

A Review of Why People Deplete Forest Land for Agriculture Expansion in Ghana

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Abstract

Forest land is used for agriculture expansion. People use forestlands mainly for farming tree and staple crops. The forestlands in Ghana are highly depleted. Why do people deplete forest land for agriculture expansion in Ghana? Results from the study shows that the government has the highest power in forest management. For forest depletion to minimize, the government must compensate land owners and farmers for not depleting the forest lands for agriculture. This implies that government must set up policies to reduce increased agriculture activities. The power of the government can be used to preserve the forest by prohibiting access of forestland to farmers. When farmers are allowed to have access to forestlands, they convert it to farmlands and prevent the growth of trees either intentionally or unintentionally.

Key words: Agriculture, Forestlands, Forest depletion, Ghana

Résumé

Les terres forestières sont utilisées pour l'expansion agricole. Les gens utilisent principalement les terres forestières pour cultiver des arbres et des cultures de base. Les terres forestières au Ghana sont fortement déboisées. Pourquoi les gens déboisent-ils les terres forestières pour l'expansion agricole au Ghana ? Les résultats de l'étude montrent que le gouvernement a le plus grand pouvoir en matière de gestion forestière. Pour minimiser la déforestation, le gouvernement doit indemniser les propriétaires fonciers et les agriculteurs pour ne pas déboiser les terres forestières pour l'agriculture. Cela implique que le gouvernement doit mettre en place des politiques pour réduire les activités agricoles intensives. Le pouvoir du gouvernement peut être utilisé pour préserver la forêt en interdisant l'accès des terres forestières aux agriculteurs. Lorsque les agriculteurs ont accès aux terres forestières, ils les convertissent en terres agricoles et empêchent la croissance des arbres, intentionnellement ou non.

Mots-clés: Agriculture, terres forestières, déforestation, Ghana

Introduction

The forest provides timber and non-timber products to peoples. In addition to that, the forest provides indirect benefits like carbon sequestration and reduction of erosion (Del, 2015). Various studies (Ikpa *et al.*, 2009; Onwubuya, 2014; Andrew and Bariweni, 2018). have made recommendation for the preservation of the forest due to the benefits provided above. Depletion of the forest for agriculture however escalate.

Demand for food would increase as a result of population growth (Elferink and Florian, 2016). This implies that natural resources would continue to be depleted. Even though SDG 2 is achieved through agriculture expansion, protecting terrestrial ecosystems (SDG 15) is not achieved. This means that there is a trade-off in the achievement of the SDG goals. The regulation of groundwater tables and other management activities become a problem. In addition, SDG 15 on the conservation of natural resources would not be achieved. People use forestlands mainly for farming tree and staple crops (Kok *et al.*, 2018). Sartoretto *et al.* (2017) mention that intensive commercial farming in developing countries is associated with about 40 percent of deforestation since vast portions of land are required. Even though Ghana ranks very high among the deforested countries in Africa (Kok *et al.*, 2018), the government still invests much in agriculture expansion which further depletes the forest. There has been law to regulate depletion of forest but forest is still depleted. The questions for the study is: Why do people use forest lands for agriculture expansion?

Materials and Methods

The literature review focused on peer reviewed materials from Scopus and African journal online database. Search strings like: (forest management) AND (agriculture expansion OR forest degradation) AND (forest power) were used to capture a large range of literature restricting results to those published in or after 2000. Studies were identified for coding if they reported on any of the forest governance - forest management relationship as grouped by Vasan *et al.* (2019) namely: (a) asymmetries of power on forest; (b) access to and control over productive resources on forest; (c) knowledge, perceptions and attitudes on forest; (d) stratification and heterogeneity on forest; and (e) external influences on forest as grouped by about 20 journal paper selected (Table 1).

Database	Initial number	Read titles	Selected
Scopus	2601	29	8
African journal online	1872	24	12

Results and Discussion

Vasan *et al.* (2019) grouped forest governance – forest management into five namely (a) asymmetries of power on forest; (b) access to and control over productive resources on forest; (c) knowledge, perceptions and attitudes on forest; (d) stratification and heterogeneity on forest; and (e) external influences on forest based on the forest governance forest management relationship. This grouping was adopted in the results.

Asymmetries of power. Trees in the reserve and naturally occurring trees on off-reserve areas (on farmlands, sacred grooves, etc.) are vested in the state in trust for the landowners. White and Martin (2002) pointed out that forest may be administered by the government, reserved for communities and indigenous groups, or owned by individuals/ firms and communities. The government administers most of the forest. Forest is divided into on and off reserves. The government on behalf of the stool landowners keep on-reserves while chiefs keep off-reserves. Many African countries allocate portions of the public forest to large industries for timber production and preservation of the forest. The government has the highest power (Table 2). Forest in the African countries is mostly controlled by the government. The local people are not able to enjoy the benefit of the forest (Onwubuya *et al.*, 2014).

Table 2. Asymmetries of power

Asymmetries of power on forest	Level of power	Number of studies	Evidential conclusion
Forest monitors	High power	0	Low power
	Low power	1	
Farmers	High power	2	Low power
	Low power	3	
Government	High power	5	High power
	Low power	0	

There are no funds disbursed at the local level for conservation of the forest. They then deplete the forest in order to get some benefits from the forest. In order to conserve the forest effectively, there should be a collaboration between the local people, unions and the government (Onwubuya *et al.*, 2014). Forestlands are mainly used for farming as population increases. People would want to farm on vast land thus producing sufficient food for the people of Ghana and abroad. With regards to naturally occurring trees off-reserve, the state should keep off the benefit sharing arrangements. This is because farmers are involved with the management of trees especially those on their farms. People deplete the forest because the opportunity cost of not depleting the forest is low (Andrew and Bariweni, 2018). Land owners must be paid monthly for not depleting their forest lands. This would go a long way to reduce depletion of forest.

About 63% of forest monitors in the Cambodia forest mention that 60% of the forestland is used for farming (Turreira-García *et al.*, 2017). Even though the local people volunteer to monitor and preserve the forest, there are persuasion and threats by government and local officials to stop monitoring. This is because these authorities have a vested interest. In 47% of the time, monitors are able to stop people from farming on forest land. Farmers need compensation before their move from forest land which forest managers are not willing to pay (Deni *et al.*, 2019). This brings about continual use of forest land for agriculture expansion.

Access to and control over productive resources on forest. Access and control over productive resources of forest is grouped into forest information, forest land and funds from forest (Table 3). Access to forest information is usually used for one's interest. Private forestry companies and conservation groups have their own interest resulting in a skewed forest information. People trust information from the public sector. This is also influenced by politics in the country (Baycheva-Merger, 2019). When farmers are given access to forest lands, they convert it to farms. With an increase in years, farmers increase in number and in their use of forest land. In Deni *et al.* (2019) study, farmers increase from 40 to 553 and their land size increase from 40 to 125.11 hectares in 11 years. This shows that when farmers have access to forest lands they usually go into farming. When conservation of degraded land is envisaged, farmers prevent this by intentionally killing trees in order to continue farming (Deni *et al.*, 2019). This is because trees compete with plants for nutrients, sunlight and water.

Table 3. Access to information

resources	Institutions that control resources	Number of studies	Trust of good management of resources
Forest information	Government agencies	1	High trust
	NGOs	1	Low trust
	Private	1	Low trust
Forest land	Farmers	4	Low trust
	Forest management	2	Low trust
Funds	Community forestry	1	High trust

Members of a landholding group have usufruct rights that are equivalent to freehold. Such land for most practical purposes belongs to the member and their interests are secure, inheritable and generally alienable. Tenant farmers do not own the trees found or even planted on their land. Tenant farmers may, however, be allowed to harvest trees for their use, but not for commercial purposes. Individuals cannot harvest economic trees on unallocated communal land even if they have planted them. The tenants are therefore to choose whether to manage forest or use forestland for agriculture expansion, they would rather go in for agriculture expansion. Even though forest law of tenant not harvesting timber crops for commercial use has the rational of depleting the forest, it encourages agriculture expansion.

People deplete forest reserves in other to satisfy their basic need for food and energy (Ikpa *et al.*, 2009). The rural areas are dominated by the poor who are not able to afford electricity and energy. They thus depend on reserves to provide a source of fuel. The communities living around protected forest mostly claim and encroach reserve forest because compensation promised by constituted authorities does not come. Inadequate involvement of the local people in forest conservation leads to deforestation (Onwubuya *et al.*, 2014). Even though proper accounting and audit of funds from community forestry funds is not done properly, people still pay for these funds since they see funds used for developmental activities like the provision of electricity.

Knowledge, perceptions and attitudes on forest. Knowledge is very crucial in the preservation of forest. When there is knowledge on the benefit of conservation of forest, depletion would reduce. Much education is not provided by unions on the conservation of forest (Onwubuya *et al.*, 2014). The perception and understanding of farmers and resource users would go a long way to the preservation of the forest- (Agyeman, 2012).

The forest is depleted because people who have access to the forest do not get an economic benefit from the forest (Von Amsberg, 1998). Forest is a public good since it is owned by the community usually managed by the government. The community does not get sustainable revenue from these forests due to government forest policy and poor management (Coulibaly-Lingani *et al.*, 2011). Cocoa farmers fell most commercial trees before they plant their cocoa or other crops and do not allow young trees of commercial value to grow in their farms.

Farmers intentionally destroy timber species before they mature to prevent possible conflict with timber contractor who may be given the grant to fell such trees. Also, few investors go into a managed forest since they do not know the profitability of the managed forest. They are indecisive of investing in the managed forest due to policies not favouring managed forests. Most farmers are unaware of their right to own timber trees. In comparing agriculture expansion for cocoa and forest management, forest management was profitable as compared to cocoa production. It is confusing why rational farmers still use the forest for agriculture expansion than managed forest. People mistrust forest conservation groups because these groups are part of wood industries that use forest timber. They thus find no reason why the forest cannot be used for personal satisfaction (Baycheva-Merger, 2019).

Stratification and heterogeneity on forest. Farmers who are farming near the forest mostly deplete the forest (Lohani *et al.*, 2020). This is because they can easily get access to forestlands. When farmers have an off-farm income source, they are less likely to deplete the forest as they can cope with their farm size. Poverty thus causes people to deplete the forest. When there is migration of the people from forest areas, the use of forest for agriculture decreases (Novotny *et al.*, 2020). When people increase farming activities, forest is likely to be depleted.

External influences on forest. At the local level, the formation of union helps farmers to sanction those who indulge in deforestation (Onwubuya *et al.*, 2014). There has been conflict between farmers and forest managers. Farmers want to farm on forestlands while forest managers would want to manage the forest. Forest managers use the local and national authorities to act in their interest whilst farmers use the farmers' co-operative as a force to act to gain forestland for farming (Deni *et al.*, 2019). There are instances where loggers and those who degrade the forest used the local and national authorities to assist them in degrading the forest (Turreira-García *et al.*, 2017).

Conclusion and Recommendation

The government has the highest power in forest management. For forest depletion to minimize, the government must compensate land owners and farmers for not depleting the forest lands for agriculture. This implies that government must set up policies to reduce increased agriculture activities. The power of the government can be used to preserve the forest by prohibiting access of forestland to farmers. When farmers are allowed to have access to forestlands, they convert it to farmlands and prevent the growth of trees either intentionally or unintentionally.

People in the quest to get revenue deplete the forest for agriculture expansion. Farmers would rather go into agriculture than tend natural timber trees on the farm. Policies in the African countries should encourage investors to go into managed forest.

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