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Local participation, institutions and land acquisition for energy infrastructure: The case of the Atuabo gas project in Ghana

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ABSTRACT

This paper examines the impacts of land acquisition for a gas processing plant at Atuabo on the livelihood of affected farmers. The paper explores the extent to which affected farmers participated in the determination of compensation paid out to them and whether and how the compensation package adequately caters for the lost livelihoods. Using the livelihood approach as a guiding theoretical tool and data produced through interviews, observation, cases studies, and informal discussions, the study found that farmers' involvement in the compensation process did not go beyond identification and measurement of their farms. With limited participation in the acquisition and compensation process, the farmers felt deprived of their entitlements and viewed the compensation as inadequate for their lost livelihoods and generational inheritance. It is recommended that the government actively engage with community members and traditional authorities to ensure that farmers are allocated new parcels of land for cultivation.

1. Introduction

The discovery and production of oil and gas has the potential to create jobs, generate revenue for infrastructure development and provide fuel for reliable energy (electricity) supply [1]. In the medium to long-term, oil and gas resources can be a game changer, catalysing processes of social and economic transformation. In 2007 Ghana discovered oil and gas in commercial quantities [2] offshore its western coast in two deepwater blocks which are currently operated as the Jubilee Field. Oil production from Ghana's Jubilee Field commenced in December 2010 [2]. Many have cautioned for proper management of expectations [3,4] taking into consideration the resource curse lessons in other African countries [5].

The government of Ghana initiated various measures to ensure the country derives maximum benefits from its oil and gas resources [6,7]. In 2011, a Ghana National Gas Development Taskforce was established to review and propose approaches to ensure full utilisation of the country's gas resource through a Gas Commercialisation Project. Based on the recommendation of the task force, the Ghana National Gas Company (Ghana Gas) was established. Ghana Gas was tasked to build, own and operate natural gas infrastructure to process, transport and market gas to meet domestic and industrial needs in the country. The production of stable indigenous gas for electric power generation is key

to offsetting the country's electricity deficit [8]. In recent years, Ghana has experienced unreliable power supply due to low water levels, which have resulted in the country's hydroelectric dams not producing at full capacity. Unreliable gas supply from Nigeria via the West Africa Gas Pipeline and increased demand are among key factors influencing Ghana's electricity deficit. The task force identified construction of a plant to process gas from the Jubilee Field as essential to bringing stability to the country's energy sector.

By the end of 2011, the Chinese government through the China Development Bank (CDB) granted the Government of Ghana a US\$ 3 billion Master Facility Agreement (MFA) [9]. Ghana is expected to pay the US\$3 billion loan over a fifteen and half year period with the supply of 13,000 barrels of oil per day [9,10] to be lifted by UNIPEC. UNIPEC is a subsidiary of Sinopec (Chinese Petroleum Company) which was awarded the contract to construct Ghana's gas processing plant. The CBD loan forms part of a larger US\$13billion loan agreement dedicated to the Western Corridor Gas Infrastructure Development Project, which is earmarked for various infrastructural projects including the construction and rehabilitation of roads, ports and oil and gas processing in Ghana [10]. As part of the MFA, Sinopec secured an amount of US\$850 million to construct a plant to process gas from Ghana's Jubilee oil field [11]. Construction of the gas processing plant commenced in 2012 at Atuabo, a small Nzema community along the coast in the Ellembelle

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District of the Western Region of Ghana. The project includes the laying of pipe from the Jubilee Field to the processing plant, the building of the gas processing plant and the laying of transport pipeline from Atuabo to Takoradi (one of Ghana's industrial hubs and oil city) where a thermal plant producing electricity from gas is located.

The installation of infrastructure for processing gas from Ghana's Jubilee Field resulted in the displacement of farmers from their land. This paper examines farmers participation in the land acquisition process, the process for determining compensation and the livelihood impacts of the project upon them. Drawing on the livelihood approach and data produced through interviews, observation and informal discussions with community members, state officials and community leaders, we argue that farmers' involvement in the compensation process was limited. There was no active and consistent engagement between the farmers, state institutions and Ghana Gas in determining the value of crops which were destroyed when the land was cleared for construction work. Additionally, while the impression was created that community members will be prioritised for employment opportunities on the project, few of them gained employment. This we argue is due to the politicisation of the recruitment, a limited number of skilled labour in the community and the large numbers of Chinese workers including unskilled labourers who were employed by Sinopec.

2. Conceptualising rural livelihood

Within development studies, the livelihood approach represents a shift away from structural explanations towards actor-oriented approaches to explaining rural livelihood outcomes. The livelihood approach draws on Amartya Sen's entitlement framework which focuses on peoples' endowment, entitlement set and entitlement mapping to explain famine [12,13]. In a series of works, Sen explored how the combination of all resources a person owns effects the goods and services a person can legally obtain to meet their needs [14,15]. Building on Sen's work various studies [see 16,17–20] have advanced the discussion on livelihood, with emphasis on people's assets. For Chambers and Conway [16] livelihood comprises peoples' capabilities or assets including resources, claims and access that provides a means of living. Livelihood from this perspective is sustainable when people can 'cope with and recover from stress and shocks, maintain or enhance [their] capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term' [22 in 20, p. 31].

According to Amalric [21], early use of the livelihood framework has focused more on organizations than on households or individuals, and on the political arena more than on making a living. The utility of the sustainable livelihood approach (SLA) in this study stems from its focus on participation and entitlements of the poor in the land acquisition process for the gas project. The SLA focuses on assets, shocks, institutions and organization as well as power relations [17,19,22] between actors, making it relevant for examining farmers' participation in the various processes as well as the impacts of land acquisition for the Ghana Gas project at Atuabo.

2.1. Livelihood assets and strategies

Assets are basically resources individuals and households deploy in the pursuit of their livelihood. For Carney, [22], assets include material and social resource stocks like Bourdieu's [23] notion of capital as resources individuals can draw on to meet their needs. Conceptualised as capital, assets are not limited to materials or purely economic notions, but also include social relations. Within the livelihood framework, five types of capital are identified; physical, social, natural, financial, and human [24]. These capital forms frequently do not exist in isolation and are often not distinguishable, and they can be converted from one form to the other [23]. For example, natural capital in the form of land signifies wealth (or what Bourdieu terms symbolic capital) and can be

used as collateral to access financial capital in the form of a bank loan. This financial capital can be used to pay for education which enhances the human capital or (cultural capital in Bourdieu's view). Similarly, a person's social capital which is embedded in their social relations or networks can enhance their access to financial capital (loan and financial assistance from kin and friends) as well as access to land. Physical capital such as infrastructure (roads, schools, treated water) also enhances livelihoods. Chambers and Conway [17] notes that the sustainability of people's livelihoods depends on the combinations of different assets or capitals.

Bebbington [19], Scoones [17] and Carney [22] have expanded these ideas, placing more emphasis on access to assets rather than on the asset themselves. They view access to one form of capital/asset as a means of accessing other forms, in a similar way to the transmutability of capital as espoused in Bourdieu's theory. Bebbington [19] argues persuasively for the broadening of the conceptualization of access to capital in situations where people's livelihoods changed from being directly dependent on environmental resources to a range of other livelihood assets. He notes that 'assets are not simply *resources* that people use in building livelihoods: they are assets that give the *capability* to be and act' [19, p. 2022].

Access to livelihood assets (asset portfolios) can, however, be reduced if access to such resources are limited or totally denied. It can be enhanced when investments are made or structures are transformed from people who hitherto were denied access but are now granted the right to use such resources for their livelihoods [17,24]. Investments in energy infrastructures such as the Ghana Gas project can potentially enhance or limit the livelihood assets of the people of Atuabo. Limited access or total denial of access to assets can lead to vulnerability of livelihoods while investment in any of the assets can greatly enhance livelihoods. As Swift [24] argues, investments are assets in themselves and can be in many forms, including infrastructure, farms, skills, children's education or social relations. Accordingly, construction of the gas project can trigger the structural transformation of farmers' livelihoods at Atuabo either positively or negatively.

An essential component of the SLA is the concept of livelihood strategies. This focuses on the various ways individuals, households and groups combine their assets to achieve livelihoods [17]. In the conception of livelihood strategies within the SLA, Scoones [17] outlines three broad strategies, including agriculture intensification and extensification, livelihood diversification and migration as some of the ways people adapt to change. In this paper, livelihood diversification is key to examining the extent to which compensation paid to farmers constitutes enough financial capital, which they can deploy in non-farm activities or access land (natural capital) to continue on-farm livelihoods. Livelihood diversification aims at coping with temporary adversity or more permanent adaptation of livelihood activities when other options are failing to provide a livelihood [17].

2.2. Shocks and vulnerability of rural livelihoods

In conceptualizing livelihood vulnerability Carney [22] identifies three important elements: shocks, trends and seasonality. The conception of shocks is the most important to this study because appropriation of land for the gas project can occur in a manner that potentially limits the extent of farmers' adaptation. The factors influencing the vulnerability of Atuabo farmers are external to the local people. Institutions such as Ghana Gas, Sinopec and the Land Valuation Division (LVD) of the Lands Commission are external to the community and their activities and decisions directly affect farmers in numerous ways.

According to Rakodi [25, p. 14], 'policies, the interactions of processes and institutions are factors that affect the vulnerability of individuals, households and communities'. In this case, the policy of the state to build a gas plant and institutional processes leading to the acquisition of the land are important factors with consequences for farmers. The extent to which individuals, households and communities

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