AJLP & GS
African Journal on Land Policy and Geospatial Sciences

e-ISSN : 2657-2664, Vol. 5, Issue.3, May, 2022

https://revues.imist.ma/index.php/AJLP-GS/index

https://doi.org/10.48346/IMIST.PRSM/ajlp-gs.v5i3.32478 ***Category of the manuscript : Articles***

***Received in**: 8th August 2021* **Revised in: 16th August 2021** ***Accepted in**: 21st October 2021*

POLITICAL ECONOMY ANALYSIS OF HOW CORRUPTION AFFECTS CLIMATE CHANGE ADAPTATION AND MITIGATION:

A Case Study of the Forest and Land Governance Sectors of Ghana

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ABSTRACT

Context and background

Land and forest play a critical role in climate change since a rise in deforestation and land degradation contributes to greenhouse gas emissions and global warming. If there is one thing that will sabotage efforts to address deforestation and the climate crisis, it is corruption. Yet corruption is strangely missing from the discussions and academic literature on forest and lands in many countries. In Ghana, how corruption in the land and forestry sectors affect climate change adaptation and mitigation has received very little attention. This study addresses this issue from a theoretical and empirical stand points.

Goal and Objectives:

The objectives of the study are (a) to assess the causes and types of corruption in the forestry and land use sector and (b) to analyze how these types of corruption affect climate change adaptation and mitigation, and (c) to assess the anti-corruption measures in place to deal with these types corruption.

Methodology:

The study adopted a mixed method approach involving a review of relevant literature on forest and land governance in Ghana as well as a review of literature on corruption and climate change. This was supported with expert interviews and discussions.

Results

The study found out that different types of corruption exist in the forestry and land use sector that affect climate change adaptation and mitigation including elite capture of benefits from climate change programs, extortion of money for land services, bribery of forestry officials, kick-back and rent-seeking. Existing anti-corruption structures in place have not been effective in dealing with these types of corruption in Ghana due to weak judicial system, politicization of corruption and crime and lack of political will to enforce laws. The study recommends depoliticization of corruption, enforcement of anti-corruption laws and empowerment of local stakeholders to play the watch-dog role.

Keywords

Political economy, climate change, corruption, forest and land governance

1. INTRODUCTION

Forest and land play a critical role in climate change adaptation and mitigation since a rise in deforestation or land degradation contributes to a rise in greenhouse gas emissions and global warming. Over the years, condition of Ghana's forests has been in decline. Particularly, since the 1970s, forest reserves are heavily encroached and degraded, and the off-reserve stocks are being rapidly depleted (Ghana's RPP, 2010). The Forest Investment Plan of Ghana (2012) reports that Ghana has rapidly changed from a net sink of carbon to a source (25%) of greenhouse gas emissions. This development poses great challenge to the countries fight against climate change. By and large, the problem of land degradation and deforestation in Ghana is one of gradual and incremental phenomenon rather than dramatic problem, with no single dominant driver. The underlying causes involve a complex mix of demographic, economic and policy influences while the immediate drivers include policy and market failures, weak law enforcement and corruption (Ghana's RPP, 2010; Bugri 2012).

Arresting deforestation and land degradation is an important priority for the country, and Ghana has already embarked on several forest and land governance initiatives to address these challenges. The most notable ones include the Land Administration Project (LAP), the Forest Law Enforcement, Governance and Trade (FLEGT) Initiative, and the multi donor sector budget support through the Natural Resources and Environmental Governance Program (NREG). Despite these initiatives' deforestation and land degradation in Ghana has not stopped (Opoku 2018). Even though corruption has been identified as one of the major drivers of deforestation and land degradation in Ghana, little studies have been done to understand these complexities. This study focuses primarily on the Ghanaian setting to provide a more in-depth, rather than a broad, analysis of corruption in land and forest governance, while referencing important cases and experience from other countries.

In the forestry and land sector, corruption has been linked to unresponsive, unaccountable, and weak governance, which has an impact on control over resource access (Koechlin et al 2016). Perceptions of how individuals pay bribes for access to land and forest resources are widespread (TBI 2011; Koechlin et al 2016). These are alarming findings, particularly because land is an asset for which the government has control over the allocation and distribution of rights. The rise in large-scale land acquisition in Ghana, as well as 'land grabbing' for mining and its associated human rights abuses and illegal enrichment are additional sources of worry when it comes to the drivers, patterns, and types of corruption in land governance. Even though scientific interest in corruption have grown significantly in other countries, there is still a gap in research in developing countries, particularly Ghana on how corruption in the forest and land sectors affect climate change. This study addresses this issue. This paper seeks to assess the causes and types of corruption in land and forest governance and its effects on climate change and provide evidence-based recommendations to address corruption, with a particular focus on Ghana.

2. METHODS

2.1 Approach for analyzing corruption in the lands and forestry sectors

Tacconi (2011) and Arts et. al. (2006) has demonstrated numerous approaches in which a phenomenon like climate change and corruption can be studied. This approach includes using mixed methods to support each other. Over the past decades, corruption has been widely studied using several methods including score cards, afrobarometer and perception surveys. In the absence of primary data on corruption, one can fill the knowledge gap by putting together relevant literature to make a logical conclusion of the problem. The critical issue in such situations is to inquire from experts and key informants how far the different information scattered in literature and such rationalizations reflect with the facts on the ground. In this study a mixed method approach was used to gather relevant data for analysis. The mixed methods employed was based on an inductive approach and iterations from previous works done by Transparency International and the World Bank on corruption in Africa (Koechlin et al 2016). The mixed method included a review of relevant forest management and land governance literature in Ghana as well as a review of corruption assessment reports and anti-corruption frameworks. This was supported with expert interviews and discussions. Without the chance of collecting primary data and information, the findings would have heavily depended on secondary data. To avoid this problem and the bias some secondary data may entail, the data collected in this study was triangulated with expert opinion in the study area. Egestad (2002) compared this approach with taking pictures with an x-ray camera as compared to a normal or regular camera. An x-ray camera always presents a totally different image from a regular or normal camera. However, none of the different images are more accurate, but in various cases, different images could be useful for understanding a phenomenon.

3.0 THEORETICAL AND CONCEPTUAL FRAMEWORK

3.1 A political economy analysis of corruption in forest and land governance

The word "political economy" can be interpreted in a variety of ways. Its roots can be traced back to Adam Smith's work related to the wealth of nations and previous studies by David Ricardo and Karl Marx's (Mcloughlin, 2014). It relates to the conditions of production organization in nation-states (Rose-Ackerman, 1999). The analysis of political economy aims to posit development issues within a broad contest of power (DFID, 2009). Specifically, the motivation and incentives shaping human relationships as a results of power distribution and power contestation between different stakeholders and segments of the society. Regarding climate change mitigation and adaptation, political economy analysis is concern with what is achievable or not achievable within socio-political structures over a specific timescale (Kotkin and Sajó, 2002; Adam and Dercon, 2009). Political economy examines the connections between politics and economics using theories from a broad area of economics, politics and social science. Our assumption is that politics and economic relationships at different levels (sectoral, national and transnational) affect corruption in the lands and forestry sector. Hence, the analytical framework draws on political economy analysis to enable a deeper understanding of these issues (Koechlin et al., 2016).

Our conceptual framework for a political economy analysis is based on four dimensions depicted in figure 1. The framework indicates the many levels at which politics, power and governance occurs.

The four dimensions where governance occur are the transnational level, country level, sectoral level and the level driven by a problem.

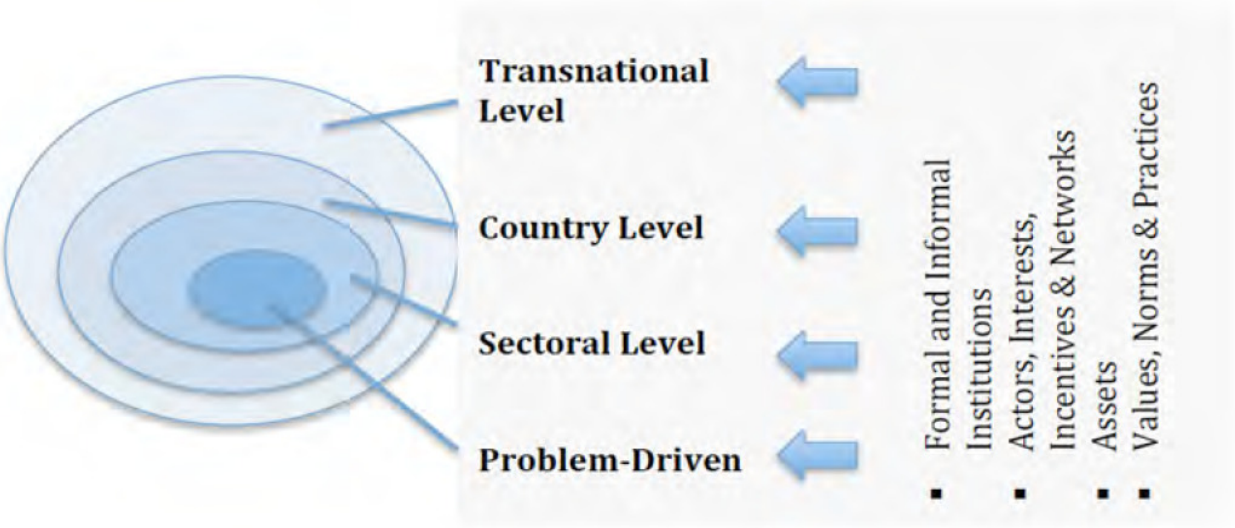

Figure 1. Levels and dimensions of political economy analysis

Source: Koechlin et al., (2016:14) based on DFID (2009: 8) and Hudson and Leftwich (2014: Chapter 7)

These layers are becoming increasingly permeable and interwoven as a result of globalization, but their analytical separation is still necessary to identify specific people, institutions, assets, and norms affecting corruption (Koechlin et al., 2016). Actors, dynamics, and institutional frameworks that transcend national boundaries, such as multinational corporations, are included at the transnational level. For the purposes of this article, our political economy analysis will cover land governance assessment not only in Ghana but different countries at the transnational level. The country level encompasses the larger political economic environment on national issues of allocation and recognition of rights, mapping and registration of communal lands, land tenure rights recognition, transparency and the general legal and regulatory framework on corruption in national land administration and governance. The sectoral level examines distinct land governance institutions and actors, as well as their interrelationships on land administration system and corruption. Finally, a political economy approach should also focus on a problem driven topic of which climate change was considered in this study.

4.0 FINDINGS

4.1 Corruption in forest and land governance at transnational level

Our study identified several definitions of corruption, that are relevant for land governance at transnational level. For example, corruption is defined as dishonesty and criminal offense for private gains by persons or an organization vested with power and authority (Mauro, 1995, Kaufmann and Kraay, 2002). Corruption is also considered as the misuse of vested power for personal gains (Urra, 2007; Koechlin, et al., 2016). At the transnational level, corruption in the forestry and land sector can be grouped into two main forms (i.e., petty and grand corruption) and comes in different types such

as "extortion of money, bribery of public officials, fraud and fraudulent acts, influence peddling and nepotism as well as embezzlement of funds and favoritism. Modest bribe, huge kick-back and rent-seeking behavior are all forms of corruption. The underlying causes and drivers of corruption are complex and may include unchecked bureaucratic processes, poverty, poor financial conditions, greed, weak legislation, lack of political will as well as weak judicial systems and law enforcement (Hellman and Kaufmann, 2001; Boone, 2009). Other forms of corruption are political patronage and the so-called patron–client relationships that are endemic in some developing countries (Moody-Stuart, 1998; Robinson, 1998; Chabal and Daloz, 1999; Rose-Ackermann, 1999; Khan, 2000; MacInnes, 2015). For forest and land governance, the difference between 'petty' corruption and 'grand' corruption, lies in the financial gains. Petty corruption was identified as a form of corruption involving smaller amounts of money with lesser impact on a country. Petty corruption is mostly ignored by stakeholders in the forestry and land sector, but its long-term cumulative effects are more daring than grand corruption. In many countries grand corruption is highly recognized since it involves gargantuan and more startling sums of money with long lasting impact on a country (Chabal and Daloz, 1999; Hellman and Kaufmann, 2001). Petty corruption involves routine offering of money in the form of tiny bribes while grand corruption involves big kickbacks. Administrative forms of corruption are often minor, comprising "speed money" or "facilitation fees" for official procedures like getting a license for timber harvesting or a permit for land business or its registration. Another form of corruption which more endemic in developing countries including Ghana is political corruption involving senior officials in high places or local administrations especially as devolution and decentralization spread. In this context, elite capture of benefits from land and forests denoting the corruption of political and economic elites may suffice (Hellman and Kaufmann, 2001).

4.2 Corruption in land governance at the country and sectoral level

The misuse of power by land professionals at the national and sectoral level for personal gains while undertaken land related functions is often regarded as corruption in land governance. Similarly, when nonprofessionals can influence land governance structures for personal gains, corruption is more likely. Our findings support the notion that land governance at both the national and local levels is prone to corruption. Not only do ordinary land users suffer additional expenses in the form of bribes and informal payments when it comes to gaining land rights and access to land services, but larger concerns of political patronage and impunity throughout society also complicate land governance. Attempts by Ghana at improving land governance at both the national and sectoral levels have achieved modest results. A review of land governance in Ghana using the World Bank's Land Governance Assessment Framework (LGAF) indicates that the country's performance on several indicators including mapping and registration of individual lands as well as financial sustainability of registry is poor.

Table 1. Land Governance Assessment Framework

	DRC	GMB	GHA	MDG	MWI	MRT	NGA	ZAF	SSD	SEN	BRA	GEO	PHL
Recognition of a continuum of rights													
Land tenure right recognition (rural)		A	A	A	B	C	A	B	C	A	A	A	A
Land tenure right recognition (urban)	A	A B	A	C	C	A	A	B	D	C	B	A	B
Rural group rights recognition	C	C	A	B	C	C	C	B	B	A	C	D	A
Urban group rights recognition in formal areas	B	C	B	D	C	B	C	C	C	C	C		A
Opportunities for tenure individualization	D	C	B	A	C	A	C	C	C	B	B	D	B
Enforcement of rights													
Mapping/registration of communal land	D	D	D	D	D	D	D	D	D	D	B	D	B
Registration of individual rural land	D	D	D	D	D	D	D	A	D	D	A	A	D
Registration of individual urban lands	D	A D	D		C	A	D	A	C	D		A	C
Formal recognition of women's rights		D	D	C	C	A	D	A	D	D	A	C	C
Condominium regime	A	C	C	A	C	D	B	A	D	A	A C	C	A
Compensation due to land use charges	D	C	C	C	C	B	B	B	D	B	D	D	B
Mechanisms for recognition of rights													
Non-documentary evidence to recognize rights	B	A	C	C	B	B	C	C	D	C	C	B	B
Recognition of long-term possession	B	D	C	A	B	A	D	C	A	D	A	A	A
Formal fees for 1st time registration		D	C	D	B	B	D	D	C	D	C	A	A B D
No high informal fees for 1st time registration		D	D	D	B	A	C	B	D	A	A	A	B C
Formalizing housing is feasible and affordable	C	C	C	D	D	A	C	C	C	B	C	A	C
Clear process for formal recognition of possession	D	B	C	B	B	D	C		B		C	B	A
Restriction on rights													
Restriction on urban land use, ownership and transferability	B	A D	B	B	B	C	B	B	C	B	A	C	B
Restriction on rural land use, ownership and transferability	B	A	B	B	B	C	B	B	D	B	B	A	A
Clarity of institutional mandates													
Clear separation of institutional roles	B	C	B	C	C	C	B		D		C	A	A

Institutional overlap	C	C	C	B	C	D	C		D		C	A	C
Administrative overlap	C	C	B	B	B	A	B		D		C	B	C
Information sharing among institutions	B	D	B	D	C	D	B		D		D	B	A
Equity and Nondiscrimination in the decision-making process													
Clear land policy developed in a participatory manner		D	B	C	B	D	C	C	C		C	C	A
Meaningful incorporation of equity goals		D	C	B	C	A	C	C	C		C	C	C
Cost of implementing policy is estimated, matched, resourced		D	C	B	C	D	D	C	D		C	B	C
Regular public reports on progress in policy implementation		D	C	B D	D	D	D	C	D		C	B	A
	DRC	**GMB**	**GHA**	MDG	MWI	MRT	NGA	ZAF	SSD	SEN	BRA	GEO	PHL
Completeness of Registry information													
Mapping of registry records	D	A	B	D	B	C	D	A	D	B	A B	C	D
Relevant private encumbrances	A	C	A	C	A	B	A	A	D	A	A	A	A
Relevant public restrictions	A	D	C	D	A	C	C	C	D	A	A	A	A
Searchability of the registry	D	A D	C	C	A	B	A	A	A	C	A	A	A
Accessibility of the registry records	A	B	A	A	B	A	B	A	C	A	A	A	A
Timely response to requests	C	A D	B	C	B	D	C	A	D	B	B	A	A
Reliability of registry records													
Registry focus on client satisfaction	D	D	B	D	B	D	D	C	D	D	B	A	C
Cadastral/registry info up-to-date	C	D	B	C	C	C	D	A	D	B	D	D	C D
Cost effectiveness, Accessibility and Sustainability													
Cost for registering a property transfer	B	D	C	D	D	B	D	C	D	D	A	A	D
Financial sustainability of registry	A	A	D	B	D	D	D	A	C	A	A	A	A
Capital investment in the system to record rights	C	D	C	C	D	D	D	A	C	B	D	A	A B
Transparency													
Schedule of fees for services is free	A	B	C	B	B	A	C	A	D	A	A	A	A
Informal payment discouraged	D	D	D	C	D	B	B	A	D	D	A	A	B

Source: adapted from Deininger et al. (2014: 86)

4.3 Actors, assets, values, formal and informal institutions

The main actors in the land sector of Ghana are the Ministry of Lands and Natural Resources, the Judiciary, Chiefs and Traditional Authorities, the Lands Commission comprising the Mapping Division; the Land Valuation Division; the Land registration Division and the Public and Vested Land. Other stakeholders include Real Estate developers and the Ghana Institution of Surveyors. The prevalence of discretionary power within land administration; the role of parallel institutions for land management, including overlapping formal and customary institutions and the partial or nonrecognition in law of established customary rights; and extensive state powers and opaque procedures for the allocation and privatization of public land were identified as systemic enablers of corruption among state institutions and actors. For the judiciary, poor law enforcement and corruption in the judicial system has been a source of worry. In Ghana, the number of land cases in the courts is overwhelming. The World Bank provided an estimate of 35,000 cases. However, Crook (2004) argued that the number may be significantly higher. Despite the rising number of land cases in Ghana, the country's judicial system has not been very effective and efficient in dealing with land cases and disputes. Moreover, in 2015, Ghana's judicial system was hit by cases of corruption involving 180 judicial officials including 34 judges who were caught on tape accepting bribes to favor judgment (US Department of State 2017). Following the documentary 22 judges were interdicted to face investigations (GAN Integrity 2018). However, until today, none of the corrupt judges has faced criminal prosecutions (US Department of State 2017). While there is limited proof of government's interference in the countries judicial systems, corruption in law enforcement continue to undermine land governance and administration in the country leading to undue delays in court cases and unreasonable verdicts. In addition, low remuneration of judges as a result of scarce resources has culminated in undermining the integrity of the judicial services. This has led to judicial service workers extorting money and taking bribes at high level (GAN Integrity 2018). Even though large corruption cases are sent to court; however, the legal proceedings are usually long, and convictions end up being slow (US Department of State 2017; GAN Integrity 2018).

4.3. Corruption in forest governance at country and sectoral level

Corruption in the forestry sector has serious consequences on climate change adaptation and mitigation in many parts of the world. Previous studies have shown how corruption leads to illegal forest activities when it goes unchecked (TBI, 2011). According to the Transparency International, even though the forestry sector ranks low compared to other business sectors in terms of payments of bribes, however, because of the tight ties between corruption and deforestation, and its impact on climate change and livelihoods, corruption in the forestry sector is of particular relevance. Figure 2 presents the relationship between deforestation and corruption, which clearly shows that in many countries, the inability of national governments to control corruption leads to a higher annual rate of deforestation (Adam et al., 2007; TBI, 2011; INTERPOL, 2016). Our study discovered that the West-African country of Ghana, which was once rich in natural forest resources has not been spared in the trend of deforestation (Addo and Zawila-Niedwiecki, 2008). In fact, Ghana's deforestation rate which stands at 2% per annum is associated with lower control of corruption as shown in Figure 2.

Corruption is endemic in Ghana and has contributed to the disappearance of the natural forest relatively faster than many countries in West Africa (Adam et 2007).

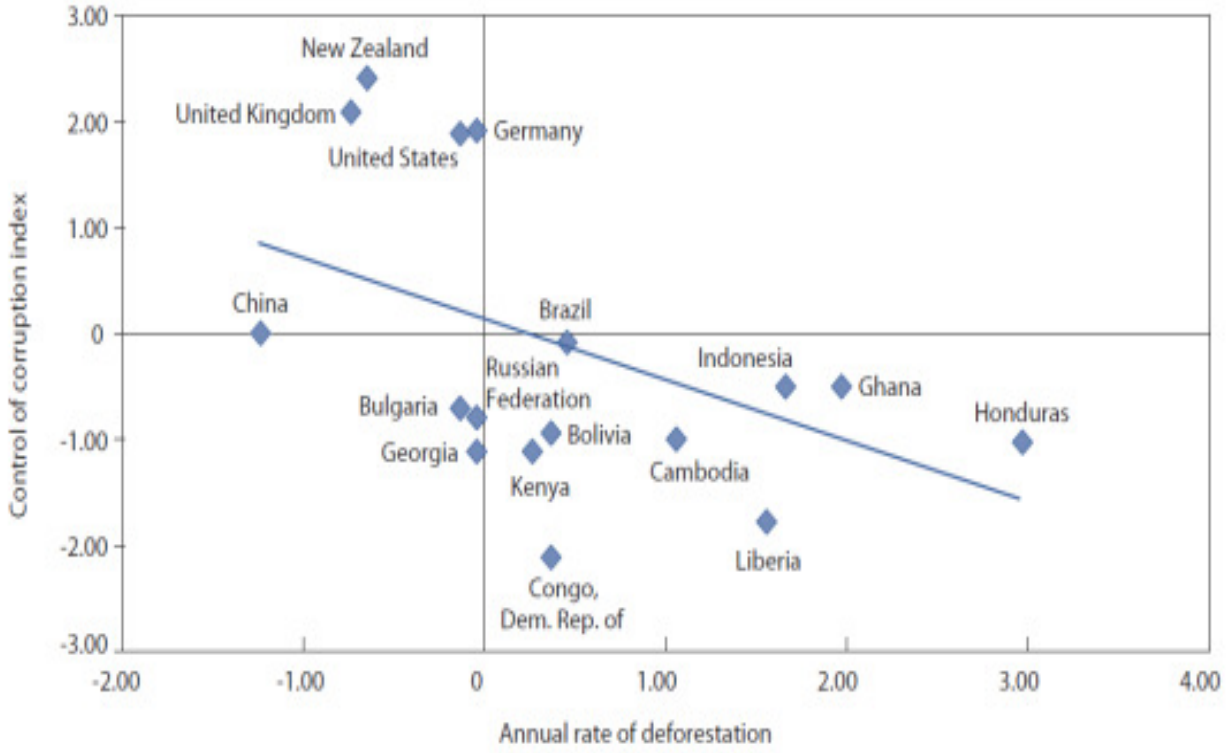

Figure 2: Correlation between deforestation and corruption (INTERPOL 2016)

Our study identified two distinct groups of corruption in the forestry sector of Ghana (i.e. Institutional and Non-institutionalized corruption). Institutional corruption manifests itself when a legal, or even currently ethical, systemic and strategic influence undermines an institution or sector's effectiveness by diverting it from its purpose or weakening its ability to achieve its purpose. It relates to acts of deliberate omissions in the forestry sector in contravention to accepted norms and rules. Non-institutionalized corruption in the forestry sector may either be collusive or non-collusive. The former involves the offering of bribes to public officials by companies for favorable treatment or illegal activity in what is known as supply-side corruption (TBI, 2011). On the contrary, in non-collusive corruption, it is forestry officials who rather demand favors from companies in what is known as demand-side corruption (ibid). That is officials demand bribes before performing their official assigned duty such as issuance of documents needed for legal operations. A clear distinction between institutionalized and non-institutionalized corruption is that the latter happens in the full view of stakeholders who pretend not to see them or are powerless administratively and politically to deal with same (TBI 2011). Globally, the cost that corruption impose on forestry is estimated to be about USD 29 billion (INTERPOL, 2016). In Ghana, the demand for payments from government and law enforcement officers in the wood industry is a direct cost of doing business. Corruption in forestry generally include all unacceptable practices and illegal forest activities emanating from the abuse of power for personal gains. Corruption compromises the integrity and sanctity of forestry officials in the performance of their duties (TBI 2011). Corruption also compromises morality and ethics in forest business and dents the image of the forestry profession as well as undermine the rule

of law and respect for basic human rights. In the forestry sector, our study also observed that corruption is most widespread during timber harvest (50 percent of instances), followed by timber transportation (23.1 percent of cases), and processing in factories (21 percent of cases) (26.9 per cent of cases). To put it another way, corruption occurs in locations where law enforcement operations are limited. Figure 2 shows the different categorization of corruption in the forestry sector of Ghana. Corruption starts from places where raw materials are accessed and through the transport of timber till the sale points. Specific types of corruption that occur in the forestry sector of Ghana include altering of product information, falsification of sales and conveyance certificates, under invoicing, swapping of tree identification codes and forest officers deliberately upgrading tree stems into exploitable diameters (Figure 2).

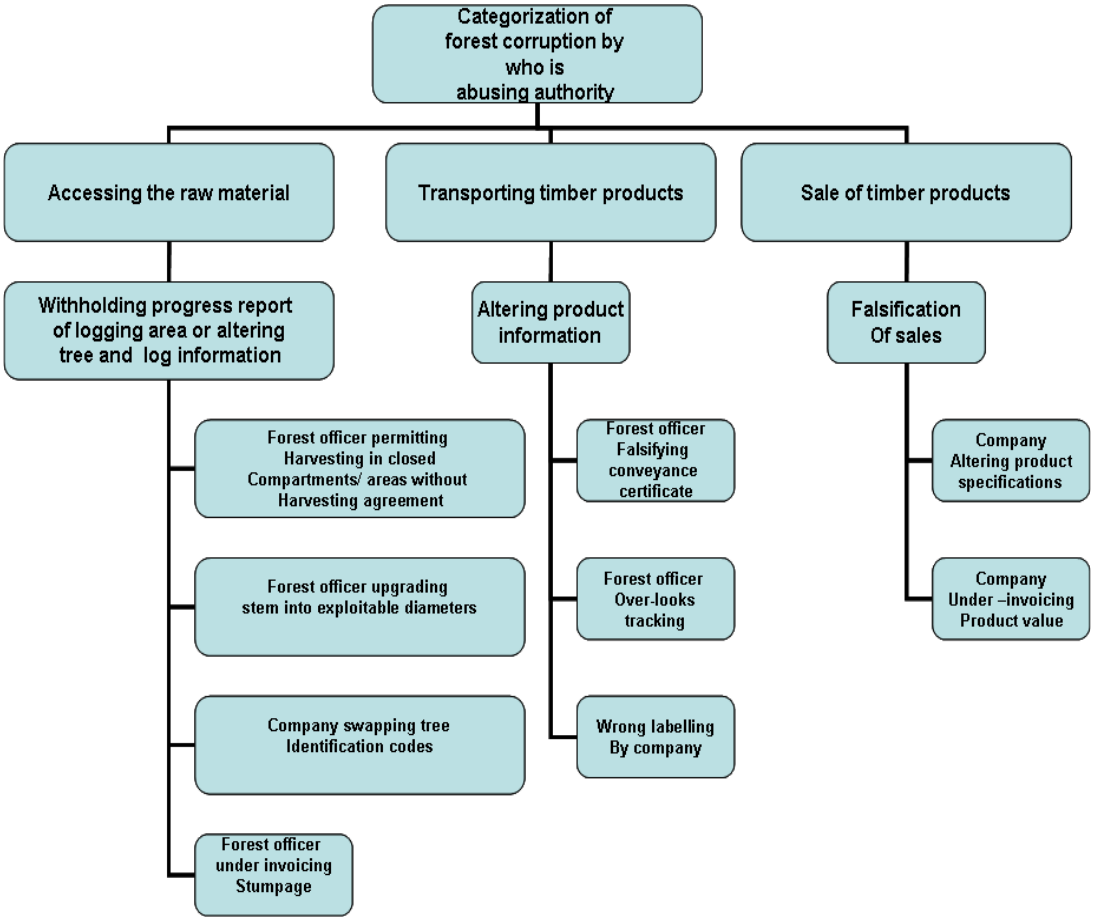

Figure 3. Categories of forest corruption (Adam et al., 2007)

4.4 Assessment of how corruption affects climate change adaptation and mitigation

Data from corruption perception survey and institutional assessments which were used to test relationships between corruption and climate change points to the fact that corruption has negative effect on climate change (see also Lopez and Mitra, 2000; Leitão, 2010). Our study find out that state's

dominant position in land administration enables rent seeking behavior, land grabbing and elite capture of benefits from emission trading programs particularly in circumstances where access and property rights to land are weak (Ribot, 1998; Boone, 2009; Opoku 2018). According to emissions data from 1990 to 1996, Ghana was a net sink of carbon, owing to carbon sequestration in the land use sector. However, Ghana's second report to the United Nation's predicted a 96% reduction of the country's removal capacity of greenhouse gas from as much as -26.1 MtCO2e from the year 1990 to -1.04 MtCO2e, in the year 2000 and 5.6 MtCO2e in the year 2006 (figure 3). A review of climate change data in Ghana's shows the country's carbon stocks have declined significantly especially at the southern and northern portions of the country. In 2006, the country's total emissions stood at 24 MtCO2e, accounting for about 1.1 tCO2e per capita. Ghana's emissions were still modest (0.05 percent) by global standards, and it was placed 108th in the world. However, Ghana's overall emissions profile has shifted drastically. As a result, the countries global ranking on emissions has changed. The land use sector has been a net emitter of greenhouse gas since 2001, accounting for 25% of total emissions in 2006. The main rise in the emissions data is due to rise in deforestation and conversion of forests and grasslands to other land uses which accounted for about 20% to 50% of total emissions. Other underlying factors include corruption.

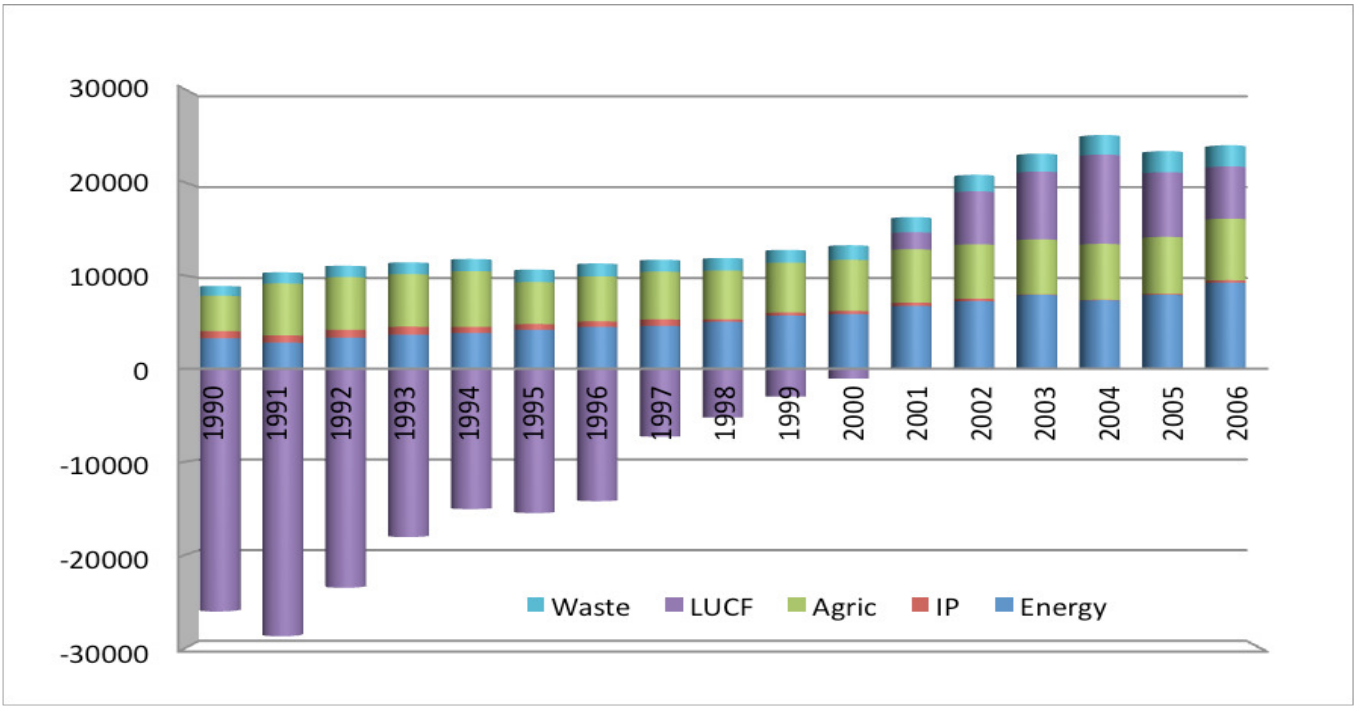

Figure 3. Trend of total emissions (GgCO2e) by sectors (FIP report, 2012)

In recent times, climate change corruption has taken on new forms, such as profiting from "bad research" and scientific uncertainties, as well as manipulating GHG market pricing and anti-systemic speculations (Lohmann, 2007; TI, 2012ab; Wara, 2007). On the national scale, there are corruption risks in emissions trading programs, which are critical to achieving net-zero emissions. Emissions trading programs will only work if they are free of corruption. Corruption in climate financing is known to "negatively impact climate change interventions, undermining mitigation attempts to cut emissions and reducing the quality of adaption infrastructure in addition to the typical theft of funds.

In Ghana, corruption has direct effects on forest and land governance by potentially impairing the viability of emissions trading programs like REDD+ through the diminishing of the overall trust, dependability, and efficacy of GHG markets. In addition, foreign aid has long been a target for corrupt officials. When there is a lack of transparency and accountability in the allocation and tracking of climate financing, not to mention claims of financial mismanagement, unscrupulous officials find it even simpler to game the system. Empirical evidence demonstrates that the implementation of the so-called cap-and-trade systems for climate change has been marred by incidences of fraud and bribery, power abuses, and other forms of corruption (Walter and Luebke, 2013). In addition, the growing tension on land due to large scale land investment linked to political corruption, pose threat to the maintenance of tenure security and livelihoods of local communities affected by climate change (Boone, 2014; Owen et al., 2015). Furthermore, individuals, and groups in power exploit authority, adopting all manner of techniques including grand and petty corruption in order to secure control over land and forest resources to the detriment of poor people affected by climate change (Boone, 2009; Walter and Luebke, 2013; MacInnes, 2015; Owen et al., 2015).

4.5 The interactions between political economy, corruption, and climate change

There is a complex relationship between political economy, corruption and climate change. According to Koechlin et al (2016), corruption is rooted in political and social structures of institutions. Corruption thus forms an important factor shaping the outcomes of forest and land governance. Hence, political economy entails making recommendations to strengthen institutions to steer people's conduct and transactions so that they can maximize their own advantage while avoiding damaging others and the environment. Our hypothesis for this study has been premised on the assumption that laws, rules and regulations as well as decisions that govern land and forest resources have an impact on climate change. As a result, the analytical and conceptual framework of this paper has been based on rules, actors and political economic analysis, which allows for a deeper appreciation of the issues. The importance of actors and institutions in driving corruption is revealed through a political economic examination of land governance and administration at both national and sectoral levels. Manipulation and the application of different land allocation and management standards to amass wealth and power appears to be quite important for land governance in general. This is one of the main reasons why anti-corruption institutional changes have failed. Informal social and institutional practices, as well as legal anomalies in land administration and investment planning, can readily trump land law and public service delivery principles (Koechlin et al 2016).

4.6 Assessment of relevant anti-corruption measures in Ghana

Our study observed that Ghana is a signatory to many international conventions to combat corruption, including the United Nations Convention Against Corruption and the African Union Convention on Preventing and Combating Corruption, which were both adopted by Ghana's Parliament on October 18, 2002. In 2014, the National Anti-Corruption Action Plan (NACAP) was also passed, with the goal of improving corruption prevention, investigation, and prosecution by strengthening a variety of state agencies and emphasizing public awareness of corruption (Boateng 2018). However, a February 2015 UN study highlighted the government's failure to properly enforce anti-corruption legislation and punish crime. Ghana's anti-corruption legislation are many but

enforcing these legislations has been a dauting task (Rahman, 2018). Below we summarize some of the key legislation dealing with corruption in Ghana.

Table 2. Sections of legislation dealing with corruption in Ghana

Sections of the legislation	Comments
Section 139 of the Customs Act, 2015 (Act 891)	Makes it an offence to offer or agree to give or to procure for a public officer any form of reward for the performance of duty
Section 96(1)(e) & (3) of the Public Financial Management Act, 2016 (Act 921)	Prohibits any official dealing with the collection, management or disbursement of public funds or a public trust from accepting or receiving money for the performance of an official duty
Section 33 of the Representation of the People Law (PNDCL 284)	Criminalizes the act of giving or offering a bribe for the purposes of influencing public officials.
Section 33(3)(a) of the Audit Service Act, 2000 (Act 584)	Penalizes any member of the Audit Service who demands or takes bribes for the neglect or non-performance of his or her duty
Section 2 of the Government Contracts (Protection) Act, 1979 (AFRCD 58)	Criminalizes the payment and receipt of bribes in the issuance of certificates for government contracts.
The Economic and Organized Crime Office Act, 2010 (Act 804)	Provides for the widest range of predicate offences, including bribery and corruption
Article 286 of the 1992 Constitution of the Republic of Ghana	This requires a person holding public office position to submit to the Auditor General a written declaration of all property or assets or liabilities owed by him or her, whether directly or indirectly
Article 35(8) of the 1992 Constitution of Ghana	Enjoins the State to take steps to eradicate corrupt practices and abuse of power

Source: Adapted from Sloane, 2020

5. Conclusion

The study has made interesting findings on the types and causes of corruption in the forestry and land sector, as well as laws dealing with the problem. Despite the existence of several anti-corruption legislation and Code of Conduct for public officials in Ghana, no safeguards were found against petty and grand corruption. Elite capture of benefits from land and forest resources, along with a lack of transparency and accountability in the lands and forestry sector, has resulted in financial loss and to some extent extreme degradation of the natural resource base. The examination of the Land Governance Assessment Framework (LGAF) reports has validated the incidence of certain types of corruption in land governance, while also demonstrating that corruption patterns in the land sector are extremely country specific. In conclusion, there are no doubts that the high rate of corruption in the lands and forestry sector has contributed to deforestation and land degradation in the country. In terms of climate change adaptation, corruption has shown to make land services inaccessible to

those who cannot afford the illegal payments. In such a situation, people are left with no legal protection, rendering them subject to evictions and other abuses, as the informality of land tenure grows (TI, 2013). Lack of access to land and shelter also expose people to climate change and harsh environmental conditions. While, lack of transparency in the issuance of rights, licenses and permits gives room to abuse and unacceptable practices.

In order to deal with corruption and unacceptable practices in forest and land governance, several measures are needed. First, Ghana government must ensure the recognition and formalization of tenurial rights, including traditional and customary rights, to enhance inclusiveness and efficient delivery of land services in the country. Second, regulations and transparency in land registration and mapping is needed to eradicate illegality and corruption in land administration system. As part of the activities to check corruption in the lands and forestry sector we also recommend an enhancement of the watch-dog role of local communities. In addition, government must produce and disseminate educational materials on illegal practices in the forestry and lands sector and sensitize actors in the use of such materials. Introduce performance-based remuneration system into forest and land administration system to provide alternatives to rent-seeking based on customer satisfaction and willingness to pay for services and transactions. Government must also, establish appropriate technology-based system to promote, fairness, openness and accountability, such as whistleblower hotlines that are independent, secure, credible, and effective. Finally, corrupt officials must be punished, imprisoned, or surcharged to repay stolen funds or publicly named and shamed. In term of rights allocation, we recommend government to implement competitive tendering in the allocation of rights to resources. The government must also strengthen law enforcement specifically, strengthen the special prosecutor's office to independently tackle and prevent corruption without fear or favor. This will also help build trust, transparency and confidence in the public space thereby enhancing oversight and monitoring of the nation's remaining forest and land resources. Our own recommendations for government to address corruption in land and forestry are in line with recommendations from previous studies by Koechlin et al (2016).

6. ACKNOWLEDGEMENT

This paper was written during the first author's scholarship under the Climate Research for Alumni and Postdocs in Africa (climapAfrica) programme of the German Academic Exchange Service (DAAD). We are grateful to DAAD for the scholarship award. We are also grateful to all the reviewers, institutions and individual that supported the study.

7. FUNDING

Funding for this project was provided by the German Federal Ministry of Education and Research (BMBF) through the climapAfrica programme which is implemented scientifically and operationally by the DAAD.

8. AUTHOR CONTRIBUTIONS

P. Opoku, H. Mensah and R. King; (Conceptualization); P. Opoku and D. Opoku (Investigation, data collection and analysis) D. P. Somuah and R. King (Supervision); D. Opoku, H. Mensah, D. P. Somuah and P. Opoku (Review & editing).

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9. KEY TERMS AND DEFINITIONS

Climate change - Is a shift in a location's typical weather patterns. This could be due to a shift in the amount of rain that a location receives on a yearly basis. It could also be a month- or season-long fluctuation in a location's normal temperature.

Corruption – Is the abuse or misuse of power for personal gains or dishonesty and criminal offense for private gains by persons or an organization vested with power and authority.

Forest governance- Is defined as the process by which public and private actors and institutions, negotiate, make, and enforce binding decisions about forest resource management, its use and conservation.

Land governance- Is the legal and policy framework for land, as well as customary traditions governing land transactions, inheritance, and dispute resolution. In a nutshell, it's about power and the political economy of land.

Political economy - Is an interdisciplinary part of social sciences that studies how people, governments, and public policy interact. The goal of political economy analysis (PEA) is to place development interventions in the context of society's prevalent political and economic processes, specifically the motivations, linkages, distribution, and contestation of power among different groups and individuals.