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Research Article

Institutional Arrangement for Urban Forest Management in Ghana: Assessing the Role of the Local Communities and Youths

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ABSTRACT

Sustainable management and conservation of urban forests are becoming increasingly important to achieve urban sustainability, thus requiring a unified stakeholder collaboration at different levels. Local communities and youth play essential roles in sustainable urban forest management. This study analyzed the institutional arrangement for urban forest management in Ghana and the involvement of local communities and youth. The research involved an in-depth analysis of environmental institutions in Ghana and used qualitative methods to explore community and youth roles in urban forest management. Findings revealed a lack of a specific institution spearheading urban forest management, leading to overlapping responsibilities and administrative conflicts. Despite their potential, local communities and youth are often excluded from urban forest planning and management, resulting in decreased ownership and misuse of urban forests. Recommendations include assigning clear roles to responsible institutions, designating a specific urban forest management body, and adopting a youth-focused participatory approach for effective management.

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1. Introduction

With the projected urban population to be 68% of the global populace by 2050, there is a surge in the need for establishing secure, inclusive, and sustainable urban areas (UNEP, 2022; UN, 2015; Zhang, 2016). Urban locales are increasingly vulnerable to new and emerging forms of extreme risk, largely due to inadequately planned and managed urban expansion, thereby engendering threats and perils (UNDRR, 2013). Projections indicate that by 2050, the count of urban inhabitants exposed to cyclones will surge from 310 million to 680 million, while those vulnerable to significant earthquakes will escalate from 370 million to 870 million. Furthermore, the anticipated investment in urban development is expected to climb from US$7.2 trillion in 2011 to US$12 trillion in 2020 (UNDRR, 2013). A report by CDP (2018) has affirmed that no city can be deemed entirely secure. Consequently, cities and major urban centres confront the penetrating gaze of climate change risk (Dasgupta et al., 2022).

Amidst the current era characterized by the growing impact of rapid urbanization and climate change, particularly prevalent in developing nations through urban floods, urban heat waves, and urban heat islands, sustainable urban forests play a pivotal role in safeguarding the well-being and security of the progressively expanding urban populace Zhang (2016). According to Alexander (2020), an urban forest is labelled as a "human-engineered system," encompassing trees, gardens, parks, and related components, constituting the green infrastructure of towns and cities.

Urban forestry is a promising approach for addressing the array of challenges associated with urbanization (Fuwape & Onyekwelu, 2010; Asare, 2011; Alvey, 2006). Urban forests yield both tangible and intangible ecosystem services, thereby playing a fundamental role in the lives of urban inhabitants (Sanesi et al., 2010; Berglihn et al., 2021; Jim et al., 2009; Song et al., 2018; Stępniewska, 2021). Among the tangible benefits are that urban forests offer sustenance through wild fruits, nuts, and mushrooms while supplying wood for construction and building purposes (Fuwape & Onyekwelu, 2010). Intangible services derived from urban forests encompass their function as carbon sinks, mitigating global warming, improving air quality, and providing urban denizens with spaces for physical exercise (Fuwape & Onyekwelu, 2010). The Millennium Ecosystem Assessment (MEA, 2005) and The Economics of Ecosystems and Biodiversity (2010) assert that forests provide provisional, regulatory, support, and cultural services.

Maintaining a productive and sustainable urban forest requires strong collective efforts by state and non-state agencies, including the local communities and the youths (Nero et al.,

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2018; Miller et al., 2015; Ordóñez, & Duinker, 2013). This posits that local and national institutions must play roles in promoting the conservation of urban forests. There is, therefore, the need to understand the various roles that the various institutions play to ensure efficiency and adequate collaboration among various actors. Existing studies on urban forests in Ghana have been limited to assessing the drivers of change, urban forest loss, benefits and challenges of urban forest, and urban green space planning and understanding the 'religious space' of the urban forest. (Cobbinah et al., 2023; Afuubi et al., 2020; Oppong et al., 2023; Okyerefo & Fiaveh, 2017; Tuffour-Mills et al., 2020). This gap in literature requires adequate examination to provide policymakers with adequate knowledge for informed decision-making. This research seeks to understand the institutional arrangement for urban forest management in Ghana, identify possible conflicts of institutional duties in managing urban forests in Ghana and establish the role of the local communities and youths.

1.2 Global agenda for urban green spaces, including urban forests and trees.

The world is fast becoming a universal village and more interconnected than ever. Many multinational organizations and agencies are beginning to view all development challenges as common issues affecting people across the globe, thus requiring a unified approach to solve them. This has led to the adoption of many development agendas, such as the Millennium Development Goals (MDGs), 2000-2015, Sustainable Development Goals (SDGs), 2015-2030, and The Paris Agreement, etc. to serve as a developmental framework to solve the world's most pressing challenges. In the case of urban development and the integration of urban green infrastructure into urban planning and management, many global development agendas have made calls for the adoption of a more environmentally friendly approach toward urban development and have reiterated the need for the inclusion of urban forest and green spaces in the urban habitat (United Nations Economic Commission for Europe, 2021). Before the end of the Millennium Development Goals in 2015, the United Nations, at a conference on sustainable development that took place in Rio de Janeiro, Brazil, in 2012, created a set of international goals linked to the political, economic, and environmental issues that we face as a human race (Enel Américas, 2016). In 2015, all states belonging to the United Nations adopted the Sustainable Development Goal "Transforming the World: The 2030 Agenda for Sustainable Development" as a global development agenda (Ghorbani, 2021). Seventeen (17) goals and one hundred and sixty-nine (169) targets were adopted to leave no one behind. The United Nations recognizes the relevance of urban green spaces and urban forests in promoting sustainable urban development, and as such, target 11.7 of SDG 11 calls for "universal access to safe, inclusive, and accessible green and public space, in particular for children, women, persons with disabilities and older persons" (United Nations, 2015). This notwithstanding, available data from 1,072 cities in 2020 indicates poor allocation of open public spaces in most regions. The report also shows that only approximately 38% of urban areas in major cities are 400 meters or less from an open public space, which equates to only about 45% of the world's urban population having easy access to these locations (United Nations, 2022). This, therefore, calls for more efforts toward realising this target.

Secondly, the United Nations' "The New Urban Agenda," which was adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in Quito, Ecuador, on 20th October 2016, presents a shared vision for sustainable development of cities to provide better opportunities and equitable access to rights and benefits that cities have to offer its inhabitants. As such, a commitment is to promote safe, inclusive, accessible, green, and quality public spaces, including gardens, parks, urban forests, etc (United Nations, 2017). To foster social connection, inclusiveness, human health and well-being, economic trade, and cultural expression and discussion among a large diversity of people and cultures, the agenda recognizes the multifunctional character of urban green spaces and forests as a vital infrastructure (United Nations, 2017).

More so, the declaration of 2021-2030 as an ecosystem restoration decade by the United Nations has given adequate support for the conservation and restoration of urban ecosystems, re-emphasizing the importance of forests, wetlands, drylands, and other natural ecosystems for sustainable development, eradicating poverty and enhancing human well-being. The declaration also calls for implementing the United Nations Strategic Plan for Forests 2017–2030 and the need to reverse global forest cover loss through sustainable forest management, including protection, afforestation, restoration, and reforestation. It also urges increased efforts to stop forest degradation and positively contribute to the international effort to combat climate change (United Nations, 2017).

The United Nations strategic plan for forest 2017-2030 recognises the critical roles of forests in maintaining life on earth. It provides a framework for global action at all levels to manage all types of forests, including urban and non-forest trees, sustainably, stop deforestation, and reverse forest degradation (UNSPF, 2017). As such, the global forest goal one (1) calls explicitly for the "reversion of the loss of forest vegetation worldwide through SFM, including protection, restoration, afforestation, and reforestation, and increased efforts to prevent forest degradation and contribute to the global effort of addressing climate change" (UNDSF, 2017 p. 4/16)

The Paris Agreement, 2016, perhaps the United Nations' most comprehensive and legally binding treaty to combat climate change and limit global warming, calls for conserving forests. It encourages parties to adopt alternative policy approaches and support incentives for initiatives relating to reducing deforestation and forest degradation emissions. The Agreement also emphasizes the significance of preservation, environmentally friendly forest management, and boosting forest carbon stocks in developing nations; and the adoption of different policy approaches, like collaborative mitigation and adaptation strategies for the comprehensive and sustainable management of forests, while reiterating the importance of incentivizing, as appropriate. (Paris Agreement, 2016: Chadwick, 2022).

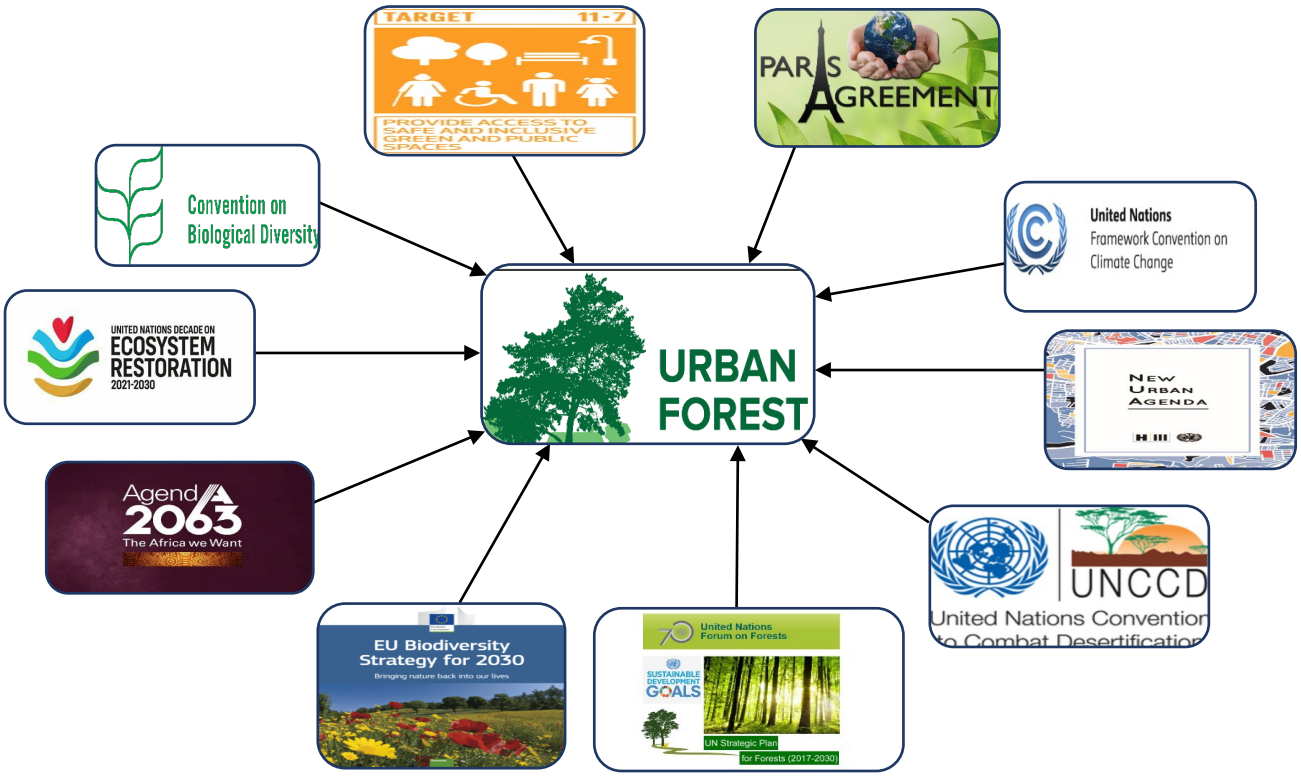
The European Commission, through its biodiversity strategy for 2030, acknowledges the importance of forests, especially urban forests, in promoting biodiversity, provision of food, medicine, climate, water regulation, etc. The strategy also acknowledges foresters' responsibilities for ensuring sustainable management and preserving and restoring forest biodiversity. The policy supports the EU's 2030 forestry strategy to assist biodiversity and ecosystem restoration, which calls for tree planting, reforestation, and afforestation. The strategy offers a step-by-step plan for planting at least 3 billion more trees in the EU by 2030 while adhering to all ecological precepts (EU, 2020).

In the African context, "The Agenda 2063," a blueprint to achieve sustained socio-economic and environmental development, was adopted in 2015 by African Union member states. These goals provide the continent with a common developmental framework and contain the aspirations of the

people of Africa. Goal 7 of the agenda 2063 calls for environmentally sustainable and climate resilient economies and communities and advocates for the protection and restoration of ecosystems, sustainable management of forests and green spaces, for halting and reversing land degradation and halting biodiversity loss (African Union Commission, 2015: African Union Development Agency - NEPAD, 2022).

Other conventions such as the Convention on Biological Diversity, the UN Framework Convention on Climate Change, the UN Convention to Combat Desertification, and the United Nations Forest Instrument provided by the UNSPF (UNFI) also provide forest-related frameworks for implementing the agenda for sustainable development.

Figure 1. Global Support for Urban Forests and Green Spaces



2. Materials and Methods

2.1 Study design

This research employed document analysis and a qualitative research design. Initially, the study involved an in-depth examination of institutional documents from forest-mandated government institutions in Ghana. The analysis adhered to specific guidelines, identifying key state institutions and legal documents, such as parliamentary acts and legislative instruments. Relevant documents were selected based on their significance and included for analysis, to comprehend the institutional structure and legal framework for urban forest management in Ghana. Additionally, the qualitative aspect of the study encompassed gathering primary data from local assembly members and community youths in specific areas of the Tamale metropolitan assembly, including Moshi-Zongo, Gumbihini, Choggu, and Nyohini.

Table 1.0 Below shows the various institutions and their year of establishment.

Institution	Year of establishment
Forestry Commission	1999
Lands Commission	2008
Land Use and Spatial Planning Authority	2016
Local government service	2003

Source; Authors construct 2023

2.1.1 Identification of Relevant State Agencies.

A literature search was undertaken on the Ministry of Lands and Natural Resources website and the Ministry of Local Government and Rural Development. State agencies under these ministries that played vital roles and had a stake in managing urban forests were identified. These institutions included the Lands Commission, Forestry Commission, Land Use and Spatial Planning Authority, and local government services.

2.1.2 Identification of relevant institutional legal documents

Relevant institutional legal documents were identified through the review of the 1992 constitution of Ghana. This was accessed online through the Ghana Judiciary Service online service platform (Judicial Service of Ghana, 2024). All legal documents, including Acts of Parliament and legislative instruments for the establishment and operation of the identified state institutions, were captured and reviewed. Table 2 below represents the reviewed legal documents of the recognised state agencies

Table 2 Legal documents for review

Institution	Act of parliament	Legislative instrument (L.I)
Forestry Commission	1. Forestry Commission ACT, 1999 ACT 571	-
Lands Commission	1. State Lands Act 1962 Act 125 2. State Property and Contract Act of 1960 (CA 6) 3. Land (Statutory Wayleaves) Act of 1963. (Act 186) 4. Lands Commission Act, 2008 Act 767-Section 23 (I)	-
Land Use and Spatial Planning Authority	1. Land use and spatial planning Act, 2016, ACT 925 2. National Development Planning (System) Act, 1994 Act 480.	-
Local government service	1. Local Government Act, 1993, Act 462	1. legislative Instrument L. I 1961

Source; Authors construct 2023

2.2 Sampling of Key informants for the qualitative study

Eight (8) key informants were interviewed for this study. These include four local assembly members of the selected communities who represent the people at the community level. Four youth leaders from the Moshi-Zongo, Gumbihini, Choggu, and Nyohini communities were also identified and interviewed. The selection of the above-mentioned key informants was done using a purposive sampling technique. Table 3 below represents the distribution of people interviewed for the study.

Table 3. Distribution of key informant interviews

Respondents	The target number of people	The actual number of people interviewed
Assembly members	4	4
Community youth leaders	4	4

Source: Authors construct, 2023.

These key informants were selected due to their knowledge and their role in decision-making in the study in the community.

2.3 Data collection

Interviews were conducted with the purposively selected local assembly members and the selected youth leaders of the Moshi-Zongo, Gumbihini, Choggu, and Nyohini communities. An interview guide was used to administer the interviews. Responses from each participant were tape-recorded, and notes were taken during the interview. The tape record was later transcribed from the local language "Dagbani" into English for analysis.

3. Results and Discussion

3.1 Institutional arrangement for urban forest management in Ghana

Forest reserves and, for that matter, urban forest reserves are predominantly owned and managed by state agencies and institutions in Ghana. The creation of a forest reserve begins in the office of the President. The President, in consultation with relevant state agencies and community leaders, has the power which is vested in him by the 1992 constitution of Ghana to evoke the State Lands Act 1962 Act 125 to acquire lands for public use compulsorily and in the interest of the general public as and when deemed necessary. Additionally, the State may purchase land by the State Property and Contract Act of 1960 (CA, 1960, p. 6) and the Land (Statutory Wayleaves) Act of 1963. (Act 186). Under this Act, the State may seize land granted by the constitution when necessary to protect the general welfare, public safety, public health, national security, or special development (Bannor et al., 2021). This land acquisition process by the State is known as compulsory land acquisition. The acquisition must be gazetted and made known to the public following parliamentary approval and the creation of an act of parliament to enforce the acquisition.

Upon gazette, the land ownership is transferred to the State and managed by the Lands Commission of Ghana's Public and Vested Lands Management Division (Lands Commission Act, 2008 Act 767-Section 23 (I)). Thus, the State becomes the allodial owner of the land after the total compensation of the customary owners (Bannor et al., 2021).

Although the Public and Vested Lands Management Division of the Lands Commission of Ghana manages state lands, it does not determine the use for which the state land has been acquired. The responsibility of determining land use hangs on the shoulders of Ghana's Land Use and Spatial Planning Authority (Land Use and Spatial Planning Act, 2016, ACT 925). In consultation with relevant state agents, the Land Use and Spatial Planning Authority is responsible for preparing a spatial development framework to determine the use of a particular land.

That notwithstanding, section 14 (1) of the National Development Planning (System) Act, 1994, gives the President powers to create unique development zones on the advice of the Authority and in conjunction with the National Development Planning Commission (Act, 480).

Where the President makes a special development zone under section 14 (1) of Act 480, the Land Use and Spatial Planning Authority shall prepare a spatial development

framework for that zone. Such zones include forest reserves, Ramsar sites, globally significant ecological sites, industrial zones, etc.

In the event of the creation of a forest reserve, Ramsar site, or globally significant ecological site, regardless of its location, whether rural or urban, the management of the forest reserve or forest is entirely the responsibility of the Forest Services Division of Forestry Commission of Ghana (Forestry Commission ACT, 1999 ACT 571). Under the Forestry Commission Act, 1999 Act 571, the Forestry Commission must create regional offices in all sixteen regions in Ghana to manage all forest resources effectively. The regional offices are responsible for regional-level management of the region's forest resources under the national forest management framework.

The natural resource conservation department's forest, game, and wildlife division manages and protects all forest resources at the Metropolitan, Municipal, and district levels. The legislative Instrument L created the department. L. I 1961 of the Local Government Act, 1993, Act 462 in 2009, also performs such roles as formulation of policies in line with the national policy framework for Natural resources and conservation and report on the implementation of the policies and programs to the District Assembly (Local government Service, 2018).

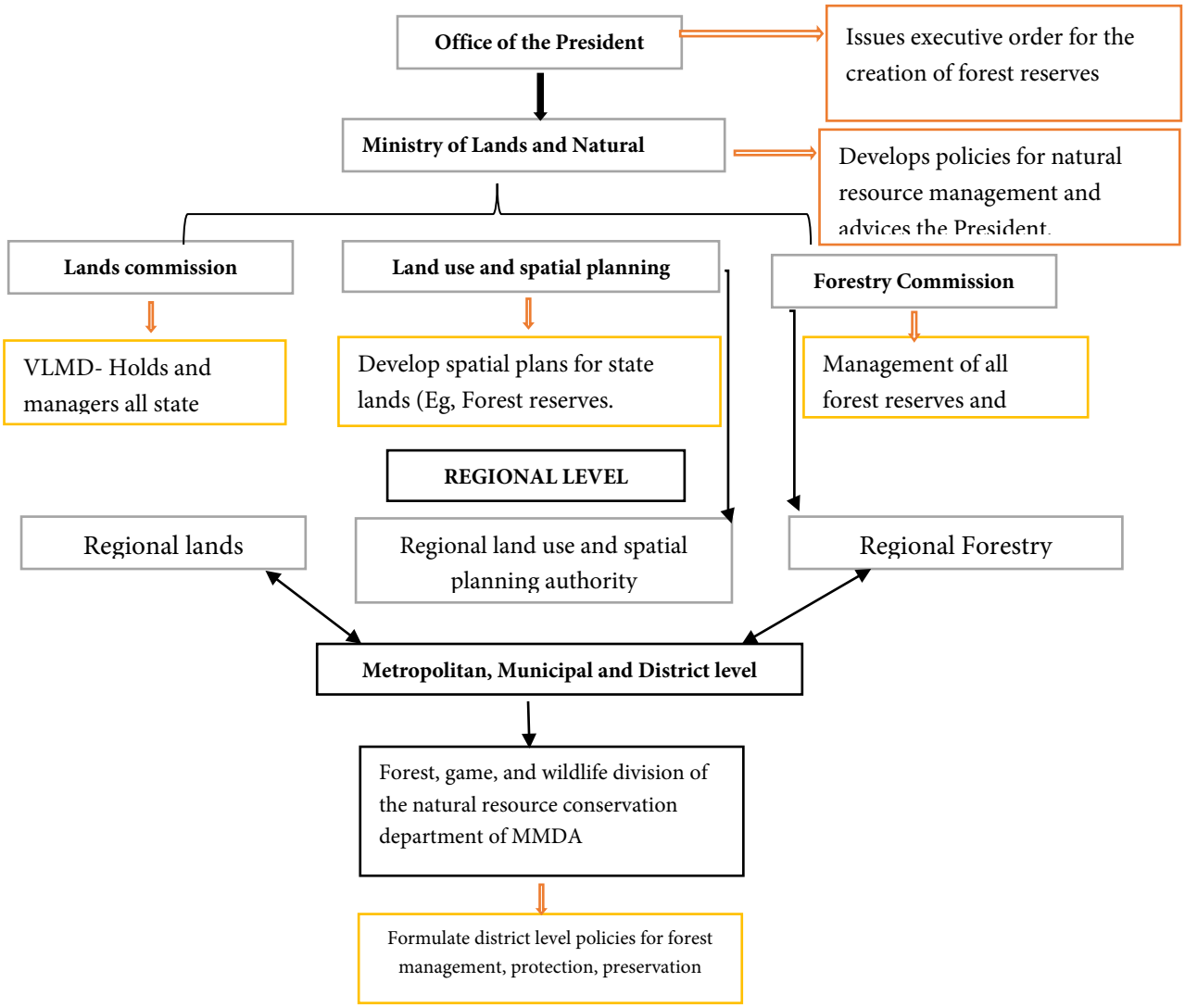


Figure 2. Institutional Arrangement Urban Forest Creation and Management in Ghana

In reviewing the institutional arrangement for urban forest creation and management in Ghana, a possible conflict of administrative duties on urban forest management might exist between the Forestry Commission, Lands Commission, and the Municipal Authority. Moreover, the Forestry Commission Act, 1999 Act 571, fails to assign the role of the local communities within which the forests are found in managing forest resources. This results in the marginalization of the local community members, who often express their frustration and lack of collective voice by doing illegal things to prove their point (Asare, 2011).

3.2 Role of the Local Community and Youths in Urban Forest Management.

Results from the interview with key informants and community youths indicate minimal participation of the local communities in managing the urban forest. According to the assembly members, decisions about the urban forest are made and implemented by the Forestry Commission or the Lands Commission. It was indicated that the assembly members only served as change communicators who informed their

community members about the changes and decisions of the forest governing institutions.

> "When they finish deciding what they want to do, they come to us to inform our people about it. They do not even ask us about our opinion. We feel left out of the decision-making process. And sometimes our constituents think we are not representing them enough" … assembly member, 2023

The assembly members, however, indicate their readiness to be fully involved in managing the Aboabo forest. They further indicated that before the forest was handed over to the Forestry Commission, the local communities took charge of preventing wildfires. They further indicated that as people who are direct beneficiaries of the existence of the forest, their views and skill sets should be sought in planning and managing the forest.

> "The forestry commission often thinks we do not know anything about keeping this forest safe. However, before they started managing the forest and restricting people from entering it, the local communities were managing it effectively. Even now, there are frequent fires in the forest, and by the time the forestry commission responds, all the forest will be gone in flames" … Assembly member, 2023.

The local community further expressed dissatisfaction with the forest's management style by the Forestry Commission. The assembly members indicated that the forestry communities' current tree-planting activities had not been done with the local community members' consultation. They expressed concerns about the planting of non-indigenous trees in the forest.

Results from the interviews with the youth group leaders also indicate the same trend as that of the local assembly members. The youth leaders in the selected community are not involved in managing the Aboabo forest. As a result, they do not have any sense of obligation towards managing the forest. This has led to the use of the forest as a place of convenience by many youths in the community

"These days, nobody cares about the forest, especially the youths. This is because we are mostly not involved in any decision-making process about the forest. Even when undertaking tree-planting projects, they do not employ youths from these communities. How can we be treated this way?" Community youth leader, 2023.

The community youth leaders expressed their willingness to be involved in forest management if given a chance. They expressed willingness to contribute free labour and monitor security services to help maintain the forest. They further indicated that the youths in the community are ready to make sure that the forest is safe and well-maintained if given the necessary support to be involved in the decision-making and management process of the Aboabo forest.

The effects of the non-involvement of the local community and the youths in managing urban forests in Ghana have resulted in a lack of sense of ownership, improper use of the forest and poor maintenance of the urban forest.

> "As it stands, no one seems to care about the forest anymore. People dump refuse into the forest, and others go there to defecate. This is sad and detrimental to the environment, but who is to blame?" … Assembly member, 2023

Local communities and the youths are a source of excellent knowledge and untapped human resources in the sustainable management of urban forests. However, more research is needed to quantify their potential contribution for easy understanding by policymakers.

5. Conclusions

The importance of urban forests in the modern urban landscape cannot be underemphasized. The management of urban forests requires a holistic and multi-institutional approach. However, this research showed that the lack of clear assignment of duties and a designated institution to manage urban forests in Ghana results in the overlap of institutional duties. The study shows that local communities and the youths in the Tamale metropolis are sidelined in the urban forest management processes despite their integral role in the community. Their lack of participation has dramatically affected the management of the Aboabo forest, and the forestry commission is losing in on knowledge and free resources it could have leveraged in managing the forest.

As a recommendation, the government of Ghana, through a legislative instrument of parliament, should assign a designated institution to manage all urban forests in Ghana. The designated institution's management board should comprise all urban forest planning and management sector stakeholders. The designated institution should be encouraged to develop a comprehensive participatory framework for the management of urban forests in Ghana.

Secondly, a conscious effort should be made to promote the involvement of the local communities and youths in urban management. The Forestry Commission and the local government should leverage the potential of the local communities and youths whose local knowledge and expertise could serve as invaluable resources for effective and sustainable urban forest management.

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