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# The political economy of land access for large-scale solar photovoltaic projects in Ghana

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## Summary

The Government of Ghana prioritises the adoption of utility-scale solar photovoltaic (PV) power projects. This is part of its strategy to increase the share of renewable energy sources, diversify the national generation mix, and to meet its low-carbon development goals. However, one of the major challenges facing the development of such projects is the difficulty in accessing suitable land.

To fully realise the potential of solar PV in Ghana, it is crucial to streamline the land acquisition process and engage effectively with local communities whose lands will be used for these projects. This policy brief examines investors' experiences with land acquisition processes, as well as the responses of host communities to the introduction of solar PV projects.



Evidence gathered from key informant interviews and site visits highlights the varying experiences of investors based on geographical context, land acquisition routes, and the prevailing land tenure systems. Based on these findings, the brief offers key policy recommendations to address the challenges and enhance the development of utility-scale solar projects in Ghana.

## Policy Recommendations

- The creation of land banks for potential Public–Private Partnerships (PPPs) would provide a strategic mechanism to mitigate the risks associated with land acquisition for prospective investors while simultaneously expediting the deployment lead-times of projects.
- Due diligence is required from investors to identify ownership of lands in project targeted areas and to be aware of any encumbrances or competing claims over these lands. For this, early engagement with physical planning officers is a must for solar PV developers.
- Investors should engage early with communities so that people are aware of the development and have a realistic understanding of its objectives, scope, and potential benefits and limitations.
- There is a need to create employment opportunities for residents, even if it necessitates investment in education and training programmes.
- Investors must implement a community grievance management strategy that builds trust and addresses perceived or actual inequitable distribution of benefits.

## Introduction

In Ghana, large-scale land acquisition (LSLA) presents a multifaceted challenge due to the intricate nature of the land tenure system, policy frameworks, and governance structures. However, a comprehensive understanding of how this complexity intersects with investments in clean energy, particularly solar power, is lacking.

Numerous challenges associated with land acquisition for investment purposes in Ghana have been documented. Table 1 provides a summary of the literature which identifies challenges associated with LSLA for renewable energy developments in sub-Saharan Africa (SSA).

These challenges include fragmented land ownership structures, inadequate technology infrastructure for land data management, and inefficient access to reliable land information. Despite these hurdles, Ghana aspires to increase its renewable energy capacity, with plans to install close to 1,000 MW of solar PV systems by 2030, predominantly via large, utility-scale projects. However, this ambitious endeavour is hindered by various factors, including the land requirements for solar PV installations and the complexities surrounding land rights and just compensation for local landowners, particularly in impoverished regions like northern Ghana.

**Table 1: Challenges associated with land acquisition for renewable energy developments**

Policy/Political	Regulatory/Institutional	Financial	Rising costs/economical	Supply chain logistics/infrastructure	Technical know-how/technological	Land rights/access	Socio-cultural	Environmental/ecological
Ambiguities/uncertainties/instability	Permitting difficulties (planning and environmental)	Long-term capital financing difficulties	Interest rates	Supply of equipment/logistics difficulties	Limited technological capabilities	Difficulty in obtaining land rights	Social/community acceptance	Threats to sensitive areas
Trade restrictions	Long authorisation and approval procedures	Inadequate access to finance	Equipment costs	Access to grid connection	Limited technical experience in operating and maintaining renewable technologies	Unclear land ownership rights	Information/awareness barrier	Site-selection difficulties
Corruption and bureaucracies	Complex Environmental Impact Assessment requirements	Insufficient incentives (tax rebate)	Inflation/currency fluctuation	Weak grid infrastructure	Lack of experience in renewable energy development	Land access difficulty		
			High commodity prices	Grid infrastructure expansion difficulties				
			Operational costs					

Sources: [1-10]

To fully harness the potential of solar PV, and renewable energy in general, Ghana must address these challenges by streamlining the land acquisition process, promoting social justice through meaningful engagement with local communities, and exploring innovative approaches such as agrivoltaics. While high-level policies and plans acknowledge the importance of addressing these issues, translating them into actionable strategies remains imperative for the success of solar PV projects in Ghana and SSA

more broadly. Failure to do so risks exacerbating existing social tensions and perpetuating injustices, as evidenced by challenges encountered in other renewable energy projects [11].

This research investigated land governance systems and the development of renewable energy projects, specifically utility-scale solar projects in Ghana. It did so by examining the land acquisition process from the perspectives of public and private investors and affected communities. By bringing together key

stakeholders from the solar PV, land ownership, and land acquisition sectors, this study aims to support informed decision-making and collaborative efforts to ensure sustainable and equitable development in Ghana's renewable energy landscape.

## Methodology

To map and understand land governance in Ghana, including how governance arrangements impact the development of utility-scale solar, a mixed-method approach was used. This involved a review of the policy landscape, which covered policies and legislation relating to land governance and renewable energy. Adopting a case study approach, we focused on seven utility-scale solar projects across the country (**Figure 1**) based on production output at the megawatt scale (**Table 2**). Site visits to all seven utility-scale solar projects across the country were conducted in November 2023. This was complemented by key informant interviews working at the intersection of land and renewable energy.

Figure 1: Map showing case study locations



Source: [Authors' construct 2024]

Table 2: Case study solar PV projects

Solar plant	Location	Land size (acres)	Plant capacity	Land acquisition	Prior land use	Status
BPA Solar Farm	Yendi	141	51 MW	Private Treaty	Subsistence farming	Not operational (under construction)
VRA Solar PV Farm	Navrongo	11.79	2.5 MW	Private Treaty	Subsistence farming	Operational since 2013
VRA Solar PV Farm	Lawra	15.15	6.5 MW	Private Treaty	Subsistence farming	Operational since 2020 (unit A) and 2022 (unit B)
VRA Solar PV Farm	Kaleo	95.65	23.85 MW	Private Treaty	Subsistence farming	Operational since 2021 (units A and B)
VRA Solar PV Farm	Bui	45590,66	50 MW	Compulsory acquisition*	Unknown	Operational since 2020
BXC Solar Power Plant	Gomoa-Onyadze	300.17	22 MW	Private Treaty	Subsistence farming	Operational since 2016
Meinergy Solar PV Farm	Gomoa-Onyadze	125	25 MW	Private Treaty	Subsistence farming	Operational since 2018

Note: \*signifies that the overall project is part of a wider acquisition process for different renewable energy projects. The process was through compulsory acquisition and phase 2 of the floating solar farm is still under construction. More details are provided in the main report.

The study documented the land acquisition process through these seven solar projects, which have different investment and land ownership structures. The process tracing approach enabled an examination of various pathways to land acquisition, including the challenges faced by investors. The study also explored community responses to the different pathways through a combination of interviews, observation, and informal discussions (see **Table 3** for a summary of interviewee groups).

### The Land Acquisition Process

Prior to the completion of a sale, the vendor is expected to provide a title to the land. However, often no such title exists, and the buyer must therefore trust their instincts and the goodwill of the vendor. Would-be-purchasers must conduct due diligence so that they do not breach the legal principle of ‘caveat emptor’, namely that the buyer purchases at their own risk. Transactions will typically be oral in nature, especially within informal areas, but it should be noted that the absence of a formal title document does not mean that the sale cannot be corroborated. Although oral grants might seem risky in formalised societies, this is how some lands exchange hands in Ghana. It is then the responsibility of the buyer to regularise the transaction by getting all the lease documents processed.



**Table 3: Table of interviewees**

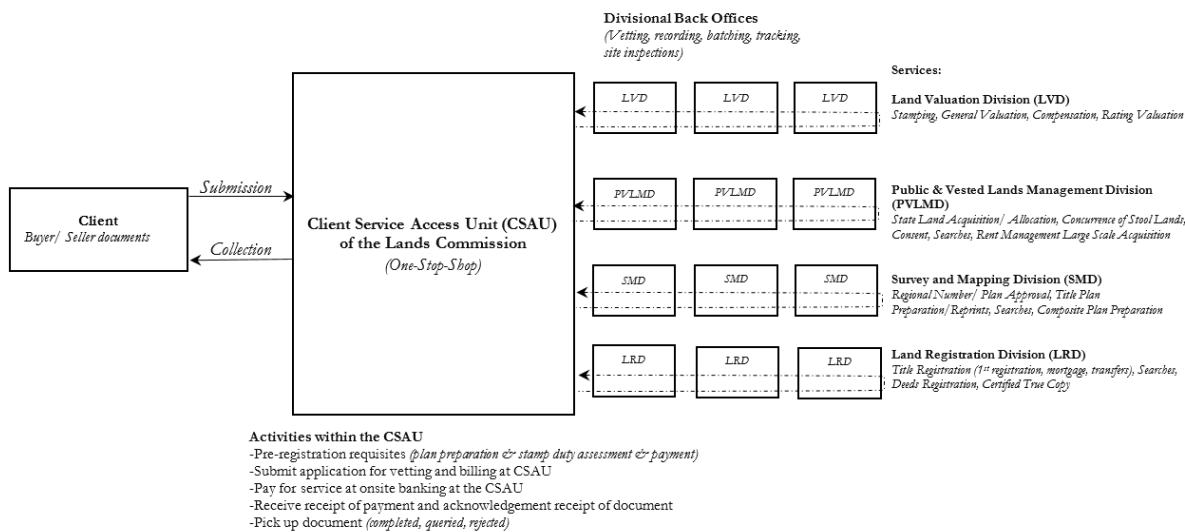
Category	# of Interviewees
Community members	12
State-owned developers	3
Private developers	4
Civil society groups	3
Government agencies	3
University	2
Regulator	1
<b>TOTAL: 28</b>	

Source: [Authors' construct 2023]

The procedure for registering a land title at the Lands Commission is as follows. A prospective buyer will apply for a composite search at the Lands Commission through the Client Service and Access Unit (CSAU) to ascertain the actual owner(s) of the land. Once the search is verified, the buyer can then proceed to make payments to the landowner(s) and receive a signed lease agreement. The buyer then picks up the title registration forms from the CSAU and fills and submits the forms with requisite attachments. Various checks are then carried out, including public notice of the proposed sale, which gives time for objections, conflicting interests, or recorded transactions to be raised and resolved, for example through physical inspections. The signed land title certificate is then recorded in the Commission’s database, and bound, embossed, and forwarded to the CSAU for collection by the applicant. The final, post-transaction phase includes the payment of the necessary ground rents, as well as property rates.

This process, including the different routes that can be taken, is summarised in Figure 2. The conveyancing process is seemingly complicated and takes a lot of time to complete. However, forthcoming changes in terms of digitisation and automation are expected to reduce the time and costs to buyers, as well as increase the efficiency of service delivery.

Figure 2: The conveyancing process and interface with the Lands Commission



Source: [12]

## Results and Discussion

Here we explore the complexities and obstacles encountered by investors, highlighting key issues and concerns arising from the research. Investors emphasised that **dealing with multiple landowners** during the pre-acquisition stage can be a daunting task. The challenge arises from the diverse objectives that each owner may have, which makes it difficult to reach a consensus on compensation payments. Moreover, changes in leadership within a family or clan may necessitate renegotiating terms with the new leader or head.

“Coming into a particular community, [an] initial attempt was made in negotiating payments for acquisition. Later on, entry made to complete payment was met with engaging a different leader who necessitated renegotiating terms. This challenge is a result of changes in leadership within a family or clan either from death, dispute, or transition.” (Developer 1, January 2024)

This process can resemble acquiring the land anew, creating a significant disincentive to invest, as the associated costs mimic the challenges of double land sales of the same piece of land. Investors explained that the land acquisition process became easier where the District Chief Executive (DCE) acted as a liaison officer.

“Engaging the DCE or physical planner at the district level is crucial as they can determine the rightful owner of the lands and support you in the acquisition process.” (Developer 2, January 2024)

**Adequacy of compensation** is another challenge for investors. Although compensation payments must be agreed and paid before the start of the project, in some instances, there was the perception among community members that the compensation amounts were inadequate, outstanding, or not paid to some members of the community who might not have been identified as ‘key’ during the negotiation stage. This situation arose when compensation payments were not paid to affected claimants directly but given to local chiefs for onward re-distribution

to affected parties. In many cases the money did not trickle down. We found evidence to suggest that although full compensation was paid in most instances, some communities subsequently felt that they had been short-changed and appealed to be paid more money. Such instances at times resulted in youth-led agitations and demonstrations at project sites and could incur huge financial cost to investors as further payments were not planned. Here we explore the complexities and obstacles encountered by investors, highlighting key issues and concerns arising from the research.

*“There were individuals showing up every year to claim compensation and others appealing to be paid more.”*

(Developer 1, January 2024)

**Double sales of land** were a concern for investors. Fieldwork in Yendi, Navrongo, Lawra, and Kaleo suggested that double sales do not occur as it is believed that the gods deal severely with people who sold lands that do not belong to them. These communities believe that even the thought of selling land that did not belong to the person can result in immediate death. However, in Gomoa Onyadze, it was suggested that investors were concerned about double sales and made doubly sure of landowners before making any payments. This is because when money was paid wrongfully in the past, retrieving payments was virtually impossible.

**Ceding part of the acquired land back to the community**, there have been instances where investors have had to return a portion of the land to the community due to misunderstandings regarding the initial size of the acquired land. Typically, the acquired lands exceed immediate needs, allowing for future expansion considerations. To safeguard these lands from encroachment and theft, investors often constructed fences and walls to provide



additional security. However, evidence from the fieldwork suggested that in cases where financial constraints prevented investors from erecting a security fence along the entire perimeter of their land, subsequent fence construction was perceived by community members as a new acquisition requiring further compensation. This situation led to misunderstandings and confusion within the community. To ensure peace and community cohesion, investors would likely then cede part of the land.

### **Future expansion and ‘overpriced’ land.**

Related to the above, investors expressed concerns regarding future expansion of their energy projects and the perceived subsequent overpricing of adjacent land parcels. They noted that acquiring additional land around the current project site posed significant challenges, primarily due to what they considered inflated prices. According to investors, neighbouring lands were intentionally kept undeveloped, with the expectation of leveraging future demand for expansion projects, such as solar farms. The deliberate strategy of leaving neighbouring lands unused aims to capitalise on anticipated profits from the solar farm business. Investors observed that these lands are held strategically in reserve, with the implicit intention of offering them on a take-it-or-leave-it basis when expansion becomes necessary. This approach leaves investors with limited options, often resulting in the need to pay substantial sums to secure the desired land for expansion purposes.

**Technical jobs are not available to local community members** as local expertise was not readily available. During stakeholder consultations during the pre-acquisition stage, the discussions centred on how these solar farms can provide jobs within the local community. In many cases, jobs were available during the construction phase and not the operational phase of the project because local expertise was often lacking. In communities in northern Ghana, women were employed to clean the panels; however, in southern Ghana there was some scepticism about whether women were able to fulfil this role, which was reserved for men:

*“ In this community, cleaning of the panels is seen as challenging by women. It is a difficult task and is typically reserved for men. ”*  
(Community member interviewee, November 2023)

There have been suggestions that local community members, in the mid- to long-term, receive training to build their capacity to manage and maintain these solar plants.

### **Sustained engagement with communities.**

Community members expect investors to uphold the maintenance of Corporate Social Responsibility community infrastructure.



*“ We expect that the infrastructures put up by the investors be both maintained and managed by them. ”* (Community member interviewee, November 2023)

However, in numerous instances, investors perceived these financial investments as one-time commitments, resulting in the neglect and deterioration of such infrastructure over time. Unfulfilled commitments of investors to promised community interventions and development initiatives, including schools, roads, water access, skills training, and scholarships, have led to community resistance to new renewable energy investments. This was exacerbated by difficulties that community members faced gaining access to the managers of large-scale solar projects once agreement on land acquisition had been reached.

### **Compliance with the land registration**

**process.** Investors and developers explained that legal compliance, which is the last stage of the land registration process, is the most difficult part of the acquisition process. They highlighted that much documentation is required, which can be time-consuming to obtain and often involves navigating complex bureaucratic procedures. Additionally, they noted that the accuracy of documentation and the clarity of property boundaries were crucial, and any discrepancies could lead to significant delays, additional costs, or even legal disputes. This complexity makes it challenging for investors and developers to proceed with confidence, often resulting in prolonged project timelines and increased costs. Despite these hurdles, compliance with the land registration process is essential to secure property rights and mitigate the risks associated with land acquisition.

*“Even though the registration stage is a difficult one, it is important to register a project of such magnitude to be able to legally secure full rights to the land.”*

(Developer 2, January 2024)

Creation of land banks and potential for public-private partnerships. Developers who have already implemented projects admitted that the land acquisition process was not an easy one and was often fraught with ownership, transfer, and registration risks. They recommend that some preliminary efforts should be made by state agencies – such as the Lands Commissions, the Ghana Investment Promotion Centre, and the Energy Commission – to identify potential locations for utility-scale solar PV projects and create land banks. This would improve investment-readiness of the sector. The state-owned project developers also indicated their willingness to enter such arrangements with lands that they have already acquired.



*“I would wish there were a time when an investor who wants to go into solar can go to the Lands Commission and say ‘advise me on the areas that are available for me to do my feasibility’..., and who are the interest holders and what are the current values, so that they can budget upfront.”*

(Developer 3, January 2024)

*“I will advise private entities to enter into public-private partnership so that you have a public entity partnering with them. Then that public entity could be the anchor to aid or facilitate some of the acquisition processes.”*

(State-Owned Developer, January 2024)

## Conclusions

Gaining support and ensuring that the local community is aware of the objectives and advantages of the project requires early community engagement. Investors can encourage community ownership and approval of the project by establishing a community-benefit structure.

In order to determine who owns land in desired locations and to look for any encumbrances or conflicting claims, investors must perform extensive due diligence. This guarantees a more seamless purchase procedure and reduces legal conflicts. The Lands Commission, Energy

Commission, Environmental Protection Agency, district planning officers, GRIDCO managers, and Ghana Fire Service are a few government agencies that can work with local physical planning officers to expedite the process and verify land ownership.

Finally, putting a grievance management strategy into practice is also crucial. It assists in resolving grievances that may originate from real or perceived unfair benefit distribution or other outside circumstances. This strategy helps to keep solar PV projects sustainable over the long run while also maintaining good relationships with local communities.



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