

Global China and the ‘commons’: rosewood governance in rural Ghana

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ARTICLE INFO

Keywords:

Rosewood
Politics
Forest Governance
China-Africa
Common-pool resources

ABSTRACT

The rise of Global China or the rapid expansion of Chinese influence abroad has had a commensurate impact on transnational trade and related commercial pressure in the governance of natural resources in Africa. Rosewood with its direct link to China’s cultural renaissance has had a boost in extractivism in tropical regions. Taking inspiration from common property theory and based on empirical research conducted in Ghana in 2022, we analyze the effect of the Ghana-China rosewood trade on the governance of rosewood as a ‘common-pool’ resource in rural Ghana. Our research broadly responds to the question of how the Ghana-China rosewood trade changes formal and informal governance arrangements in rural Ghana. In a constructive light, the study demonstrates how one community created rules to access rosewood on community lands. The results also show that more challenging influences of rosewood trade on land boundary disputes resulting from violent protests of existing rules and norms, including customary rights, contestation of rural authorities, rural leadership manoeuvres, and corruption are increasingly prevalent since the boom in the rosewood trade at the local level. This study contributes to the debate on common-pool resources, demonstrating that with the right information and communication network, rural people can self-govern common-pool resources to their advantage despite the alarming influences that external factors pose. From a China-Africa relations perspective, this work contributes to the politics of natural resources in the context of the increasing global influence of China in Africa.

1. Introduction

China’s growing global influence has directly affected transnational trade. This has affected natural resource governance in Africa due to the direct trade ties Africa has with China (Lee, 2017, Zhu, 2022). The mere population size of China makes it a force to reckon with in terms of global trade as it has the numerical advantage to instigate shifts in the trade of commodities. ‘Global China’ was a term coined by Lee (2017) to mean China’s economic expansion and globalizing strategy in other domains. China has been a global force for centuries, yet the unprecedented expansion of trade activities of China in the twenty-first century is what scholars and the media often refer to as “global China”.

Zhu (2022) argues that global China began when China joined the World Trade Organization (WTO) in 2001. The momentous event was highly welcomed: it was “an event of historic proportions for the world trading system,” as told by then UN Secretary-General Kofi Annan, and a “historic moment in China’s reform and opening up and the process of

modernization,” The establishment of permanent normal trade relations with the United States in the year 2000 preceded this singular event. WTO membership opens up China’s market for more international trade and investment. China has since become an important member of the world economic community and now plays an important role in the global economy [1].

China-Africa trade relation dates back to two thousand years ago. At the time of the Ming dynasty (1368-1644), Chinese products were directly shipped to Africa. Chinese silk and bronze pots were sent to Egypt through the Silk Road; in return, elephant tusks and rhinoceros horns from Africa were transported to China [2]. In recent times, there has been a surge in trade between China and Africa due to changes in China’s policy, which encourages and supports Chinese domestic entrepreneurs to trade and conduct business abroad [3]. Generally, the basis for China-Africa economic cooperation is a competitive political advantage, and economic diplomacy and development assistance [4]. By the year 2014, China was the largest importer of goods and services from

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<https://doi.org/10.1016/j.wds.2024.100126>

Received 13 April 2023; Received in revised form 21 December 2023; Accepted 18 February 2024

Available online 23 February 2024

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sub-Saharan Africa [5].

During China's mid-twentieth century Cultural Revolution, the same rosewood and ivory heirlooms that adorned the imperial palaces were violently confiscated and vilified as a symbol of bourgeois oppression. Antique paintings were mutilated and disfigured. Porcelain was broken and burned alongside bourgeois books and rosewood furniture [4,5]. As China embraces capitalism and seeks to redefine its modernity with strong reference to its cultural past, rosewood furniture and other cultural goods are being bought back – or in some cases “stolen” back – by individuals who endured the hardships of the Cultural Revolution. Given the booming market and rapid returns on investment, rosewood now represents a ready buying opportunity for investors interested more in financial than cultural appreciation (Zhu, 2022).

The price of rosewood in China has increased since the early 2000s, by about 500% in 2005 [6], due to this increase and rapid demand for rosewood in China, and the scarcity of rosewood from South-east Asia forest-rich countries that were major suppliers of the Chinese Market over the last decades China therefore now looks to Africa for fresh supply [7]. Today, rosewood is a cultural icon in China as it is transformed into ornate classical furniture (Zhu, 2017). In the same vein as what has been observed with the new wave of Asian investments in agro-industrial plantations in other forest-rich regions including those in central Africa [8].

The cultural symbol of rosewood in China has been harnessed into a flourishing economic potential. This rosewood economy is partly cushioning the Chinese economy and supporting the livelihoods of these rosewood industry players [9]. The heightened demand for rosewood in China has led to increased and illegal exploitation in many producer countries in Asia and Africa [6]. West Africa contributes about 80% of rosewood to global trade and this rosewood is mostly supplied to Asia (Dumenu, 2019). Ghana was ranked second to Nigeria in Africa and fourth in the world among suppliers of rosewood logs to China by volume ([6]; Dumenu and Bandoh, 2016).

Rosewood is a subject of large-scale international traffic between Africa and Asia, which is the greatest threat to the species [10]. The thriving rosewood trade especially in the African sub-region has sparked several debates across the globe. These debates have largely centred on the sustainability of the species. In contributing to this global discourse, our research investigates how the Ghana-China rosewood trade affects formal and informal governance arrangements in rural Ghana, paying attention to rosewood governance and rosewood as a common pool resource.

2. A brief literature review on rosewood governance in land commons in Ghana

About 78% of the total land area in Ghana belongs to customary landowners. These customary land tenure systems comprised stool, skin, clan, family and individual lands. [11,12]. The remaining percentage of the land is divided into two categories: 20% of the land belongs to the state and 2% is held in a dual ownership system that is comprised of legal estates for government and customary authorities, respectively [12]. The traditional land-owning authorities hold allodial titles to land in trust for the community [13]. Ownership of Ghana's forests is either as public land, stool land, family land or private land.

The key regulation in Ghana regarding forest governance is Timber Resource Management and Legality Licensing Regulation, 2017 (LI 2254). This law regulates the grant of timber rights and related matters. It encompasses (a) the identification of land suitable for the grant of timber rights, (b) the terms and conditions for small and large-scale timber rights, (c) other sources of timber, and (d) the legality-licensing scheme. Regarding legal rights to harvest, according to LI 2254, No person shall harvest timber in Ghana unless that person holds timber rights.

In Ghana, the forests are divided into on-reserve and off-reserve forests. On-reserve forests are gazetted forest reserves strictly under

the management of the state while off-reserve forests are not under strict management by the state but could be under the management of private landowners based on the land use [14]. Rosewood in the study areas is naturally dotted in the off-forest reserve areas, on farms and in fallow areas and growing naturally. In the Upper East and Upper West Regions of Ghana, the lands where rosewood is located are under the family land ownership systems while in the Savanna region of Ghana, land ownership falls within the stool land system.

Trees occurring in off-reserve areas are held in trust by the president of Ghana for the people and therefore the Forestry Commission is the statutory institution with the responsibility to manage and regulate the exploitation of such trees. By convention, citizens at the local community level do not apply for any permit before exploiting trees as a customary resource for their day-to-day needs, with customary rules controlling their usage rights. This situation, therefore, makes trees and other resources in off-reserve areas in Ghana appear as common-pool resources [15].

The governance of rosewood has gone through different paradigms from the community level to the national level. At the peak of the Ghana-China rosewood trade, rather than requesting authorization from the Forestry Commission to cut the rosewood trees, some traditional authorities (chiefs) arrogated to themselves the privilege of issuing rosewood-felling permits to individuals and groups for fees and royalties [15]. After the ban was placed, in 2012, 2014 and 2017, on the harvesting and export of rosewood, a loose management structure was put in place for the responsible government agency (Forestry Commission) and the local communities to jointly manage the situation through the issuance of salvage permits, monitoring and reporting of rosewood illegalities. However, monitoring and enforcement of the ban and other forest regulations were still poor as the illegal acts of felling and trading in rosewood continued under fake and inappropriate salvage permits [14].

It would appear that some government officials in charge of the regulation and some elites in the local communities were behind the illegal harvesting of the species. Salvage Permits were issued to some contractors to cover their illegal activities. Salvage Permits usually state the particular species, number, and diameter classes of trees to be salvaged in an identified area within a stipulated period. However, some players in the rosewood business alleged that none of the specifics mentioned above was clearly stated in the permits issued to contractors to ‘salvage’ rosewood [14–16].

The Ghana-China rosewood trade affected the way land is managed in these rosewood-endemic regions of Ghana. Due to the interest of government officials who have a stake in the trade, authority notes are sometimes issued from national offices in the form of salvage permits to specific communities for rosewood to be evacuated, which eventually results in felling fresh rosewood. Contractors would submit these permits to some communities without respect to their land management procedures and commence rosewood timber extraction activities.

The governance dynamics of the Ghana-China rosewood trade offer insights into the governance of tree resources on lands that serve communal purposes. Probing the governance of rosewood as a type of commons provides a good pathway for analyzing how the demand of transnational actors influences the governance of resources in rural Ghana. This can offer clues in carving policies, which may offer some governance insights for other rosewood-rich developing countries.

3. Theoretical and analytical framework

For local users to manage the resources they share, the theory of commons is used to predict and explain local users' actions [17]. Common pool resources refer to a natural or man-made resource system that is sufficiently large to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use [18]. Common-pool resources are natural resource systems used by multiple individuals. Examples of common-pool resources include both natural

and human-made systems including forests, grazing lands, groundwater basins, government and corporate treasuries, mainframe computers and the internet. Examples of resource units derived from common pool resources include timber, water, fodder, computer-processing units, information bits, and budget allocation [19].

Hardin's Tragedy of the Commons model predicts the eventual overexploitation or degradation of all resources used in common [20]. Hardin [21] depended on a thought experiment. He asked the reader to imagine what would happen to a metaphorical village commons if each herder were to add a few animals to his herd. His metaphor highlighted the divergence between individual and collective rationality. If each herdsman found it more profitable to graze more animals than the pasture could support because each took all the profit from an extra animal but for only a fraction of the cost of overgrazing, the result would be a tragic loss of the resource for the entire community of herders [20]. Hardin then concluded, "Freedom in the commons brings ruin to all" ([21], p.1244).

While Ostrom's approach argues for a rules-based approach which regulates resource use and access, Hardin's theory rules out the existence of self-organized groups even though empirical evidence indicates that considerable variance in performance exists and many more local users self-organize [21]. Empirical evidence challenges the generalizability of Hardin's theory as demonstrated by Ostrom's works and several other scholars over the last decades (Mckean 1992, 1998; Wade 1994; Schlager 1990; [18], 1992a, 1992b).

While Hardin's theory is successful in predicting outcomes in settings where appropriators are alienated from one another or cannot communicate effectively, it does not explain settings where appropriators can create and sustain agreements to avoid serious problems or over-appropriation. This, therefore, provides the basis for another layer of theory building and different thinking which advances the Self-Governed common-pool resources theory.

The self-governed common-pool resources theory proceeds on the premise that there is a probability for resource users to self-organise and devise rules that regulate harvesting patterns and management of the resource to ensure its sustainability [22]. This has been the line of thinking and formulation by scholars based on research (Baland and Platteau 1996; Ostrom et al., 1994; [23]). For example, in Nepal, research about farmer-governed and national government irrigation systems showed that farmers with long-term ownership claims, who can communicate, develop their agreements, establish the positions of monitors, and sanction those who do not conform to their rules, are more likely to grow more rice, distribute water more equitably, and keep their systems in better repair than is done on government systems (Lam 1998).

Self-governed common-pool resource systems are different across systems and time; while some became largely successful, others did not succeed [17]. For a self-governed common-pool resource system to survive the test time, it needs to be able to adapt to new situations over time as new dynamics of the system are bound to emerge [24,25].

The management of common pool resources is saddled with several challenges. In interrogating Ostrom's widely accepted design principles (DPs) of common pool resources (CPRs), using Tanzania's community-based forest management (CBFM) case, Perfect-Mrema [26] made interesting observations. The study primarily revealed that due to institutional inadequacies related to DPs- i.e. boundaries, rules, collective action, arrangements, conflict resolution etc., their relationships and cumulative impacts contribute towards unsustainable outcomes.

In the same vein, through a Kenyan example of the management of common pool resources, it is evident that there is a place of political power struggle in the management of common pool resources such as land as the legitimacy of communal land rights can be undermined [27]. The work of Kansanga et al., [28], using the northern Ghana common pool resource case, exposes the frailties in governing common pool agricultural land resources in the period of progressive agricultural modernization. The study shows how rival land claims and intra-familial

land grabbing have weakened the customary management of communal lands.

Ostrom [29] argues that all natural resources are nested in complex social-ecological systems (SES). Ostrom proposes a common classificatory framework to enhance multidisciplinary efforts to better understand complex SES. The overview of this framework shows relationships among four first-level core subsystems of an SES that affect each other as well as linked social, economic, and political settings and related ecosystems. The subsystems are (i) resource systems (e.g., a designated park encompassing a specified territory containing forested areas, wildlife, and water systems); (ii) resource units (e.g., trees, shrubs, and plants contained in the forest, types of wildlife, and amount and flow of water); (iii) governance systems (e.g., the government and other organizations that manage the forest, the specific rules related to the use of the forest, and how these rules are made; from our study traditional or customary authorities becomes a part of this list); and (iv) users (e.g., individuals who use the forest in diverse ways for sustenance, recreation, or commercial purposes) as depicted in Fig. 1 below [29].

The socio-ecological dimensions of the Ghana-China rosewood trade make Ostrom's [29] socio-ecological systems framework a good framework for gaining a comprehensive understanding and implications of the trade arrangements.

4. Methods

4.1. Materials and Methods

4.1.1. Study sites

Ghana Forestry Commission [30] data demonstrate significant populations of rosewood species are found in the Upper East, Upper West, Northern (Currently split into North East, Savanna and Northern regions), Brong-Ahafo (Currently split into Bono, Bono East and Ahafo regions), Volta (Currently split into Volta and Oti regions), and parts of Ashanti and Eastern regions (see Fig. 2).

In Ghana, rosewood is mostly endemic to the northern regions (Northern, Northeast, Upper west, Upper east, Savanna), due to the fragile nature of the environment in the north, trees fall under the protection management unit by the Forestry Commission and not under production unit as it happens in the south of Ghana where there are more timber species for production [30]. As a result, before the rise in the trade of rosewood, there were no management regulations regarding the species due to its geographic location predominantly in the north of Ghana, which did not fall within the forest production zones of Ghana. The government through the Forestry Commission resorted to the use of salvage permits, conveyance certificates, and transportation permits as a means to try to regulate the rosewood when it was rife.

To understand the effect of the Ghana-China rosewood trade on the local governing structures and its related issues, the three topmost regions where the rosewood trade in Ghana thrived namely the Upper West Region, Upper East Region and Savannah Regions were selected for the study. Two communities each for the three regions where the rosewood activities were selected. In Upper West Region, Nabugubelle and Dolinbizon were selected; in Upper East Region, Bachonsa and Kadema were selected; in Savannah Region, Sonyo and Kablima were selected (see Fig. 3).

Pterocarpus erinaceus (Rosewood) is native to the forest-savannah transition belt and the savannah ecological zones, with a concentration in the savannah in Ghana (Dumenu, 2019; [14]). Locally, rosewood was mainly a source of firewood and charcoal. Due to its durability, water and fire resistance and strength rosewood is used in carving mortar and pestles, musical instruments handling local farm tools and the construction of homes. Following the rise of the *Pterocarpus erinaceus* as a substitute for *Dalbergia* species, globally rosewood started to be exploited as a timber product in Ghana (Dumenu, 2019; [14]). China is the final beneficiary of Ghana's rosewood, importing over 96% of logs and sawn wood (Dumenu, 2019).

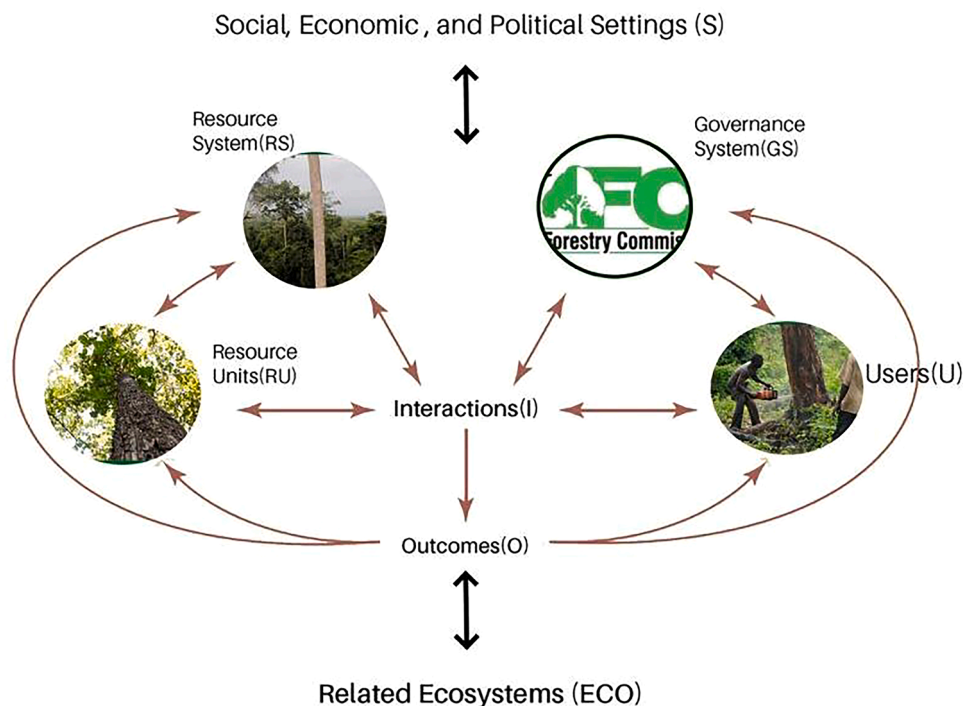


Fig. 1. The core subsystems in a framework for analyzing social-ecological systems. Adapted from Ostrom [[29], p. 420].

4.1.2. Data collection

This paper is based on two sources of data: common-pool resources empirical fieldwork and a rosewood-related literature review. Empirical data is based on fieldwork conducted from April to September 2022, using 20 in-depth interviews and seven focus group discussions (FGDs) involving 106 people, in addition to several field observations.

For the key informant interviews, participants included Ghana Forestry Commission officials ($n = 7$) past and present within the three regions in Ghana where the rosewood activities were most predominant; rosewood contractors ($n = 3$), who were actively involved with the Chinese rosewood merchants; community youth leaders ($n = 4$), who actively mobilized the youth either against the rosewood activities or for illegal rosewood and related activities. We also interviewed Chiefs ($n = 2$) in the communities where the activities were predominant; local government officials ($n = 2$), 'assemblymen'¹ from the study communities and civil society organizations ($n = 2$) involved in anti-rosewood activism (see Table 1).

We also conducted seven focus group discussions, six in each community of the three regions (Upper East Region, Upper West Region and Savanna Region) and one with Senior Forestry community officials in Tumu, Upper West Region. Participants in the focus group discussion included Chiefs, Community leaders and members, landowners with rosewood on their lands, rosewood loaders and spotters, Unit committee members etc. To get gender-balanced data, the women were separated from the men during the focus group discussions to ensure that they freely express themselves. Overall, 106 participants were involved in the focus group discussions (see Table 2). These discussions centred on the rosewood trade management at the community level as it pertains to land regulatory issues and their impact on their livelihoods.

Given the political sensitivity and complex nature of the rosewood trade in the study context, we ensured that our sample included key stakeholders from local and regional to the national level. Reliability and Validity were embedded in the methodology by engaging a cross-

section of the most relevant stakeholders involved in the rosewood trade activities. In addition, the information obtained during the key informant interviews and field investigations through participant observation was triangulated during the focus group discussions as a way to ensure reliability.

In-depth interviews with Ghana forestry officials among other things sought to understand the dynamics of the rosewood trade from the regulatory perspective. Interviews with rosewood contractors among other things focused on their trade engagements with both community members and leadership. Questions for community youth leaders focused on the role of community members in the rosewood activities and their access to land and rosewood in their communities. For the rest of the interviews, questions focused on their involvement in the rosewood trade and its related activities. Each of the interviews lasted about an hour, depending on the interviewee's motivation and availability to collaborate. The interviews were comparable to a face-to-face open conversation [31], although they also followed specific pre-defined topics.

All interviews and focus group discussions were audio-recorded, with the prior consent of each interviewee, the study objectives were explained anonymity was guaranteed, as well as the usage of data was for strictly academic purposes. The language for the interviews was both English and the local dialect depending on which of them was best fit for the respondent. The data was transcribed in English [32,33]. Transcripts were manually analyzed by grouping statements under similar sub-headings. Selected quotations from the transcripts are used from time to time in the text to support themes and foreground the lived experiences of participants.

5. Results

Our findings revealed that the Ghana-China rosewood trade had both positive and negative effects on the governance of rosewood as a common-pool resource in the study areas. The positive case of the community Sonyo contributes to the debate of self-government common-pool resources as advanced by some scholars. We present this and other related issues in the sections below.

¹ An assemblyman is a locally elected representative of the people at the community level who represents the community/suburb District meetings

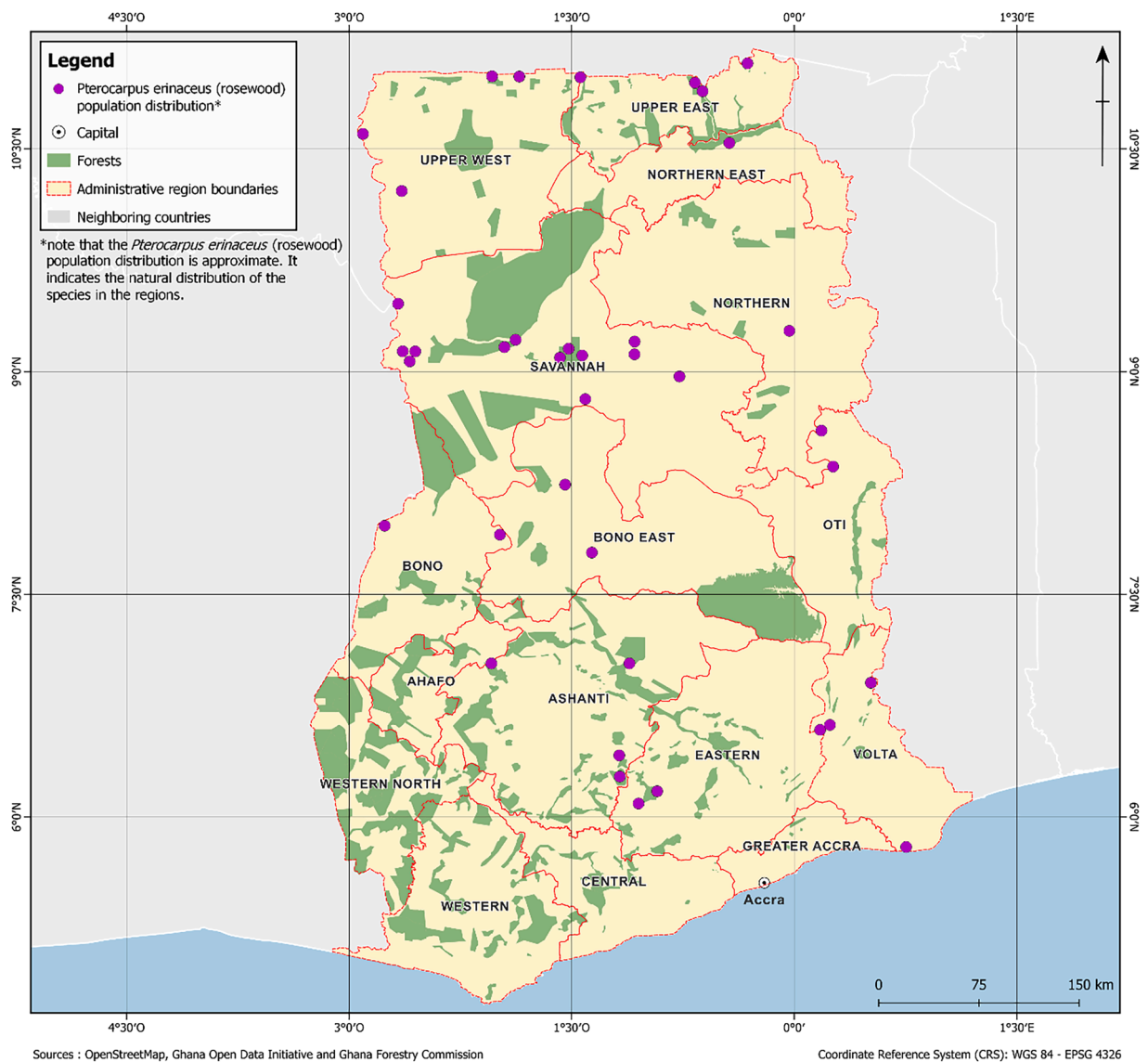


Fig. 2. The distribution of a significant population of Pterocarpus erinaceus (Rosewood) in Ghana. (Source: Authors, 2023)

5.1. Sonyo community, a positive rosewood example of management of a common pool resource on stool lands

The Ghana-China rosewood presents an interesting contribution to this argument with a community by the name Sonyo as a positive case study. Sonyo is one of the communities fringing the Kenikeni Forest Reserve in the savanna region of Ghana. Traditionally, the Grupe, Kanato, Kabampe and Sonyo hold the Kenikeni Forest Reserve in high esteem as an abode for their idol called “Kipo”. The fear of these gods serves as a governance mechanism as it helps regulate entry and access to resources. There are days considered sacred that no one is permitted to enter the forest. Land ownership in this part of Ghana is through stool lands. The Chiefs hold the land in trust for the people and wield the privilege to allocate lands to family members. Rosewood trees in this area are mostly found in the off-reserve areas. Before the start of the Ghana-China rosewood trade, community members did not need to apply for any permit before exploiting any species as a customary resource for their day-to-day needs as there were no governance arrangements in place at both the national and local levels.

However, the Sonyo community was able to harness the Ghana-China rosewood trade for the collective benefit of the entire community. The Sonyo case presents an interesting model of analysis because

unlike the majority of the rosewood endemic communities in this study (which we will present below), Sonyo had a good governance structure in the community, helping it to reap dividends from the trade. For the other communities in this study, only a selected group of individuals were in privileged positions, like Chiefs, local elected government officials (assemblymen, unit community members) and also a few community members who were occasionally employed as either rosewood gatherers or loaders. However, in the Sonyo case, the structure put in place by the community benefits from the rosewood sales accrued to the community.

In laying the foundation to effectively trade rosewood with the Chinese, the community set up a seven-member community to supervise the activities of the trade. Members of the committee were selected based on their credibility in society and these were representative of the various groups in the community. The community also decided not to allow anyone who was a native of the land to engage in felling rosewood on their community lands. As a way of principle, the Sonyo community decided not to engage the Chinese rosewood traders directly but rather through their intermediaries so that local Ghanaians could also benefit from the trade. The Sonyo community put rules, regulations, and punitive measures in place as a way to regulate trade to the advantage of the entire community. In a focus group discussion, this is how an elder of

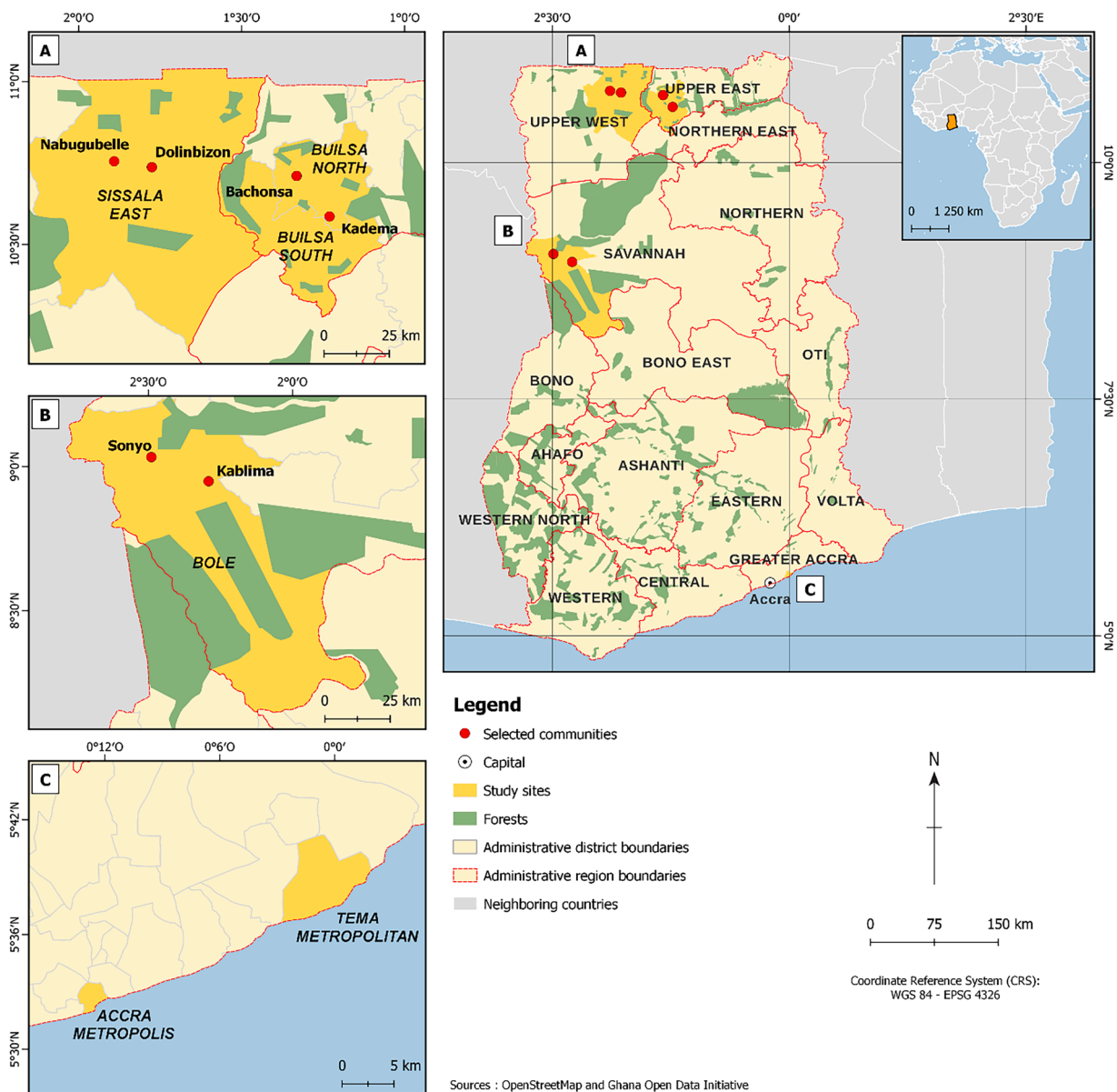


Fig. 3. Map of the study area (Authors, 2023).

the community narrated it:

The Sonyo community did not allow anyone who was not a native to enter the bush to fell the rosewood. We did the felling ourselves and supplied it to the merchants. So community members fell the trees and loaded them onto tractors. This employed different groups in the community. The women also benefited as they collected the back of the logs, burnt charcoal with it, and used some for firewood. Even though the chief owns all the land in the community, the landowners also take land fees when rosewood is felled on their land. Before the rosewood finally leaves the community, the Chiefs will take their levy, landowners' levy, and the unit committee levy. There is an understanding between the chief and the community members. There is a seven-member committee selected by the three fetish priests in the community. They collect the money from the contractor. The money collected from the contractor is shared among the various local stakeholders (elders who represent the people). There is an open and transparent system of benefit sharing in the community. Most of the contracts with the rosewood dealers have been oral. However, in the end, systems are in place to ensure that it is honoured. [SYSRF-26622]

Concerning the benefits that accrued to the Sonyo community, this is what a youth leader in the community had to say about it:

Rosewood trade has immensely benefited the Sonyo community. Through the rosewood trade, a good number of community members have built blockhouses to replace mud houses. There are three boreholes in the community because of the trade of rosewood. Damaged boreholes were also repaired from the amount of money the unit committee gathered from the rosewood trade. Some of the money realized was also used to assist the community school and clinic. Through the rosewood trade, a Chief palace is being built. [CYLI-06622]

The Ghana-China rosewood trade has ensured that a community like Sonyo unite around a common goal to reap benefits from the resource.

5.2. Land boundary and/or Chieftaincy disputes in either stool lands or family land ownership arrangements

The study revealed that one of the negative turnouts from the Ghana-China rosewood trade at the various study communities is disputes either in the form of land boundaries, chieftaincy or community and leadership. For these study communities, land ownership is through either stool lands or family lands. In the stool land arrangement, the ultimate power over the land lies with the Chiefs while in the family land

Table 1
Summary of Participants in Key Informant Interviews

Actor	Description	Number interviewed	Date of interview	Interviewee Codes
Ghana Forestry Commission officials	Statutory body responsible for forest governance: including the regulation of the extraction of timber and non-timber forest resources.	7	1. 12/04/2022 2. 16/04/2022 3. 03/05/2022 4. 05/05/2022 5. 07/06/2022 6. 08/06/2022 7. 18/07/2022	GFCOI-12422 GFCOI-16422 GFCOI-03522 GFCOI-05522 GFCOI-07622 GFCOI-08622 GFCOI-18722
Rosewood contractors	Rosewood merchants who mobilized and traded in the rosewood	3	1. 19/04/2022 2. 12/05/2022 3. 19/07/2022	RCI-19422 RCI-12522 RCI-19722
Community youth leaders	Leaders of various groups in the communities	4	1. 24/04/2022 2. 23/05/2022 3. 06/06/2022 4. 10/06/2022	CYLI-24422 CYLI-23522 CYLI-06622 CYLI-10622
Chief	Highest traditional authority and custodian of natural resources in local communities.	2	1. 22/05/2022 2. 19/04/2022	CI-22522 CI-19422
Local government officials	Represents an electoral area at the district level and serves as a link between the district and his/her community.	2	1. 15/04/2022 2. 07/05/2022	LCOI-15422 LCOI-07522
Civil Society Organizations	Officials of environmental activism/ advocacy groups.	2	1. 18/04/2022 2. 21/05/2022	CSOI-18422 CSOI-21522
Total Interviews		20		

arrangement, the ultimate power over the land lies with the heads of the family. The Chiefs are mostly the first point of call for rosewood merchants when they visit communities since they are the leaders of the community. This is also true for family lands as chiefs are mostly consulted before they are given out to people.

The study also revealed that it is often the case that most community members who have rosewood on their farms stand to financially benefit either legitimately or through force in both the stool land ownership and the family land ownership. Community members legitimately benefit from the rosewood trade when chiefs invite those with rosewood on their farms to strike a deal with rosewood merchants when they come to express their desire to trade in the rosewood. On the other hand, in the cases where the Chief chooses to ignore the landowners/landlords² in brokering the rosewood trade deal, they may choose to confront the rosewood contractors when they get information that they are working on their farms and force them to pay a ransom for invading their farms.

This is what a community elder at Bachonsa had to say concerning this:

When the rosewood dealers come to the community, they first visit the chief's palace and negotiate with the chief. It is after the chief has agreed that

² Landlords are mostly community heads who hold the land in trust for the family. He is believed to own the land. Depending on the location of the community, the landlord may either have outright power over the land and its resources or rely on the Chief to exercise control over the land.

they go ahead to do the harvesting. Sometimes the chief will call the landlord, sometimes he will not. In situations where the chief does not invite the landlord during the negotiations, the landlord upon meeting the operators on their land will question them before they refer them back to the chief. Mostly when the landlord confronts the chief about why people are working on their lands but have not been informed, he states that the people came with a permit from the national to do the rosewood business. The chief may decide to just give them a token from it. There have been pockets of confusion between the chief and landlord over the settlement of rosewood monies by the contractor in the community. This is likely to be the case when the landlord is ignored by the chief during the negotiations with the rosewood dealers. In situations like these, the landlord together with some community members approaches the contractor with force to get their money. [BYUERF-23422]

Before, the Ghana-China rosewood trade, there was no competition for rosewood as the species was abundant enough to serve a domestic need in a manner which did not lead to competition and dispute. Even in the face of population growth with its accompanying demands, the stock of the rosewood population was not markedly affected due to its ubiquitous nature. However, the consciousness of the benefits of rosewood because of the Chinese interest made people overly aware and alert concerning their lands, which housed rosewood, which was not the case before then. Most community members expected to see an improvement in their lives due to the rosewood trade through the provision of social amenities such as the building of schools, the provision of portable water and other community projects. For most of them, this does not happen. This sparked anxiety among some of them.

Table 2
Summary of participants in Focus Group Discussions.

Name of Focus Group Discussion (FGD)	Type participants	Number of participants	Date of FGD	FDG Codes
Kadema, Upper East Region (UER)	Community leaders and members, rosewood loaders and spotters, Unit committee members, and land owners with rosewood on their lands	28	18/04/2022	KDUERF-18422
Bachonsa, Upper East Region (UER)	Chief, Community leaders and members, land owners with rosewood on their lands	19	23/04/2022	BYUERF-23422
Sonyo, Savanna Region (SR)	Chief, Community leaders and members, land owners with rosewood on their lands	9	26/06/2022	SYSRF-26622
Kablima, Savanna Region (SR)	Chief, community leaders	8	25/06/2022	KBSRF-25622
Dolinbizon, Upper West Region (UWR)	Chief, Community leaders and members, land owners with rosewood on their lands	12	23/05/2022	DZUWRF-23522
Nabugubele, Upper West Region (UWR)	Community leaders and members, land owners with rosewood on their lands	25	21/05/2022	NBUWRF-21522
Senior Ghana Forestry Commission officials, Tumu, Upper West Region	Forestry officials within the ranks of Forest range manager to Municipal manager	5	22/05/2022	SFSDOTF-22522
Total Focus Group Participants		106		

In other to register their displeasure, the community members sometimes revolt as one community youth leader succinctly puts it:

There were instances when the people had to revolt against the chief and leaders concerning contractors working on their land without their prior notice. Eventually, the chief will give an excuse for permits being issued from the national forestry headquarters to brush the issue aside. [CYLI-10622]

Another type of dispute that the study revealed is within the ranks and files of leadership in some of the communities. In Bachonsa, there is a rift between two chieftaincy royal gates based on perceived rosewood financial benefits that one group is receiving that the other group is not. This brought division and tension in the community, which resulted in, heated exchanges and the issuing of threats, which resulted in making police arrests of some individuals in the community. A local government official in the community had this to say:

Due to the undisclosed amount of money that contractors give to the community leaders like Chiefs, unit committee members, assembly members etc. there is a conflict between them. There is no trust in the leadership and this breeds tension and chaos in the community. [LCOI-07522]

Without proper regulatory processes and procedures, resources, which provide common interest, are likely to be a breeding ground for conflict and dispute.

5.3. The legality in the illegality of Ghana's rosewood trade in the face of the breakdown of law

Our findings reveal that Ghana's rosewood trade is fraught with several illegalities as the trade was initiated without any proper institutional arrangements from regulatory bodies and various stakeholders. After many realized the financial benefits of the trade, without recourse to any proper procedural arrangements strategically positioned themselves to have a share of the benefits of the rosewood. Therefore, most of the time, what was meant to be a legal step to curb the illegality eventually promoted the illegality.

In the course of the trade, when the Forestry Commission confiscates illegal rosewood, it auctions it to Ghanaian contractors who in turn sell it to the Chinese rosewood dealers. The Forestry Commission confiscates the rosewood when they crosscheck to ascertain the fact that there were no salvage permits issued for the rosewood in question. In the end, a contractor only had to pay a little more to still be allowed to continue to stay in the rosewood business. In addition, one could safely say that the confiscation of the rosewood was not targeted at stopping the illegality but to redistribute the money involved to other quarters.

In another example, the Customs Division of the Ghana Revenue Authority will take the money and allow the rosewood to pass illegally at the border. It normally enters and comes out of Togo through different routes like *Jasikan* for it to appear that it was legally felled in Togo. Similarly, on the Volta River, national security will take a lot of money and put it on the river to float down and land at *Akosombo* where it will be removed from the Ferry. Some also use a boat to transport it on the Volta River, get to *Akosombo* and then Tema port and then finally export it. In addition, when there is a ban, people cover the rosewood up as if it were Teak and transport it. Teak falls within the normal harvested timber in Ghana, has no ban or strict regulation on it, and therefore would be allowed to pass at any checkpoint. The rosewood becomes even more lucrative since there are no levies to pay along the transport chain when there is a ban in place.

In the north of Ghana, the salvage permit given was for the contractor to evacuate the already felled rosewood but unfortunately, people exploited that permit to fell fresh rosewood. Also after the ban, people were felling it with the intention that the ban would be lifted and permitted to continue to trade. As a community leader said:

Initially, the Forestry Commission pretended to be stopping the illegal rosewood trade but later one gave the green light to conclude that they were aiding them because the people needed conveyance to transport the wood to the harbour and the Forestry Commission issued the conveyance. Mostly Forestry Commission forges figures in the office to issue conveyance to the rosewood dealers without having inspected the wood. Most of the documents are conjured. Some of the rosewood dealers can have more than three conveyances. According to one informant, the loggers sometimes buy the conveyance from the contractor to convey their logs. [CYLI-06622]

At the community level, when some of the community members realized that even in the face of the ban on the rosewood trade, the Ghana Forestry Commission was allowing salvage permit holders to evacuate already felled rosewood both in the off-reserve and on reserve areas, some community members in different communities mobilized to deliberately fell more rosewood at different locations without recourse to whose land on which the rosewood was located. This points to how the rosewood trade reduces the ability of various groups to govern as a common property resource as the perceived benefit of the resource would mostly not make people adhere to laid down rules and regulations.

Our findings indicate the involvement of several traditional leaders and local government officials were involved in the illegal harvesting of rosewood in these rosewood endemic communities. Some of these community leaders as reported by some respondents were compensated with cars and cash by rosewood merchants to be giving the green light to continue the illegal rosewood trade within their enclave. In short, this was a scramble for the benefit and financial rewards from the trade at

different stages within the Ghana-China Rosewood value chain.

In responding to allegations of impropriety raised against the Forestry Commission, Forestry officials agreed to the fact that conveyance certificates were issued to convey rosewood. According to the officials, this was a way to raise revenues for the government. The officials clarified the fact that rosewood did not originally fall within commercial timber and so was not regulated by strict timber rules. The commission had to take action after it realized that the demand from China had triggered the sale of the wood. Officials from the Forestry Commission agreed to the fact that there was abuse in the systems regarding the trade of rosewood. According to them, the abuse was from the community members to community groups and associations. They also agreed to the fact that some Forestry officials benefited financially from the rosewood trade in the form of appreciation from contractors and dealers after processing their documents. Below are statements from a Senior Forestry official during one of the focus group discussions:

There was a lot of abuse in the system concerning this rosewood trade. The indigenes are those who do the hunting of rosewood for the contractors and the Chinese. Before a contractor gets to the Forestry Commission office to report that his load is ready for conveyance certificate, he already has an Area Council ticket, Municipal Authority ticket, District Assembly ticket, Traditional Authority ticket, and Sissala Youth Association ticket. They bring all these tickets to adduce evidence that it is from a legal source. The Assembly Member in the area issues tickets and collects money and the Chiefs in the area also receive money and give tickets. Every ticket issued by the groups goes with a fee payment. Then the Forestry Commission has to issue a conveyance certificate because the people themselves who should rise against it are doing it. Payment for the conveyance certificate is done at the Bank. Therefore, the contractor after the payment has to bring the bank draft to the office for the conveyance certificate to be issued. Before the certificates are finally given, the contractor will show some level of financial appreciation to some Forestry Commission staff as they can also frustrate them in case that is not done. So there was a lot of abuse in the system and everybody was involved, Forest Service Division and then Wildlife, because Wildlife Division would have to issue the CITES permit before it is transported which may warrant some financial negotiations as well. In addition, the Timber Industry Division Department were also involved as they operated the checkpoints and allowed the rosewood timber to be transported. So all the arms of the Forestry Commission Ghana were involved in this. Officers at the port had their part to play in this as they finally cleared the rosewood container to be transported to China. From the village person to the personnel at the port, there was a chain of benefit sharing of the rosewood money. [SFSDOTF-22522]

The Chinese rosewood investors as the sole initiators of the rosewood trade greatly influenced the trajectory of the trade. As a dominant actor in the rosewood trade chain, the Chinese investors had the power to bargain and dictate the decision-making process in line with the trade. At the national level, there are reports of Chinese rosewood investors influencing the top leadership echelons with money to pave way for the trade activities. As one interview respondent puts it *“The Chinese are ready to pay money to have what they want”*. [CSOI-21522]. At the institutional level, they had their way of establishing good working relationships with key influential personalities within regulatory institutions like the Forestry Commission and the Police Service. This emboldened them in the rosewood trade as they could fall on these influential bigwigs to provide them with some level of security from other law enforcement officials who may want to clamp down on their activities. In summary, Chinese rosewood investors leveraged the regime by giving loans to merchants, paying bribes and manoeuvring their way through the creation of networks which ensured the thriving of the rosewood trade. (See [16] & [34] for a detailed account of the access strategies by the Chinese rosewood investors in the Ghana-China rosewood trade).

6. Discussion

The rosewood trade fits into the broader picture of how international

trade and global demand impact local natural resource governance. The case of global shea trade markedly has similarities with the rosewood trade, focusing on the complex contours of shea's pathway from the forests, farms, and markets of the West African savanna to industrial economies of North America, Europe, and Asia, we observe a similar case with rosewood from the forest of Ghana to the industrial hub in China. Shea's new role luxury item used in the cosmetics industry has significantly affected its global trade [35]. Shea has come to hold cosmopolitan consumers, defining a market that is profitable, well-known, and on the cutting edge of global capitalism [36]. In this vein, in the case of rosewood, China's embrace of capitalism has resulted in the attachment of the Chinese to its strong cultural past, which is connected to rosewood furniture (Zhu, 2022).

Ghana's shea governance has also gone through different phases [37]. As in the colonial period, the 1980s and 1990s marked diverse changes in terms of state involvement in the export of shea and restructuring of the domestic shea economy. In the 1980s government agents set up thousands of cooperatives known as Shea Nut Farmer Societies throughout Ghana's northern savanna with the exclusive charge of collecting and marketing shea nuts for export. In the early 1990s, the government's disposition toward the shea trade changed as the shea market was opened to the private sector. This accelerated the shea trade and invited more international merchants from Europe [36]. The same case of institutional trade structure cannot be said in the case of rosewood trade, as the trade has rather been sporadic and thrived on ad hoc institutional initiatives.

The growth of the international shea trade in the global North has generated new contexts for actors along the chain in producer countries [36,38]. This also holds for the international trade of rosewood. Our study shows that international actors affect local structures and systems in the trade of resources as the Ghana-China rosewood trade reveals some of the ways the governance structures have impacted as the trade has progressed. Underscored by Gilli et al. (2020) based on the Ghana shea case, sourcing certified shea sourced from local communities who chose to establish Community Resource Management Areas caused concerns over land use and resource access.

Looking at the study through the lens of the socio-ecological system (SES), our analysis presents an interesting scenario. Based on the SES, the Ghana forest becomes the resource system(RS); the rosewood tree specifically becomes the resource unit(RU); the government, Forestry Commission of Ghana and all other related institutions become the governance systems(GS); community members who exploit the rosewood for various purposes becomes the Users (U). Our analysis shows that in the advent of the Ghana-China trade, rosewood as a resource unit has been under constant pressure due to the trade interest of the Chinese traders. The issue of how the economic potential of resources affects the sustainability of the resource coupled with both the social settings and political arrangements around the resource as advocated by SES became known in the Ghana-China rosewood trade arrangements.

Our analysis showed that the government of Ghana through the Ministry of Lands and Natural Resources deployed the use of bans on the harvesting and export of rosewood as a way to manage the illegal exploitation of rosewood across the nation. In the same vein, rosewood resource users triggered different local arrangements as a way to benefit financially from the rosewood trade. While individuals from various rosewood-rich communities collaborated with rosewood contractors in various rosewood harvesting activities as a way to secure some financial gains others worked as a community group unit to make a case for communal benefits. These different governance arrangements subjected Rosewood to pressure, which drastically reduced the resource base. Thereby affecting its sustainability.

That said, it is worthy of note, that the Sonyo community self-organized by setting out ground rules for assessing the rosewood as a community and ways in which benefits from the rosewood trade would be shared for the collective benefit of the community. Our analysis further revealed that community leadership played a key role in whether

the community will self-organize or not. This is because in most of the communities, which did not self-organize, for most of the time leaders were accused of arrogating all powers to themselves without consulting community members. This ensured that the financial benefits from the trade of rosewood went to some selected individuals instead of the entire community.

Our analysis supports the works of Ostrom and several other scholars (McKean 1992, 1998; Wade 1994; Schlager 1990; [18], 1992a, 1992b) who support the stance that appropriators can create and sustain agreements to avoid serious problems or over-appropriation. Different scholars have advanced the argument that appropriators of common-pool resources, who can communicate, develop their agreements, establish their positions of monitors, and sanction those who do not conform to their rules are more likely to succeed at undertaking self-government regulations (Lam, 1998, McKean 1992, 1998; Wade 1994; Schlager 1990; [18], 1992a, 1992b; Baland and Platteau 1996; Ostrom, Gardner, and Walter 1994). These scholars admit, however, that it is not automatic that most resource users using common-pool resources will undertake self-governed regulations as situations may vary from place to place and rules of engagement may differ ([17], p10).

Dating back to Ghana's pre-colonial period, Traditional authorities (also called chiefs) have been the main political figures and principal local governance actors (Abrefa Busia and Adjei [39]. Chieftaincy remains one of the few resilient institutions that have survived the three phases of Ghana's political history, pre-colonial, colonial, and post-colonial periods [40,41]. Traditional authorities are custodians of lands in most Ghanaian communities; they are responsible for land appropriation [42]. Traditional authorities, therefore, play a key role in the management of common pool resources such as lands and forests. They have played a role in negotiating community access to certified shea markets (Gilli et al. 2020). This is also evident in the Ghana-China rosewood trade as traditional authorities played a key role in facilitating access to rosewood to various actors ([16], forthcoming).

In terms of appropriation of proceeds of lands and other communal natural resources, Campion and Acheampong [42] observed how chiefs do this at the expense of their (local) community members. According to the authors, this undermines local development. Our study reveals this old phenomenon was at play as most chiefs and community leaders intercepted most of the benefits from the rosewood trade instead of laying down structures to enable the communities at large to benefit.

Given this new value for rosewood, individuals and families are keen on protecting their boundaries as a way of safeguarding their perceived rosewood financial reward. There have been cases of land boundary disputes, as people will change land boundary pillars on rosewood-rich lands to claim ownership of the rosewood. This inevitably sparks different levels of disputes. Group size and heterogeneity may have a great impact on forest commons since they affect the ability of the group to take collective action. Conflicts are often associated with governance decisions when a group is large and/or has poorly defined boundaries [43].

Community members continued to see the thriving of the rosewood trade in their communities without any tangible evidence of community benefits in the form of social amenities, financial rewards to community members etc. It gave these community members a cause for concern; this gradually grew into disputes between community members and leaders. They sometimes demanded accountability from their leaders of which they were mostly unable to render accounts regarding the rosewood trade. Mostly, after financially settling the Chief and the unit committee members, some of the rosewood contractors would refuse to pay the landlords and loading boys with the excuse that they deal with the top leadership. In discussing the issue of accountability in Ghana's local governance systems, Abrefa Busia & Adjei [39] underscore the fact that those business transactions undertaken by traditional authorities in Ghana mostly lack accountability and transparency and are driven by personal interests.

At the peak of the rosewood trade, the drive was to get as many

rosewood trees clear-felled just to influence the continuation of the trade in the face of the ban through the salvage permit conduit. Issues of the sustainability of rosewood were clearly out of the picture, as the interest was just to make financial gains from the trade at different levels, community, district, and national levels. Appropriators will overuse the resources unless efforts are made to change one or more of the variables affecting perceived costs or benefits ([17], p10).

Our study partly supports the underlying thought of the "tragedy of the commons", that people may become irresponsible and act in ways that will injure their common pool resources when not properly governed [44], but our study also shows that some communities may choose to govern their resources differently in the face of globalization of natural resources. Notwithstanding, the findings should be interpreted in the context of some of the limitations of the study. The sensitive nature of the topic was a key limitation in achieving a large sample size. We ensured, however, that our sample was representative of all key stakeholders in the rosewood business, including community members, traditional leaders, CSOs, youth group leaders and the Ghana Forestry Commission.

Before the advent of the Ghana-China rosewood trade, rosewood as a resource in various communities was appropriated for domestic purposes. Mostly used for firewood, burning of charcoal, used as fodder etc., rosewood was accessed for various domestic purposes with customary rules as the case is for some common pool resources. In the heat of the rosewood trade, the perceived benefit from the trade made some community members (except for the Sonyo) irresponsible in harvesting the resources, thereby injuring the potential of the resource to serve the common good of the communities. However, in the Sonyo community rules were made by community members to ensure its communal benefit.

The effect of multiple governance structures of forest commons is always contested since the variables involved are many and influence each other. However, van Laerhoven et al., (2020) suggest that almost invariably, group members with superior economic and political power often have a greater say in the governance of forest commons and gain a greater share of benefits accruing from the resource. This is typically the case of the Ghana-China rosewood trade as political power delegated through state institutions like the Forestry Commission is seen as dictating the pace of the rosewood trade even in an illegal manner sometimes. Different community leaders like the Chief, unit committee members, assembly members etc. portray the same scenario.

A carefully observed phenomenon in the Ghana-China rosewood trade is the subtle interplay between legality and illegality. As earlier observed, the Forestry Commission, a mandated state institution, clamped down on the illegal trade of rosewood in Ghana by auctioning seized rosewood. In this case, the cycle of rosewood trade continues, requiring that the same trade actors acquire rosewood but at a higher price. There are also several allegations against some personnel of state law enforcement agencies like the police, court, and military being illegally involved in the rosewood trade due to attractive financial packages given to these personnel. These regulatory actions by these institutions are a function of the regulations made in the management of resources. This largely confirms the observations of de Sardan [45] concerning regulations in Africa that either the state employees or the service users rarely adhere to regulations, procedures, specifications and organizational structures in either the letter or the spirit. The case of the issuance of salvage permits as a way to regulate the rosewood trade further confirms de Sardan's [45] observations as it became a conduit for abuse, fueling corruption.

7. Conclusion

This study aimed to explore the effects of the Ghana-China rosewood trade on formal and informal governance arrangements in rural Ghana. We demonstrate that the influence of Global China in this specific case has necessitated the trade of rosewood in Ghana since rosewood

furniture falls directly within China's embrace of capitalism and redefinition of modernity with a strong cultural reference to its cultural past. The effect of this agenda as demonstrated in the study has had both positive and negative effects.

In a constructive light, the study demonstrates how one community created rules to access rosewood, a type of common pool resource, on community lands. The results also show how more challenging tendencies such as land boundary disputes resulting from protests of existing rules and norms, including customary rights, contestation of rural authorities, rural leadership manoeuvrings, and corruption are increasingly prevalent since the boom in the rosewood trade at the local level. This study contributes to the debate on common-pool resources, demonstrating that rural people can self-govern common-pool resources to their advantage despite the alarming influences that external factors pose. From a China-Africa relations perspective, this work contributes to the politics of natural resources in the context of the increasing global influence of China in Africa.

The governance of rosewood in Ghana in the era of China's demand has provided insight into how international trade affects local governance systems. As this becomes a test case for accessing the effectiveness of governance structures at the national and local levels, it also provides the benchmark to consolidate efforts to improve forest governance systems. Future research could probe into the governance issues regarding the trade of other natural resources. Rosewood governance should be institutionalized sustainably. There should be laid down procedures for accessing, processing and trading in rosewood from the community level, regional level and the national level. The role of various institutions and stakeholders should be well defined to foster a more productive collaboration. Benefits from the rosewood trade should be evenly distributed at the community level. The trade of rosewood is a lucrative business that can provide decent employment for Ghanaian citizens, the state through the Forestry Commission can invest in rosewood plantations to enable the sustainable and regulator supply of rosewood for trade.

CRedit authorship contribution statement

Anthony Baidoo: Conceptualization, Investigation, Methodology, Writing – original draft. **Gretchen Walters:** Conceptualization, Methodology, Writing – review & editing. **Symphorien Ongolo:** Conceptualization, Methodology, Supervision, Writing – review & editing.

Declaration of competing interest

None

Acknowledgements

This research was funded by the French Embassy-Ghana Scholarships Secretariat programme (SCAC-Ghana/Accra10062021 & SCHOL-SEC/AS/H/186/vol.12/FG/02). The first author of this paper would like to acknowledge Campus France, Ghana and Montpellier for the logistical support and for coordinating all international travelling arrangements for this research. Auréa Pottier (IRD, UMR SENS), you deserve a special mention for the technical support. We wish to thank all those who participated in the study; your contribution to this work is invaluable. We are especially grateful to the anonymous reviewers of this paper for their valuable comments and suggestions.

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