affected by large-scale land acquisition since there will still be enough farm land for cultivation by the household after relinquishing part of their lands to large-scale land investors. The minimum and maximum farm land owned by sampled households was 4 acres and 23 acres respectively while the average farm land owned by households was 8.87 acres with a standard deviation of 3.92 acres. This reflects a typical smallholder farmers' in Ghana. Similarly, number of acres of land lost by farming households to large-scale land investors influences the magnitude of effect on households' livelihoods. The minimum and maximum size of land lost by households to large scale land investors were 0 and 13 respectively. Averagely, each household lost 4.53 acres of land through large scale land acquisition.

A gender perspective is critical to truly understand the impact of large-scale land deals, because women and men have different social roles, rights, and opportunities and will be differentially affected by any major change in tenurial regimes, especially land transfers to extra local investors (Behrman, Meinzen-Dick, &Quisumbing, 2012). In the literature, large- scale land acquisition has a disproportionate high effect on the livelihood of households headed by females than households headed by males, existing literature on the gender implications of the shift to large-scale commercial agriculture a shift that usually accompanies large-land acquisition finds that these shifts often lead to changes in household dynamics and roles, income-generation activities, and property rights often to the detriment of women (Quisumbing, 2003). Also, the coping and adaptation strategies adopted by households depend on the sex of the household head.

### 4.2 Effects of Large-Scale Land Acquisition on the Livelihood Outcomes of Households

The livelihood outcomes of farming households are the milestones which directly reflect or determine the livelihood status of farming households. The livelihood outcomes considered in this study are employment, food security, nutritional level, and healthcare and income levels of farming households. To determine the effects of large-scale land acquisition on the livelihood outcomes of farming households, the yes or no response of households to the question 'did you lose any land to large-scale land investors' was correlated with the livelihood outcomes of households. The correlation results (one tailed) of the effects of large-scale land acquisition on livelihood outcomes are presented in Table 2.

**Table 2: Results of Spearman Correlation of Large-Scale Land acquisition and Livelihood Outcomes of Farmers**

| Livelihood Outcome | No. of Respondents | Pearson Correlation Coefficient | Significance (one-tailed) | Decision |
|---|---|---|---|---|
| Employment | 332 | 0.129** | 0.013 | Reject $H_o$ |
| Food Security | 332 | 0.080* | 0.084 | Reject $H_o$ |
| Nutrition | 332 | -0.014 | 0.404 | Do not reject $H_o$ |
| Healthcare | 332 | 0.128** | 0.014 | Reject $H_o$ |
| Income | 332 | 0.890*** | 0.000 | Reject $H_o$ |

Source**:** Field Survey, 2020

The one tailed correlation results showed that large-scale land acquisition has a significant positive effect on the employment of farming households in the Pru district. The null hypothesis is therefore rejected which states "large-scale land acquisition has no significant effect on the livelihood of smallholder farming households". In the community focus group discussions, it was revealed that though companies into large-scale land activities promised to recruit more of its' workers from the operating communities, it turned out to be the reverse as very few people from the communities were employed as labourers in the companies (Focus Group Discussions-Abease, 2020). The Pearson correlation coefficient of 0.129 implies that large-scale land activities of investors have a low effect on the employment of farming households in the Pru district. A study by Quansah, Frimpong,Mensah & Mensah (2020) also revealed that there is a low effect of large-scale land acquisition on the compensation of farming households.

According to Baumgartner et al., (2013), workers of Saudi Star in Ethiopia spent portion of their income on locally produced goods and services such as local beer which had a positive effect on self-employment. Similarly, the significant effect of large-scale land acquisition on employment of farming household may be explained by the fact that though the companies are not able to directly employ many people from within the local communities; their presence in

these communities may have created market for the local products of community members such as sells of food, food stuffs, call cards, etc. to workers of the companies.

The correlation results also showed that large-scale land activities of investors have a significant positive effect on the food security status of farming households in the Pru district. The null hypothesis that large-scale land acquisition has no effect on the food security status of farming households is therefore rejected. Farming households indicated in focus group discussions that being faced with reduced farm lands as a result of large-scale land acquisition, households concentrated on the cultivation of staple crops such as yam, maize, cassava and rice purposely to feed their households. Also, to maximize crop outputs from the small farm lands, it was revealed that households adopted recommended agricultural practices such as application of fertilizer, cultural practices, the use of hybrid seed and seedlings to increase output. About 64 percent of sampled households opined that large-scale land acquisition has improved the food security status of farming households in the Pru district. Contrary, about 36 percent responded that large-scale land acquisition has not improved the food security level of farming households with the reason that it has rather resulted in low crop output of farming households.

The Pearson correlation coefficient of 0.08 suggests that large-scale land acquisition has a very low effect on the food security status of farming households in the Pru district. The view of the minority confirms the findings of Deressa (2013) who reported that agricultural projects have no positive effect on the food security of host communities in Bako TibeWoreda of the Oromia region in Ethiopia because the projects did not increase food supply in the district but, exported its outputs to foreign markets like Sudan, Kenya and the Asian market.

The nutritional level of farming households is not significantly influenced by the activities of large-scale land acquisition as revealed by the correlation results. Thus, the null hypothesis; large-scale land acquisition has no significant effect on the livelihood of smallholder farming households is failed to be rejected. Though statistically insignificant, the empirical results showed a negative effect of large-scale land investment on the nutritional status of farming households. All sampled households reported negative effect of large-scale land acquisition on the nutritional status of households. Households reported decline in crabs and mush rooms quality and quantity which used to be major nutritional foods to farming households.

Large-scale land acquisition has a significant positive effect on the healthcare of farming households in the Pru district. Therefore, the null hypothesis is rejected. About 82 percent of sampled households attributed their improved healthcare to the activities of large-scale land investors. However, in the community focus group discussions, it was revealed that companies failed to build health centres for communities as part of their promises and the health status of households never improved. The Pearson correlation coefficient of 0.128 suggests that large- scale land activities of investors have a significant low effect on the healthcare of farming households in the Pru district.

The correlation results showed that large-scale land acquisition has a significant positive effect on the income levels of farming households in the Pru district. The null hypothesis; large-scale land acquisition has no significant effect on the livelihood of smallholder farming households is therefore rejected. Only 21 percent of sampled households interviewed reported that large- scale land acquisition has an effect on its income levels. The Pearson correlation coefficient of 0.89 implies a strong effect of large-scale land acquisition on the income levels of farming households. On the contrary, households revealed in focus group discussions that the inception of large-scale land activities by investors have rather rendered households poorer than before. This confirms a study conducted by Quansah, Ansah& Mensah (2020) which revealed that large-scale land acquisition has a high effect on the human capital of farming households. Most participants stated that households were compensated between GH ¢80.00 to GH¢100.00 per acre for losing farm lands and were given between six to twelve months to relocate to different farms lands. The empirical findings of this study confirm Baumgartner *et al.,* (2013) who reported increased per-capita of both settler and native citizens of Ethiopia by over 50 percent as a result of the Saudi Star project operations.

## *5. Conclusion*

The Pearson correlation results showed that large-scale land acquisition has a significant effect on employment, food security, income levels and healthcare but not nutrition of the smallholder farming households in the Pru district of the Bono East region. The Pearson correlation coefficient of 0.890 implies that large-scale land acquisition has a very high effect on the income levels of smallholder farming households.

The integration of the global political economies through globalization makes it much easier to attract foreign investors to acquire large tracts of lands in deprived regions of the world for plantation and other developmental projects. In their quest for developments, governments of developing nations including Ghana lease out lands occupied by smallholder farming households to large-scale land investors for better livelihood of the host communities.

However, the taking over of farm lands belonging to smallholder farmers by large-scale land investors bring some form of vulnerability and immense effects on the livelihood of the smallholder farming households. Making the core regions benefit from most the capitalist world economy. The core region is the industrialized and most developed region of the world. Similarly, to the view of the Agropolitan theory and the Pedagogy of the oppressed by Paulo Frère (2005) that any larger form of settlement in the rural areas tends to exploit the rural people, thus, the urban elites, traders and local industries draw resources away from the rural areas.

Large-scale land acquisition has a significant positive moderate effect on the employment, health care and food security but, has a significant negative high effect on income levels of smallholder farming households. However, large-scale land acquisition has no significant effect on the nutritional status of farming households in the Pru district of the Bono East region.

### *6. Recommendations*

The study recommends that Metropolitan and Municipal District Assemblies (MMDAs) must formulate by-laws to ensure that large-scale land investors employ people from the host communities to embark in the projects. This follows the finding that large-scale land acquisition has a significant effect on employment. Few community members reported to be employed by large-scale land companies. The reason is that though companies promised to employ workers from within their operational communities, they tend to flout this promise and are not held responsible by any institution or law because there is no such by-law which enjoins them to abide by the promise.

Finally, given that farming is the main source of livelihood to farming households in the Pru district, taking over of their farm lands by large-scale land investors means a seizure or reduction in their livelihood sources. To restore farming households to normalcy, this study recommends that compensation package in the form of start-up capital sufficient to guarantee the livelihood of farming households should be given to households losing farm lands as a result of large-scale land acquisition.

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