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Management of Sacred Groves and Customary Practices in Pursuit of Sustainable Forest Management

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Abstract

The goal of this investigation was to identify the customary practices on sacred groves and how they can help in achieving sustainable forest management in Ghana. The study examines forest management, deforestation, and sustainable forest management concepts. A case study of Boabeng Fiema Monkey Sanctuary and Malshegu Sacred Groves was explored. Interviews with community members were executed. Also, some secondary data on these two sacred groves were equally examined. The study found that taboos and other cultural beliefs were used to protect the sacred grooves with little government support. The study recommends that the state should make laws through the environmental protection agency and the forestry commission to support the cultural practices to achieve sustainable forest management.

Keywords: Sacred Groves, Taboos, Natural Resources, Deforestation, Sustainable Forest Management

1. Introduction

Forests and other natural resource systems are significant assets because they provide humans with useful services (Daily et al., 2000). Ghana's forests provide a variety of environmental benefits in addition to timber and non-timber forest products. After minerals, cocoa, and tourism, the forestry and wood processing industries account for about 6% of GDP, and with timber as the fourth largest foreign exchange earner. Despite this, Ghana's forest has been steadily disappearing over time. While the country has one of the highest rates of deforestation in West Africa, accurate figures regarding the state of the forest cover and rates of deforestation are becoming increasingly difficult to get (Hansen et al., 2009; Marfo et al., 2012). In Ghana, forest management has mostly focused on timber, which has direct commercial benefits.

Environmental services of forests are not taken into account in forest management planning and the national income accounting (Damnyag et al., 2011). Also, the provisioning services from natural and plantation forest ecosystems which are included in forest management planning and national income accounts are undervalued. The regulatory (climate, erosion, pest) and cultural (aesthetic, religious) services are not incorporated either. At the farm or community level, even though the forest plantation ecosystem provides these benefits to the farmers, their values are not adequately quantified and included in official forest management planning. This may be attributed to the lack of knowledge, understanding and estimation of the value of environmental services provided by plantation forests. Not including these nonmarket benefits of plantation forest in management planning could substantially affect the provision of these benefits, and also may increase the pressure for conversion of forest plantation to other land uses. As a result, the expansion, maintenance and protection of these plantation forests have been a concern (Nanang & Nunifu, 2015).

Forest Management in Ghana

Before the entrance of Europeans, Ghana's indigenous population, and Africa as a whole, played a significant role in managing and safeguarding natural resources through local organizations (Matose, 2006). Indigenous people' participation and benefit-sharing were not

prioritized in forest policy, which instead focused on timber harvesting and export (Asante, 2005). At the time, communities, as well as other stakeholders like traditional authority, lacked legal rights, access, and economic incentives to manage and use woods (Wily, 2001). The Forestry Commission (FC) is the state-designated agency responsible for the protection and management of the nations' forest estate. The forestry commission carries out its mandate by policing the boundaries of forest reserves, through policies and several legislations (Marfo, 2006).

Deforestation in Ghana

Deforestation, which is diminishing tropical forest lands, is largely a concern of developing countries in the tropics (Myers et al., 2000). According to Van Kooten & Bulte (2000), deforestation is the conversion of forestland to non-forested land uses like urban development, agriculture, or grazing. Forest loss is a big concern for two-thirds of Africans, who rely on forest resources for income and food replenishment (Angelsen et al., 1999). Ghana has one of the highest deforestation rates in West Africa (Benhin & Barbier, 2001), with population expansion, shifting cultivation, unsustainable logging, mining, wildfires, fuelwood, and charcoal manufacture being the main reasons (Appiah et al., 2009; Cudjoe and Dzanku, 2009). Ghana's annual rate of deforestation is over 65,000 hectares, according to the International Tropical Timber Organization (ITTO, 2005), and the country's massive forest cover might be gone in just 25 years. Deforestation has numerous detrimental consequences for both the ecosystem and societal well-being. The global water cycle is disrupted by deforestation (Bruijnzeel, 2004). The destruction of part or all of the forest reduces the area's ability to hold water, resulting in a drier climate (Chomitz et al., 2007).

The ability of the forest to filter and treat water is lost which makes treatment and supply of water to urban areas expensive. Additionally, sedimentation in water bodies increases as the regulatory function of trees is lost (Dudley & Stolton, 2003). Regular weather patterns are interrupted as a result of deforestation, resulting in hotter and drier weather, increasing drought and desertification, polar ice cap melting, coastal flooding, crop failures, and the shifting of major vegetation regimes. Water vapour fluxes, wind patterns, and solar energy absorption are all altered by deforestation, all of which have a substantial impact on local and global climate (Chomitz et al., 2007). Deforestation disrupts the global carbon cycle once again, rising carbon dioxide (CO2) levels in the atmosphere. Every year, tropical deforestation emits over two billion tonnes of carbon into the atmosphere (Houghton, 2005). Deforestation can have a serious long-term impact on soil resources. The soil is exposed to the strength of the tropical heat and strong rainfall when the vegetation is cleared (Chomitz et al., 2007). The soil's ability to support agriculture becomes less and less effective with time. Deforestation can make a place more flood-prone (Bruijnzeel, 2004). The economic progress of developing countries is negatively impacted by deforestation. Forest products are widely acknowledged as being at the heart of Ghana's socio-economic growth outside of metropolitan regions.

The international community, governments at the national level and environmental non-governmental organizations have raised concerns about the negative effects of forest loss on the environment and humanity (Hobley, 2005). Over time, concerted efforts and

deliberations according to Lamb (2011), have led to three major responses to overcome deforestation. These are the pressing need to protect the remaining natural resources, the effort to improve agricultural lands on abandoned lands by using new technologies and the increasing role of reforestation activities (Lamb, 2011). Ghana in this regard has also made efforts to introduce remedial measures to stem deforestation. These measures include policy reforms (Amanor, 2003), strengthening of forest law enforcement (EU, 2007: Beeko and Arts, 2010), and replanting of degraded forest areas among others. The role of reforestation is considered in this study since the research revolves around the environmental services of plantation forests.

Sustainable Forest Management

Sustainable forest management (SFM) is a notion in constant flux, with different interpretations throughout time, countries, regions, and even local landscapes. As a result, the knowledge needed to achieve sustainable forest management (SFM) is heterogeneous and reliant on sets of values with varying spatial and temporal scale dimensions (Angelstam & Elbakidze, 2006). The concept of sustainability has consequently become pivotal to policy arrangements within the forestry sector. Sustainability is good and should be applied to natural resource management (Noss, 1993).

As a result, Sayer et al. (1997) state unequivocally that, in the context of forest management, sustainability is more than a question of natural forests versus plantations, or clear felling versus selection logging systems, but also includes more fundamental questions about forest functions and services, as well as stakeholders, equity, and expectations. Sustainability, according to Walia (2007), is defined as the preservation of healthy productive forests in terms of ecosystem services and goods to meet the demands of the current generation, as a stable natural asset cultivated in perpetuity. Sustainable forestry, according to Coufal (1999), is defined as the act of managing forests to meet human needs. The necessities of life include food, water, and shelter coupled with the supply of oxygen for human survival. Forests, therefore, play an essential role in ensuring these life necessities. Forests protect water bodies and also provide natural manure for the cultivation of crops. Furthermore, forest products, namely timber, are the basic units for the construction of houses. It is, therefore, necessary to manage forest resources sustainably.

The aspects of sustainability in forest management are: preserving the forest and its resources for future generations and reasonable forecasts of future demands, estimates of present rates of use and regeneration, and a broadly agreed view of the optimal rate of use. In a similar trend, the United Nations Forum on Forests (2007) emphasizes that sustainable forest management may help economic development by providing income, employment, food security, and shelter to those who need it most. That is, finding strategies to combine human demands with concerns about the long-term sustainability of forest resources is at the heart of sustainable forest management (UNFF, 2007). In addition, forests offer products and services that satisfy the social needs of the poor. Therefore, sustainable forest management embraces the view that forests yield many products and provide many ecological services. Pearce et al. (1999) therefore relate the concept of sustainable forest management to the multiple uses of the forest. Sustainable forestry is likened to a permanent flow of resources from forests. Sustainable

management of forests needs concerted efforts towards improving their quality to ensure an incessant flow of abundant forest products for forest-dependent communities. Sustainable forest management requires efficient and accountable governance and the protection of the rights of forest-dependent people. This implies that people along forest-fringes have the right to depend on forest resources both directly and indirectly to satisfy their needs materially.

The African Timber Organization Process (ATO)

Over-exploitation to suit the expanding socio-economic requirements of people has resulted in a major reduction in African tropical forests, with regional consequences being felt considerably more strongly. As a result, addressing concerns of sustainable forest management at the regional level became critical. In 1993, the African Timber Organization (ATO) launched a process to define principles, criteria, and indicators for the sustainable management of African natural tropical forests, which culminated in a political declaration in 1996.

To comply with international standards, particularly with the Inter-governmental Panel on Forests, the thirteen (13) member countries developed five (5) principles, two (2) sub principles, twenty-eight (28) criteria, and sixty (60) indicators for sustainable forest management, which can be applied at the national, regional, and forest management unit levels. In 2001, the fourteen (14) African Timber Organization member countries synchronized their principles, criteria, and indicators for African tropical forest management with those of the International Tropical Timber Organization.

Sustainable Forest Management in Ghana

Ghana's forest and resource management policies stems from 1906 when a legislation was passed to regulate the commercial felling of tree species. To regulate these activities, the Forestry Department (FD) was established in 1908. In 1939, the forestland demarcation and reservation were finished, and a forest policy was ultimately approved in 1948. (Forestry Commission, 1994). Unfortunately, sustainable supply of timber for the wood industry was the focus of the earlier forest policies rather than sustainable forest management. This, however, promoted and encouraged overexploitation of commercial tree species from both on and off reserves which eventually led to the demise of the off-reserves. This prompted the government to place 3,267,250 hectares of forestlands under permanent forest estate in 1978 (Forestry Commission, 1994). Following the acknowledgement of forests as the largest, most complex, and self-sustaining of all ecosystems at the 1972 United Nations Conference in Stockholm, Ghana grew more ecologically conscious. The conference's outcome underlined the importance of sound land and forest use policies, continual monitoring of the state of the world's forests, and forest management planning (UNCSD, 1978). Illegal chainsaw activities, combined with flagrant disregard for regulated harvesting processes, have severely depleted Ghana's forests (Donkor & Vlosky, 2003). Furthermore, due to persistent underfunding, forestry institutions had become demoralized and inefficient (Donkor & Vlosky, 2003). Consequently, concerns raised by major stakeholders along with increasing international attention on deforestation stirred the revision of the old forest policy and the adoption of the new Forest and Wildlife policy in 1994 (MLF, 1994). As a country committed to ensuring sustainable forest management, Ghana is also a signatory to the International Tropical Timber

Organization (ITTO) and the African Timber Organization (ATO) processes, which have influenced national policy measures on sustainable forest management (Asare, 2011).

Sacred Groves

Sacred groves are forest pieces of various sizes that are protected and usually have a strong spiritual significance and connotations for the community that protects them (Bhagwat and Ormsby, 2010). Sacred groves are sections of virgin forest with beautiful variety that have been protected by the indigenous for generations because of their religious and cultural beliefs, and taboos that the gods reside in them and protect the villagers from various misfortunes, according to (Khan et al., 2008). They are relict climax ecosystems, biologically diverse woodlands that are home to many endangered plant species, including unusual herbs and medicinal plants that are treasured by local people for religious reasons (Manikanda et. al., 2011). Sacred groves, according to Cardels et al. (2013), are small rainforest zones kept unspoiled by local people for the purpose of conservation by the gods, and have particular spiritual connotations for the indigenous. One of the best techniques for protecting local forests and promoting NRM is the perception and belief in sacred groves and trees.

Sacred groves, which are also known as sacred, or totem woodlands, can be found in Ghana, India (where 100,000 to 150,000 sacred groves have been reported), Morocco, Ethiopia, Japan among other places (Malhotra et al., 2007; Cardels et al., 2013). Natural museums of huge trees, wealth stocks of rare species, controllers of watersheds, dispensaries of healing plants, a utopia for nature-lovers, recreational areas of city living, stores of commercial species, natural parks for botanists, and the workroom for ecologists are some of the other names given to them (Bhagwat and Ormsby, 2010; Manikandan et al., 2011). Sacred groves can be found on every continent except Antarctica, including Africa, Asia, Europe, Australia, and America (Ormsby, 2011). SGs are prevalent in southern and northern Ghana, with the Malshegu holy grove in the north standing out (Falconer 1992).

According to a survey conducted by the Forestry Commission, there are approximately 1,904 SGs in Ghana, ranging in size from 0.5 to 1300 hectares (Ntiamoa-Baidu, 1995). Sacred groves are made up of trees, stones, and rocks thought to be deities, with 79 percent in the south and the rest in the north (Dwomoh, 1990). Some sacred groves in Ghana have the ability to conserve biodiversity, and over 80% of them function as catchment areas' watersheds (Anane, 1997). Some forest sections in Ghana are maintained because they serve as a burial ground for revered ancestors and royals (Ntiamoa-Baidu, 1995). Only a select few types of people (including members of the royal family and traditional authorities) are permitted access to such groves. Sacred groves are well-known for supporting and conserving a broad range of animals and plants (Sugumaran and Jeeva, 2008). As a result, we contend that all of these traditional methods, in the long run, protect forest quality. To safeguard totem or tabooed animals perceived to have cultural or mystical significance, forest areas are protected in Ghana and other parts of Africa and India. Such species are strictly protected, and handling them is forbidden in several cases. The Buabeng-Fiema Monkey Sanctuary, for example, is a grove protected because it helps the black and white African Colobus (Colobus polykomos), and the Lowe's Mona monkeys, which are revered by the locals to survive (Fargey 1991). Sacred

groves provide ecological services like as preserving a clean environment (water, soil, and air), carbon sequestration, conserving plant life and wildlife, and temperature management, among others. As a result, sacred groves are seen as the pinnacle of environmental study as well as national forestry conservation and management initiatives (Ramakrishnan, 2003).

In Ghana, powerful individuals in communities (chiefs, gerontocracy, and elders,) who are typically entrusted with special authority as sacred grove 'caretakers,' get spiritual strength from the gods and spirits in the trees (Adomako et al., 1998). They ensure that rules and regulations governing the access to and extraction of forest products are followed, despite the fact that, in most cases, sacred grove protection is supposed to be the duty of the entire community (Dorm-Adzobu et al., 1991). The reverence for the groves is primarily determined by the supposed "tumi" of the gods and spirits linked with it, according to Adomako et al., (1998), and compliance with access limitations inside the groves is also reinforced. As a result, the loss in tumi (power) in the sacred groves, as well as the receding of forest spirits and deities, are key causes contributing to the destruction of sacred groves. Preventing access and exploitation of groves is becoming increasingly difficult, particularly in Ghana's transitional zone (SarfoMensah & Oduro, 2010). According to local oral reports, traditional practices, notably the limitation imposed by the belief in tumi, may no longer be adequate to sustain sacred groves as seen in most southern part of Ghana (Decher, 1997).

Taboos / Totems Associated with Sacred Groves

A "taboo" simply means a restriction that is based on traditional customs for enforcement (Singh, 2002). Sacred groves have been linked to a number of taboos and belief systems in Ghana and elsewhere. According to Manikandan et al., (2011), some taboo (restrictions) to a sacred grove in India are: "(i) people should not enter into the groves with footwear and must not slaughter goats and chickens 32 feet away from the main deity. (ii) Women should not enter into the grove for 5 days during their menstrual period. (iii) Girls who have attained puberty should not enter into the grove for 90 days. (iv) Women should enter into the grove 108 days after delivering the child. And (v) People who have attended a death ceremony should not enter into the grove for the next 21 days". Ghana had established a number of regulations and laws that governed the usage of its natural resources. Most communities had traditional belief systems that forbade farming on specific days, consuming certain animal species, or felling certain tree species since maintaining these resources is considered as a heritage (Dorm-Adzobu et al., 1991, Millar, 2003).

Customary Practices

The notion relates to the use of a customary resource management system to manage forest resources. Local beliefs, tenure arrangements, organization and regulation are all covered by this system's components. Some of these customary laws on forest protection, according to earlier researchers (Dorm-Adzobu et al., 1991; Millar, 2003), include the following: (i) The restriction of felling particular trees (cotton tree, dawadawa, shea tree, etc.) in Northern Ghana and certain communities, as well as the prohibition of felling trees along river banks and at burial grounds. (ii) Establishing sacred groves or protected woodlands. (iii) Using taboos to keep people out of forests on specific days and months. (iv) The usage of certain tree species as

religious items. The baobab tree, for example, is revered in some parts of Ghana's Northern and Upper Regions because it is thought to be the home of the gods. (v) The usage of specific animal species as objects of worship and the designation of some animals as totems (i.e., emblems that function as symbols of a family or clan) (e.g., leopards, elephants, and eagle). (vi) Some communities have banned the consumption of specific animal species (such as monkeys at Buabeng and Fiama in the Brong Ahafo Region).

2. Material and Methods

A qualitative research approach was used. Specifically, interviews and content analysis of secondary data was used. The interview is a structured interview in which the interviewer has prepared a list of questions for the respondent to answer. A literature study is a data collection tool that is carried out through written data using content analysis based on literature that correlates with the problem being studied. The study was on how sacred groves were managed in Ghana. Accordingly, a case study of the Malshegu sacred groove was used to understand the customary practices. These included the Boabeng Fiema Monkey Sanctuary and Malshegu sacred grooves. Also, the study examined some of the customary practices in pursuit of sustainable forest management. Interviews were conducted on some key staff of the forestry commission and community members (opinion leaders) in the Malshegu community where sacred groves were identified.

3. Findings and Discussion

In Ghana's arid and semiarid northern area, the Malshegu grove is an isolated pocket of woodland that contrasts strongly with the neighboring Guinea Savannah (Dorm-Adzobu et. al., 1991). The term “sacred grove” is defined here as a “reserved space, forest, or natural site established by a community or an individual, following conventions based on specific phenomena and requiring the respect of engagements taken at this location to satisfy spiritual, cultural, and sociopolitical needs while focusing on the harmony and wellbeing of the native community, as well as of all humanity” (Awuah-Nyamekye, 2009). This definition aptly captures the most important aspect of the “institution of sacred sites,” namely, the very objectives of establishment, the mode of its establishment, the beneficiaries, the people entitled to this purpose, and, most importantly, the management rules that govern it. The Malshegu people of northern Ghana have a long history of being tormented by Arab slave traders in the 18th century. Thanks to an appeal to the Kpalevorgu deity, whose oracle is displayed in the form of a boulder under a baobab tree, the Malshegu were finally victorious. The Malshegu grove is now preserved by the community, and its beautiful forest stands out among the sparse savannah surrounding it. Kpalevorgu is revered by the indigenous community because it provides them with rainfall, crop harvesting success, and fertility. It has also safeguarded flora and fauna that have been displaced from other canopy forest ecosystems.

The sacred grove of Malshegu is safeguarded mainly because it is the home of the Kpalevorgu god. It's difficult to separate any forest-related activity from the Kpalevorgu god's traditional religious beliefs and activities. Defaming the forest, in the eyes of the people, would dishonor the god and bring disaster to the offender as well as the entire community (Dorm-Adzobu et al., 1991). The inhabitants of Malshegu gain several benefits in addition to the spiritual rewards of

serving their faith by conserving the grove. The therapeutic plants and herbs harvested by the Kpalna, for example, help the Malshegu population meet key health demands. The few hoe handles carved from grove wood and the few animals killed in the forest during the Kpalevorgu festival are important socioculturally even if they are not economically or nutritionally significant. Furthermore, the forest performs essential biological tasks for the community (some of which may go unnoticed locally), but none of these advantages appear to be among the fundamental reasons why the forest is protected by the community (Dorm-Adzobu et al., 1991). The study of sacred groves and traditional practices helps to ensure that forests are managed sustainably. Government agencies are not involved in the management of the groves. The legal status and management of sacred groves, as well as customary norms, vary widely across the country. State forest agencies have control over sacred groves; revenue and other government departments have control over sacred groves; and privately owned sacred groves. A family, a group of families, a clan, or a trusted entity owns several sacred groves privately. In terms of sacred grove administration, such as care, protection, ceremonies and festivals, conflict resolution, and biomass harvesting, there are major differences.

From the information given above, a few speculative generalizations about the association of sacred groves with various ethnic groups can be made.: (i) sacred groves are found among both tribals and non-tribals; (ii) ethnic affiliation varies by region; and (iii) the relationship between castes of different varnas is unclear. The role of gender in sacred groves can be examined on at least four levels: (a) the gender of the priest serving the groves, (b) the gender of the deity associated with the groves, (c) the role of gender in sacred groves management, and (d) the nature and extent of access to men and women in various rituals, festivals, and ceremonies that take place in the groves, and biomass harvesting from the groves. Little is known about the involvement of women in sacred grove management decision-making.

Forests play a role in maintaining ecological, climatic, economic, and social balances on the world (FAO 1999), as well as the growth in threats to this collective legacy, particularly from people (FAO 2007). Many societies have a category of sacred groves that are associated with specific deities. Rituals and rites are held in these groves to appease the deity. Animal sacrifices (such as poultry, goat, pig, and buffalo) are performed during these rituals. These rituals are carried out to ensure the health of humans, animals, and crops. In SGs, a variety of economic activity take occur. In addition, the SG is linked to a number of community activities that have economic ramifications. Sacred groves are extremely important for soil and water conservation. Ethnic differences, a lack of conservation education, poverty, and mistrust of conservation legislation imposed by foreign groups are all obstacles to sustainable land use in groves.

> *Sacred groves are threatened due to the increase in population and need for plots for different purposes….. Respondent A*
>
> *Gradually, our taboos or believes that preserved sacred groves are being sidelined, maybe due to Christianity and Islam. These two religions may have indoctrinated their followers to think that the traditional taboos may not be real again…… Respondent B*
>
> *The sacred groove is a primary source of life (spiritual) ancestors and other gods live*

within them and communicate to us through them with the help of soothsayers and earth priests who are their custodians, for good health, high crop yields and peaceful co-existence… Respondent C

The observations are similar to the conclusions of Manikandan et al., (2011), that increasing population is a threat to sacred groves. Also, that of Suzanne (2001), who argued that totems and taboos preserved for NRM are gradually being sidelined. Finally, traditional African belief systems have powerful conservation practices that can be implemented for effective natural resource conservation and environmental protection (Aniah et al., 2014).

4. Conclusion

The findings of the study support Colding and Folke's (2001) assertion that taboos serve four key functions in customary practices: "(i) Taboos differentiate between revered and irreverent objects in a culture; (ii) It recounts animist and supernatural belief systems; (iii) Taboos aid psychosomatic culminations; (iv) It promotes adaptations to the environment". Adherence to the taboo is essential for limiting access to natural resources because it often applies to some designated natural resources that are prone to abuse or overuse (Colding and Folke, 2001). Given the significance of sacred groves in biodiversity and ecosystem protection, there is a need to protect these areas, and efforts should be taken to maintain their purity. People must be educated about traditional conservation techniques, and they must keep the sacredness and values of these practices in mind when considering commercial interests. The development of management measures to encourage the maintenance of sacred groves is critical. It is now time to recognize the value of traditional sacred grove institutions, as well as the current evidence for their usefulness in biodiversity protection, and provide space for such concepts. The need to maintain traditional knowledge was one of the project's suggestions, which included recognizing folk classifications of plants—names that represent how they are used in local practice—rather than scientific designations, which have little meaning to the local people.

A complete understanding of customary rights requires an understanding of community structures, including patterns of clarity of power about "who" (figures who trust the community) who try to determine "what matters" (legal and legal relations regarding land area), and, in "what forums" decisions about the exercise of authority are made. Thus, mistakes can be avoided to be agreed with an incompetent party to decide something. Several key concepts fundamental to resource sustainability are featured in the customary practices. These are "(1) participation of the people, (2) application of indigenous knowledge, (3) participation of local organizations and informal associations, and (4) cultural revival, if necessary". The participation of local people is built-in and required in all of these key concepts.

5. Future Research Priorities

Forests are a source of life for humans, and forests are considered as a determinant of the life support system and at the same time as a source of prosperity for the people, there are still many people who depend their lives on the forest and its products. Forests become an important area in the management of natural resources because natural resource management activities often cause environmental damage, especially forest damage.

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