

# Policy Networks and Forest Resource Management in Ghana

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## Abstract

*This paper employs a policy network model to explore the formal and informal interactions and structures which characterise forest management in Ghana. A comprehensive analysis of primary and secondary data reveals that forest management in Ghana has historically been influenced by complex relations of power and networks between local communities and the Forest Services Division. While resource constraints have often been used by state forestry officials to justify inability to control deforestation, the paper concludes that the problem is also compounded by the pervasiveness of patronage relationships between and among forestry officials, timber contractors, illegal chainsaw operators and farmers. Based on these findings, the paper recommends that strengthening of state forestry organisations must be accompanied by greater transparency on the part of forestry officials. It is also recommended that the interests of people in forest fringe communities must be carefully considered whenever a forest policy is being designed.*

**Keywords:** Forest management, networks, power relations, Ghana

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## Introduction

The rapid rate of forest resource depletion, especially in the tropical world, has been the focus of much environmental concern in recent years. Although the proximate causes of global forest loss are complex and quite poorly understood (Grainger, 1993; Gibson *et al.*, 2000), it is generally acknowledged that strengthening contemporary management systems and making them more responsive to the dynamics of ecosystems and institutions are essential for controlling deforestation (Carlsson and Sandström, 2008). The search for appropriate institutional arrangements for the management of forests and other natural resources has led to the emergence of a number of related co-management systems (Plummer and Fitz Gibbon, 2004; Carlsson and Sandström, 2008). Although such systems are based on an implicit assumption about the establishment of networks, only a few researchers (e.g. Crona and Bodin, 2006; Carlsson and Sandström, 2008) have employed network theory to analyse the management of natural and environmental resources. This paper employs a newly devised Integrated Policy Network Model to examine forest management in Ghana.

One reason why Ghana is a good place for such a study is the fact that the country has one of the highest rates of deforestation in West Africa (FAO, 2003). Although the exact extent of Ghana's forest loss is contested (Fairhead and Leach, 1998), it is generally acknowledged that the country lost at least 70% of its original forest cover between 1900 and the 1990s (Fair, 1992; FAO, 2003). As a result of human impact, only 2% of the total area of forest reserves is in a "very excellent" condition as at 1995 (Hawthorne and Abu Juam, 1995). Hence, it is important to critically analyse the contribution of policy weaknesses to this rapid forest loss.

The complex nature of forest ownership and tenure systems in Ghana also makes it an excellent country to analyse forest management within the framework of the policy network theory. All forests in Ghana are owned by landholding communities. However, by statute, forest reserves are managed by the Forest Services Division (FSD) (formerly the Forestry Department) on behalf of the government. Outside reserves, forests are under the control of individual and communal owners, although all off-reserve timber resources are also legally vested in the state "in trust" for the owners (Oppon, 2004). Hence, the Ghanaian forestry sector offers a

good setting for analysing how complex relations of power and networks between state forestry officials and local communities influence forest management.

The paper consists of three main parts. After this introductory part, I will present the Integrated Policy Network Model and outline my data sources. The last part discusses forest policy formulation and implementation in Ghana within the framework of the Integrated Network Model.

## **The Integrated Policy Network Model**

The Integrated Policy Network Model is based on the Policy Network Theory, which emphasises cooperation between the state and societal actors as key to solving political, social, economic and environmental problems (Smith, 1993; Kickert *et al.*, 1997). Rhodes (2007:4) refers to policy networks as the “set of formal and informal institutional linkages between governmental and other actors structured around shared interests in public policymaking and implementation”. The network approach can be used as a resource/environmental management framework or as an analytical framework. As a resource/environmental management framework, it has been proposed that resource/environmental management systems should incorporate actors from different areas of society (Carlsson and Sandström, 2008). It has also been suggested that a fair system of sharing responsibilities and rights among stakeholders is important for ensuring that state-societal collaborative networks are effective (Woodcock, 2002). As an analytical framework, the network approach emphasises a contextual analysis of complex power relations and networks between and among state officials and societal actors in explaining the success of any management system.

The early network models have been criticised for a number of weaknesses. These include their negligence of power differentials (Barnett, 2003) and their confinement of resource management to only formal policy-making circles (Carlsson and Sandström, 2008). As forest management basically entails the formulation and implementation of forest policy (Grainger and Konteh, 2007), an *Integrated Policy Network Model* has been devised for explaining forest policy formulation and implementation, especially in developing countries (see Teye, 2008). The Integrated Policy Network Model assumes that due to resource constraints

and fluidity of power, there are often various interdependencies between and among state natural resource managers and societal actors, and these produce multiple networks. The model assumes further that forest policy-making in most developing countries is highly centralised, being controlled by government leaders. Top state forestry officials may take part in forest policy formulation if they are seen as having relevant expert knowledge (Grainger and Konteh, 2007). There are many interest groups, but some are consciously or unconsciously excluded from elite circles of forest policy-making. Groups that take part in formal forest policy formulation are termed “insiders”, and they form the *policy community* (Smith, 1993). An interest group’s access to the policy community is based on its “endowments” (rights and resources) (Leach *et al.* 1999), which determine its importance to policy makers.

Forest policy implementation is assumed to involve interactions between state forestry officials and interest groups. Actors excluded from formal forest policy-making can still influence actual forest policy outcomes if they have appropriate rights and resources, which enable them to enlist street-level forestry officials into informal networks. If the model is correct, then it is expected that conditions of the forests should be determined not only by formal rules and resources available to the state forestry organisations, but also by informal networks between and among state forestry officials and interest groups. The analytical strategy is to examine such complex networks within the context of the entire “practical political economy” – a concept that refers to “how human practices of resource use are shaped by social relations at multiple levels over time” (Walker, 1995: 1).

## Data

Both primary and secondary data were used for writing this paper. A triangulation of methods was used for the collection of primary data between 15th February and 15th July 2006. About 102 officials of the Forest Services Division were interviewed with a semi-structured questionnaire. In addition, 105 household heads, randomly selected from two forest fringe communities, namely Saponso No 3 in the Western Region and Ahinkwa in the Eastern Region, were interviewed. Four focus group discussions were also held with local people in these two forest fringe communities. In-depth interviews were held with chiefs, community

elders, chainsaw operators and timber contractors. In addition to the above, 27 key informants were interviewed. These were largely selected from the Ministry of Lands and Forestry and the Forestry Commission of Ghana.

Relevant official documents (administrative records, reports etc.) from various local institutions such as the Ministry of Lands and Forestry, the Forestry Commission of Ghana, District Assemblies and Environmental NGOs were also used for this study.

### **Networks of Ritual Collaboration and the Management of Sacred Groves in Pre-Colonial Ghana**

Although "scientific" forestry was introduced by the British colonial administration, local communities were conserving some forests before the advent of colonialism (Smith, 1996). The "traditional reserves" were mainly forests left on the banks of water bodies and sacred groves. There was no stated forest policy but the management of sacred groves was based on unwritten community bye-laws (Owubah *et al.*, 2001). Such laws differed from one chiefdom to the other, but they all prohibited the cutting of trees in the sacred groves. It is widely acknowledged that these laws were effectively enforced within the various chiefdoms. The evidence for this claim is the fact that sacred groves are still better preserved than other forest reserves (Hawthorne and Abu Juam, 1995).

In traditional society, breaking bye-laws that concerned the supernatural was considered as an act that posed immediate or ultimate danger, not only to the individual, but also to the traditional community as a whole. It was such an "elaborate network of ritual collaboration" (i.e. joint mystical benefits and responsibility) (Fortes, 1940) that ensured an effective enforcement of bye-laws on the conservation of sacred groves. As Greif (1997:89) noted, such "cultural beliefs, social structures and organizations impact the development of values and enforcement mechanisms". Despite social change, sacred groves are still protected in many traditional communities in contemporary Ghana because of fears that failure to preserve them can bring calamity upon the entire community. Woodcock (2002) made similar observations in Tanzania, demonstrating that during the local customary era in Tanzania, forests were respected, feared and protected, since it was believed that they had power to heal and harm.

## **Environmental Crisis Narratives and Forest Reservation in the Early Colonial Era (1900-1939)**

There was no stated forest policy during the first three decades of the colonial period (1874-1900). However, in response to environmental crisis narratives which were mainly created by renowned visiting colonial foresters, the colonial administration decided to establish state forest reserves in the cocoa producing zone of southern Ghana during the early 20<sup>th</sup> century. To achieve this goal, a Forestry Department (now the Forest Services Division) was established in 1909. As in many parts of Africa, the colonial administration raised environmental concerns to justify the need for centralised forest reservation in the Gold Coast:

“It appears to the Governor ... on the advice of the Conservator of Forests that the destruction of the forests thereon is diminishing or is likely to diminish the water supply, or is injuring or is likely to injure the agricultural conditions of neighbouring lands...” (Forest Ordinance, 1927 Section 4.4)

These attempts by the colonial administration to rely on its authority to pass a comprehensive forest reservation policy in the Gold Coast were resisted by the native people, who felt that the reservation policy was a ploy to usurp their land ownership rights. Local resistance to forest reservation policy was eventually controlled in the late 1920s, when the colonial administration managed to rely on the vehicle of “indirect-rule” to convince traditional rulers to accept the forest reservation policy. In order to win their support, traditional rulers were given more powers over timber revenue. They negotiated concession agreements directly with timber companies and collected timber revenue. Two important legislative statutes, namely the Native Authority Ordinance (1927) and the Forest Ordinance (1927), were passed to help the constitution of forest reserves. The Native Authority Ordinance empowered traditional authorities to constitute forest reserves under their own bye-laws, while the 1927 forest ordinance empowered the government to constitute reserves on any land. As local people resisted any attempt by the colonial administration to establish forest reserves directly, most reserves in Ghana today were constituted using provisions in the Native Authority Ordinance. In fact, by 1944, 127 of the 200 reserves then in Ghana were created by native authorities (DeGrassi, 2003).

It is clear from the foregoing discussion that by relying on policy networks with traditional rulers, the colonial administration was able to implement forest reservation policy. These collaborative networks benefited both the colonial administration and the traditional rulers. The colonial administration employed the networks to resolve legitimacy and personnel shortage problems (Boone, 2003), while traditional rulers benefited financially from royalties, fines and concessions. The scenario reflects the notion of "partisan mutual adjustment" (Lindblom and Woodhouse, 1993). According to Latour (1996), in the process of translating one's interests unto other actors, the possession of power does not automatically ensure success unless others can be persuaded to perform the appropriate actions for this to occur. This is exactly what the colonial administration did. It adopted persuasive tactics because of the realization that the use of force would not achieve desired results. This was captured perfectly in a statement by a colonial forester as follows:

"The keynote to successful prosecution of intensive agriculture and of protection and improvement of forest is education. Enforcing authority on a not understanding people is difficult and costly, and rarely productive of the results desired" (Chipp, 1923: 75).

Despite the fact that it helped to advance the forest reservation policy, indirect rule had some negative effects on forest preservation in the Gold Coast. It was difficult to control logging within some forest reserves, since some traditional rulers were still selling timber indiscriminately. This can be explained in terms of role conflicts that often characterise interactions within multiple networks. Traditional rulers' networks with the Forest Services Division emphasised forest protection, yet the same rulers were having trading networks with timber merchants. Consequently, their role involvements in the two categories of networks contradicted each other. According to DiMaggio (1992), such contradictions can give rise to disorder and unpredictability of behaviour of actors. Colonial foresters were sometimes so frustrated with such disorders that they asked the Secretary of the Colonies in London to separate politics from forestry. For instance, a 1935 *Memorandum on Forestry Problems of the Gold Coast* (cited by DeGrassi, 2003: 6) stated that: "As an ideal, indirect administration is in line with general policy in West Africa. But it overlooks that forestry is a technical and little understood subject".

Indirect rule also allowed traditional rulers to exercise “de facto ownership rights” over timber resources (Asante, 1975). Thus, forest revenue benefited only the colonial administration and their allies—traditional rulers, but not ordinary citizens.

### **Timber Trade and Reconfiguration of Networks in the Late Colonial Era (1939-1957)**

While environmental concerns were used to justify centralised forest management in the 1900s, the initial forest reservation plan was abandoned in late 1939, as much attention was now focused on exporting timber. This change was mainly propelled by increased international demand for timber products during and after World War II. In 1948, the first comprehensive forest policy was formulated. Given the emphasis on exploitation at the time, this forest policy was evidently exploitative. Forest reserves were, at this time, classified as either productive or protective. By the early 1950s, only 30% of reserves were designated for protection. The remaining 70% and all off-reserve forests were declared for timber production. This was justified by an argument that cocoa farmers would inevitably destroy the trees in off-reserve forests, so there was a need to harvest the trees as soon as possible (Smith, 1996).

As the timber trade became more lucrative, the networks between the colonial administration/Forest Services Division and traditional rulers/local communities started worsening. Relying on a 1951 Local Government Ordinance, the colonial executive ejected traditional rulers from the forest management policy community in 1952 and replaced them with local government councils. The forest reservation programme was retarded by these network reconfigurations, since traditional rulers were no longer effectively cooperating with the Forest Services Division. No one has described this negative turn of events more cogently than Kotey *et al.* (1998: 70) when they wrote

“[W]hile this legislation [1951] Local Government Ordinance] was meant to be politically progressive, it separated local governance from land use decisions. This further complicated relationships between the Forestry Department, chiefs and local people and worsened problems encountered with the management of reserves constituted under bye-laws. It confused sanctions and control, legal backing, concessions and financial agreements”.

The network changes adopted here are consistent with the literature on network management. Kickert *et al.* (1997) distinguished between two network management strategies, namely *process management* and *network constitution*. Process management entails steering strategies that seek to unite perceptions and interests of the various actors. On the other hand, network constitution is concerned with bringing about changes in the institutional characteristics of networks. Both types of network management strategies were used by the colonial government on different occasions. Strategies adopted to win the support of the traditional rulers during the early reservation period constituted *process management*. The adoption of the Local Government Ordinance represented a *network constitution*.

### **Timber Exploitation and Conflicts during the Early Post-Independence Period (1957-1994)**

The early post-independence era witnessed a tremendous increase in timber exploitation. Industrial wood production (in million cubic meters) increased from 1.14 in 1955 (late colonial period) to 1.83 in 1960 and then to a peak of 2.05 (of which 1.08 was exported) in 1973 (Gillis, 1988). By 1967, concession rights had been issued for 75% of the forest reserves and for all the off-reserve forests (Mayers and Kotey, 1996). One policy that contributed to this rise in timber output was the 'indigenization' policy, which was adopted by the Ghanaian government just after independence. Before independence in 1957, the timber industry was dominated by a few foreign corporations. A combination of elements of the wider indigenization policy, such as preferential concessions to local timber companies and stricter control over foreign firms, led to the departure or nationalisation of many foreign timber firms. Many local timber firms emerged at the same time (Gillis, 1988). Apart from preferential concessions, soft loans were given to Ghanaian timber firms. Again, royalty levels were kept very low so as to keep these companies in business (Gillis, 1988; Kotey *et al.*, 1998).

With subsidies to local timber firms, exploitation continued until the late 1970s when it declined due to global economic recession. It, however, started growing again by 1984 as a result of Structural Adjustment Programmes, which led to over investment in the forestry and mining sectors (Kotey *et al.*, 1998). Both the indigenization policy and the

Structural Adjustment Programme favoured timber firms at the expense of the state. Private timber firms got huge subsidies and grants. Royalty levels and fines for illegal harvesting were very low. According to Gillis (1988), only 38% of total timber rent went to the state in the form of royalties and taxes. The World Bank Mission noted, in 1986, that forest resources in Ghana could be considered as a “free good” because of the exceptionally low royalty and fee levels (IBRD, 1986).

The relationship between the Forest Services Division and local communities also worsened further after independence in 1957. Legislative instruments adopted throughout this era focused on restricting local communities’ rights over forest resources. For instance, the Protected Timber Land Act of 1959 declared all off-reserve forest lands as “protected timber lands”, and gave the Forest Services Division powers to prevent farmers from farming on them. Similarly, the Administration of Lands Act and the Concessions Act were passed in 1962 to restrict local communities’ user rights over trees on their own lands. These Acts also removed the rights of chiefs to award timber concessions even outside reserves. In 1974, the Forest Protection Decree and the Trees and Timber Decree were passed to prevent local people from harvesting any forest resource without permission.

Given these over-restrictions, local people lost interest in cooperating with the Forest Services Division. Traditional authorities mobilised local farmers to resist any attempt to usurp their rights over trees. One policy, the implementation of which was characterised by such violent clashes, was the Protected Timber Lands Policy of 1959. The policy could not be implemented because farmers expanded their farms to areas designated as “protected lands”. The government tried to suppress them by the use of military force, but such strategies did not succeed due to the high cost of maintaining military men in the hinterlands (Boateng *et al.*, 1961). The clashes constitute what Ribot (2008: 2) refers to as “a struggle between two politico-legal institutions with different bases of legitimacy”. The executive relied on its “assumed” sovereignty and autonomy to pass these legislative instruments. Traditional rulers, on the other hand, relied on their ability to mobilise rural farmers for common action. There was, therefore, a clash between executive power, which was supposed to govern the entire national space, and traditional power, which assumed a *de facto* authority over local spaces. As Baviskar (2003) noted, the ordering

processes, suggested by Foucault's notion of governmental rationality, collapse when multiple spatialities collide.

Apart from violent clashes between local communities and forest guards, some farmers also adopted more subtle forms of power to contest marginalisation. For instance, some local farmers connived with chainsaw operators to harvest wood illegally (Smith, 1996). Further, due to anger towards timber contractors who were destroying the crops of farmers without paying any compensation to them, some farmers resorted to the destruction of young trees on their farms. Asare captured this scenario eloquently:

“The cocoa farmer who has developed a more implacable hatred towards the timber contractor than the beasts that thrive on his cocoa... now makes sure that during the clearing of the forest, every good quality timber tree is destroyed before the contractor menacingly invades his cocoa farm with the caterpillar” (Asare 1970: cited by Smith 1996: 9).

It is, therefore, evident that marginalisation of local communities also made forest protection difficult, since farmers were pushed to destroy forest lands for survival and to resist domination.

### **Forest Management in Contemporary Ghana (1994 – Present)**

In response to international pressures, the government of Ghana formulated a new Forest and Wildlife Policy in 1994. One of the most important international factors that led to forest policy changes in 1994 was the Year 2000 Objective of the International Tropical Timber Organization (ITTO), of which Ghana is a member. This declares that by the year 2000, member countries of the ITTO were to source timber from only sustainable managed forests. To achieve this aim, member countries were encouraged to make policy revisions for sustainable and participatory forest management (ITTO, 1992 and 1998). Another factor that led to forest policy change was that most international donor grants to developing countries in the late 1980s were tied to changes in resource management policy (Kemp *et al.*, 1993). This suggests that Ghana's network relationship with international actors was the strongest factor that led to changes in stated forest policy in 1994. Formulated to satisfy

international donors, the new Forest and Wildlife Policy emphasised participatory forest management:

“The Government of Ghana recognises... the need to develop a *decentralized participatory democracy by involving* local people in matters concerned with their welfare .... the government proposes to place particular emphasis on the concept of *participatory management ...*” (Forest and Wildlife Policy 1994, section 3.2 and 3.3, my emphasis).

As participatory forest management actually entails the establishment of collaborative networks between the state and local communities (Carlsson and Sandström, 2008), it can be said that the 1994 Forest and Wildlife Policy aimed at re-establishing formal policy networks between local communities and the Forest Services Division. In the presentation that follows, I discuss how this stated co-management policy has actually been implemented on the ground.

### *The Rights and Responsibilities of Local Communities*

As highlighted in the introductory sections, co-management could best be understood as network governance systems, in which a variety of different actors, structured by different institutional arrangements, participate (Carlsson and Sandström, 2008). In the forestry sector, co-management practically entails the sharing of responsibilities and rights between the state and local communities (Woodcock, 2002). If the integrated network model is applied here, then rights must enable local communities to realise their interests. Carefully formulated to satisfy international donors, the 1994 Forest and Wildlife Policy emphasised the rights and responsibilities of local communities:

“[T]he Government of Ghana recognises and confirms: the *rights of people* to have access to natural resources for maintaining a basic standard of living and their concomitant *responsibility* to ensure the suitable use of such resources” (1994 Forest and Wildlife policy, section 3.2, emphasis added).

However, this study revealed that the rights given to local communities are largely ‘empty’. Local people in forest communities still, in principle,

need written permission from the district forest offices before they can extract useful forest resources. This is odd because, apart from the fact that most rural dwellers cannot write, district offices are usually located very far from villages. The focus group discussions provided a natural setting for women in one of the study communities to complain about the bureaucratic procedures involved in obtaining a permit to harvest forest resources that they need for survival (Box 1).

Box 1 Statements by local women on their rights over forest resources

**Aku:** "We need fuel wood everyday before we can cook. There are a lot of "dead trees" in the forest reserve, and yet we are required to travel to their [District] office to obtain permission before cutting even the dead tree. Is ..." [interrupted by Namo]

**Namo:** "We cannot write and they say we must put the applications in writing. How can we do this everyday? They are using stoves to cook in the city. We can only use wood here..."

Similarly, the Forest Services Division requires local farmers to obtain permission from the District Forest Offices before they can harvest timber on their own farms for personal use. Although the Timber Resource Management Act proposes that Timber Utilization Permits (TUPs) are to be issued to local communities, District Assemblies and Non Governmental Organisations, where these groups need to harvest trees for non-commercial purposes, the policy does not specify rules on how applications are to be evaluated. Consequently, local people can only get such permits when they are able to make unofficial payments to the relevant forestry officials. Thus, the rights introduced are 'empty' because they cannot be enforced.

Farmers interviewed mentioned that if one wants to get such permits one must go to the District Forest Office with the forest guard. The forest guard usually charges some money before going there with the applicant. In addition, the poor farmer has to carry along some gifts (e.g. foodstuffs, money, goats) and present them to the officers in the District Forest Office before submitting the application. While most poor farmers cannot obtain Timber Utilization Permits because they lack the necessary resources to influence forest officers in the District Office, investigations by Forest

Watch (2006) have shown that some commercial timber contractors who have close ties with forestry officials sometimes illegally secure these non-commercial timber utilization permits.

Further, Social Responsibility Agreements (SRAs), which require timber contractors to provide social amenities for the communities in which they operate, have often been ignored. Poor farmers in local communities also practically do not get any share of the timber revenue. Officials of the Forest Services Division argued that based on a formula provided by the 1992 constitution, local communities' share of timber revenue is paid to the traditional authorities and the District Assemblies. Again, since royalties and compensations are paid to the actual landowners, tenant farmers who nurture trees on their farms do not get any share of forest revenue.

The preceding discussion demonstrates that although the 1994 Forest and Wildlife Policy suggests that local people have been given some rights over forest resources, such rights exist only in theory. The scenario is similar to what Ribot (2008) observed in Senegal, where the country's 1998 Forest Code transferred powers to local councils but, in practice, power is still controlled by the line ministry. It is clear that the stated policy on the rights of forest communities has not been implemented. This is partly because the stated policy was obviously designed to satisfy donor "conditionalities". Rees noted elsewhere that such natural resource policies can be "interpreted as a token gesture, designed to diffuse political conflict, without making any real change in the status quo" (Rees 1990:417).

While local communities in Ghana virtually do not have any meaningful right over forest resources, they are required to provide free labour to support the Forest Services Division. This is to be achieved through Community Forest Committees (CFCs), which are supposed to help monitor the forests, check illegal activities and facilitate Social Responsibility Agreements.

In practice, CFCs have not been established in some communities. Even in communities where they exist, CFC members do not have any power; their actual roles have been limited to providing free labour for such activities as boundary clearing and controlling bush fires. They also sometimes

support NGOs in their tree planting activities. This study shows that one reason why the community forest committee concept is ineffective in Ghana is that members have not been receiving any meaningful reward from the state.

Interviews with both forestry officials and local farmers revealed that CFC members were only occasionally provided with wellington boots and uniforms. Thus, farmers are being asked to provide free labour without any meaningful remuneration. As a result, some farmers reported that they have stopped taking part in CFC activities. Again, recent attempts by the Forest Services Division to rely on local farmers to fight illegal logging have been ineffective, since farmers have no incentives to monitor or report illegal chainsaw operators. Most farmers interviewed rather prefer the operations of chainsaw operators, since they get payments when trees are cut on their lands. Only 12% of local people reported not liking the activities of chainsaw operators. In contrast, about 87% of them stated that they do not like the activities of large timber firms. This is because the latter do not pay anything directly to farmers. Thus, for marginalised farmers, the benefits from their livelihood networks with chainsaw operators mean much more to them than collaborating with the Forest Services Division to drive away such loggers. This is consistent with the assertion that if agents are already fully embedded in an existing network, they are not likely to break up such ties to join new networks unless there are more benefits in the new networks (De Mesquita and Stephenson, 2006).

#### *Combined Effects of Organisational Deficiencies and Patronage Networks on Forest Protection*

It has been suggested elsewhere that state officials of the developing world tend to attribute the inability to protect their forests to resource constraints and other organisational deficiencies (Grainger and Konteh, 2007). The findings of this study have supported this claim. Most forest officers cited lack of resources as the main factor that affects the ability of the Forest Services Division to protect the nation's forests. As shown in Table 1, only 1% of forest officers interviewed stated that the level of resource availability is high enough for the smooth operation of the Forest Services Division.

Table 1 Opinion of forest officers on level of resource availability

<i>Level of resource availability</i>	<i>Frequency</i>	<i>Percentage</i>
<i>High</i>	<i>1</i>	<i>1</i>
<i>Moderate</i>	<i>12</i>	<i>11.7</i>
<i>Low</i>	<i>89</i>	<i>87.3</i>
<i>Total</i>	<i>102</i>	<i>100</i>

Source: Field work (2006)

While acknowledging the contribution of resource constraints and other organisational deficiencies (e.g. poor conditions of services of forest officers) to deforestation in Ghana, I argue here that the pervasiveness of patronage networks in Ghana is also a major cause of the problem. In fact, although illegal logging, which is estimated to account for about 70% of industrial wood produced annually (Birikorang, 2001), is always attributed to lack of resources to monitor forests, this study shows that the problem is compounded by exchange networks between and among forest officers and exploitative groups. As noted already, instead of acquiring commercial Timber Utilization Contracts (TUCs), some timber contractors have relied on their patronage networks with top officials of the Forest Services Division to illegally obtain non-commercial Timber Utilization Permits (TUPs), which enable them to harvest timber without paying the appropriate rent (Forest Watch, 2006). Similarly, poorly paid guards and local farmers who do not get any reward for protecting trees allow chainsaw operators to harvest timber in return for small payments. Again, although rural dwellers are formally not allowed to harvest resources from forest reserves unless they produce permits from the District Forest Office, these actors are sometimes able to rely on their exchange relationships with the forest guards to harvest these resources illegally. Even in some communities visited, farmers have been able to “illegally” make farms in forest reserves through such collusions and presentation of gifts to the forest guards. Thus, the Forest Services Division is not able to protect the forests because chainsaw operators and farmers are able to extract resources by relying on their networks with forest guards. Forest guards

find it rational to respond positively to role demands from local people because they (guards) also depend directly on them for foodstuff, shelter and money:

“The manager tells us that anybody who needs something must go to the office for permit but if you live here you will understand that insisting on this permit thing is not practicable. We all can’t write .... Every time I borrow money from people I don’t sign any paper so how can I ask them to get a paper permit?” (Anonymous forest guard, 23-04-06).

As Williamson (1991) noted, social networks of this kind serve as a “shift parameter” favouring non-hierarchical forms of governance. The forest managers, who are not within the rural communities, want the forest guards to be strict on local people. However, these orders have been practically rejected by forest guards because they contradict the interests and rules within their livelihood networks. Thus, although the forest laws dictate how forest guards must implement forest policy, they are also knowledgeable actors who are conducting themselves based on the informal rules within the communities where they find themselves. These actions of forest guards in the local communities are also consistent with the Complexity Organizational Model (see Machado and Burns, 1988: 355) which posits that when different organising modes are integrated, there are bound to be tensions at the interfaces of the various modes. This may result in conflicts and contradictions in actor’s roles. Here, the forest guard is positioned at the interface of the Forest Services Division and the rural community. While the Forest Services Division employs a formal administrative organising mode characterised by hierarchy and fixed standard rules, the rural community is organised by informal rule systems, such as norms that stress reciprocity, friendliness and flexibility. If the forest guard is accepted within the rural community network, then he may be forced to abandon some of the formal roles assigned to him by his superiors. Thus, it is not possible to expect that poor forest guards living in a community can be very strict on all the local people. The above discussions show that while resource constraints undoubtedly make it difficult for the Forest Services Division to adequately protect forests, there is no evidence to suggest that forests will be effectively managed if adequate resources are provided for the Forestry Services Division.

## Conclusion

The foregoing discussion has demonstrated that forest management in Ghana has historically been influenced by complex power relations and informal networks between state forestry officials and societal actors. Collaborative networks between the Forest Services Division and local communities have historically been weak, due to attempts by the state to marginalise local farmers. This has negatively affected forest management, as local farmers have no incentives to protect trees. In addition, complex interdependencies and exchanges between forestry officials and forest exploitative groups affect the ability of the Forest Services Division to effectively enforce forest protection laws. Thus, while officials of the Ghana Forest Services Division tend to attribute their inability to protect the nation's forests to resource constraints, this article has demonstrated that the problem is compounded by informal networks between officials of the forest services division and forest exploitative groups. It is therefore inappropriate to analyse the performance of the Forest Services Division only in terms of resource availability. As Leach *et al.* (1999) have noted elsewhere, organisations must be analysed not only in relation to material resources, but also in relation to culture, power and networks.

Based on the discussions in this paper, the following suggestions have been made to improve forest management in Ghana. First, the interests of people in forest fringe communities must be carefully reconsidered. It is obvious that these local people cannot survive with a total restriction, since they derive useful livelihood resources from the forests. As this article shows, attempts by the state to use force to prevent local community dwellers from harvesting forest resources have rather contributed to forest loss. It is, therefore, in the state's interest to pay attention to local needs when designing forest policy. The current situation, whereby local communities' share of forest rent goes to only traditional rulers and the District Assemblies, must be reviewed. A proportion of rent should be paid directly to the communities where timber is extracted. Tenant farmers should also be given some financial rewards whenever trees are harvested from their farms.

It is also recommended that more resources must be provided for the Forest Services Division. However, while the strengthening of state forestry organisations is important, such strategies alone are not likely to result in better forest management, since poor policy implementation is

largely a result of patronage networks between state and societal actors. Technical improvements must be accompanied by greater transparency, especially on the part of forestry officials. It is hoped that a change driven by civil society and a strong local media would help improve environmental governance and forest management in Ghana and elsewhere in Africa.

## Acknowledgements

I wish to thank the Economic and Social Research Council of the United Kingdom and the British Petroleum Company for jointly funding this study. I am grateful for the award of the Dorothy Hogkin's scholarship by the University of Leeds. I would also like to thank Dr. Alan Grainger for supervising my doctoral research from which this paper has been produced.

## References

- Archer, M. (1998). "Social theory analysis of society". In May, T. and Williams, M. (eds) *Knowing the Social World*. Buckingham, Open University Press.
- Asante, S.K.B. (1975). *Property Law and Social Goals in Ghana, 1844-1966*. Accra, Ghana Universities Press.
- Asare, E.B. (1970). *Illegal Felling in the Tropical High Forest in Ghana with Special Reference to the Ashanti/Brong Ahafo Forest Region*. Unpublished Forestry Department paper.
- Barnett, N. (2003). *Governance, Networks, and Deliberative Democracy* Paper to the Political Studies Association Annual Conference, University of Leicester, 15<sup>th</sup>-17<sup>th</sup> April, 2003.
- Baviskar, A. (2003). "For a cultural politics of natural resources" *Economic and Political Weekly*, November 29, 2003.
- Birikorang, G. (2001). *Ghana Wood Industry and Log Export Ban Study Report 2001*. Accra, Forestry Commission.
- Boateng, K., Pogucki, R.J.H., Botchway, B.E., Blay, D.K. and Ocansey, C. (1961). *Report of the Commission into Concessions*. Accra, Government Printer.

- Boone, C. (2003). *Political Topographies of the African State: Territorial Authority and Institutional Choice*. Cambridge, Cambridge University Press.
- Carlsson, L. and Sandström, A. (2008). "Network governance of the commons" *International Journal of the Commons* 1(2):33-54.
- Chipp, T.F. (1923). "The Gold Coast forestry problem" *Empire Forestry Journal* 2(1): 65-75.
- Crona, B. and Bodin, O. (2006). "What you know is who you know? Communication patterns among resource users as a prerequisite for co-management" *Ecology and Society* 11 (2):7.  
<http://www.ecologyandsociety.org/vol11/iss2/art7/>.
- DeGrassi, A. (2003). "Constructing subsidiarity, consolidating hegemony: political economy and agro-ecological processes in Ghanaian forestry" *Environmental Governance in Africa*, World Resources Working Paper No. 13.
- De Mesquita, E.B. and Stephenson, M. (2006). "Legal institutions and informal networks" *Journal of Theoretical Politics* 18(1): 40-67.
- DiMaggio, P (1992). "Nadel's paradox revisited: Relational and cultural aspects of organizational structure". In Nohria, N and Eccles, R.G (eds) *Networks and Organizations: Structural Form and Action*. Boston, Harvard Business School Press: 118-42.
- Fair, D. (1992). "Africa's rain forests-retreat and hold" *Africa insight* 22(1):23-28.
- Fairhead, J. and Leach, M. (1998). *Reframing Deforestation: Global Analysis and Local Realities: Studies in West Africa*. London, Routledge.
- FAO (2003). *The State of the World's Forests*. Rome, FAO.
- Forest Watch Ghana (2006). *Forest Governance in Ghana: An NGO Perspective*. Accra, Forest Watch Ghana.

- Fortes, M. (1940). "The political system of the Tallensi of the northern territories of the Gold Coast". In Fortes, M. and Evans-Pritchard, E. (eds) (1940) *African Political Systems*. Oxford, Oxford University Press: 239-271.
- Gihson, C.C., McKean, M.A. and Ostrom, E. (eds) (2000). *People and Forests: Communities, Institutions, and Governance*. London, The MIT Press.
- Gillis, M. (1988). "West Africa: resource management policies and the tropical forest". In Repetto, R. and Gillis, M. (eds) *Public Policies and Misuse of Forest Resources*. Cambridge, Cambridge University Press: 299-350.
- Grainger, A. (1993). *Controlling Tropical Deforestation*. London, Earthscan.
- Grainger, A. and Konteh, W. (2007). "Autonomy, ambiguity and symbolism in African politics: the development of forest policy in Sierra Leone" *Land Use Policy* 24: 42-62.
- Greif, A. (1997). "On the interrelations and economic implications of economic, social, political, and normative factors: reflection from two late medieval societies". In Drobak, J. N. and Nye, J. V. C. (eds) *The Frontiers of the New Institutional Economics*. San Diego, Academic Press: 57-94.
- Hawthorne, W.D. and Abu Juam, M. (1995). *Forestry Protection in Ghana: with Particular Reference to Vegetation and Plant Species*. Gland, Switzerland, IUCN and Cambridge, UK: DFID.
- IBRD (1986). *Ghana: Forestry Sector Review*. Washington DC, World Bank.
- ITTO (1992). "Criteria for the measurement of sustainable tropical forest management" *ITTO Policy Development Series No 1*. Yokohama, Japan, ITTO.

- ITTO (1998). "Criteria and indicators for sustainable management of natural tropical forests" *ITTO Policy Development Series No 7*. Yokohama, Japan, ITTO.
- Kemp, R.H., Flint, M. and Vanclay, J.R. (1993). *Forest Inventory Management Project: Review and Project Preparation Report*. Accra, MLF.
- Kickert, W.J.M., Klijn, E.H. and Koppenjan, J.F.M. (eds) (1997). *Managing Complex Networks: Strategies for the Public Sector*. London, Sage.
- Kotey, E. N. A., Francois, J., Owusu, J.G.K., Yeboah, R., Amanor, K.S. and Antwi, I. (1998). *Falling Into Place: Policy that works for forests and people*. London, International Institute for Environment and Development.
- Latour, B. (1996). *Aramis or the Love of Technology*. Cambridge, MA, Harvard University Press.
- Leach, M., Means, R. and Scoones, I. (1999). "Environmental entitlements: dynamics and institutions in community-based natural resource management" *World Development* 27(2): 225- 47.
- Lindblom, C.E. and Woodhouse, E.J. (1993). *The Policy-making Process*. Third edition. Eaglewood Cliffs, NJ, Prentice-Hall.
- Machado, N.L. and Burns, T.R. (1998). "Complex social organization: multiple organizing modes, structural incongruence, and mechanisms of integration" *Public Administration*, 76:335-385.
- Mayers, J. and Kotey, E.N.A. (1996). *Local Institutions and Adaptive Forest Management in Ghana*. London, Overseas Development Administration.
- Ministry of Lands and Forestry (2001). "Country report-Ghana" *Outlook Study for Africa (FOSA)*. Working Paper FOSA/WP/12. Rome, FAO.

- Oppon, S. (2004). *Decentralization of Federal Systems in Forests and National Forestry Programme: The case of Ghana*. Paper presented at the Interlaken Workshop on Decentralization in Forestry, Interlaken, Switzerland, 27-30<sup>th</sup> April, 2004.
- Owubab, K., Le Master, D.C., Bowker, J.M. and Lee, J.G. ( 2001). Forest tenure systems and sustainable forest management: the case of Ghana *Forest ecology and Management* **149**: 253-264.
- Plummer, R. and J. FitzGibbon (2004). "Some observations on the terminology in co-operative environmental management" *Journal of Environmental Management* **70**:63 -72.
- Rees, J. (1990). *Natural Resources: Allocation, Economics, and Policy*. Second edition. London, Routledge.
- Ribot, J.C. (2008). *Authority Over Forests: Negotiating Democratic Decentralization in Senegal*. World Resource Institute's Working Paper 36. January 2008.
- Rhodes, R.A.W (2007). "Understanding Governance: Ten Years On" *Organization Studies* **28**(8): 1243-1264.
- Smith, M.J. (1993). *Pressure, Power and Policy: State Autonomy and Policy Networks in Britain and the United States*. London, Harvester Wheatsheaf.
- Smith, E.K. (1996). *The Evolution of Policy into Practice: A Case Study of Ghana's Forest Policy*. Paper presented at the African Forestry Policy Forum, August 29<sup>th</sup>-30<sup>th</sup>, 1996 Nairobi.
- Teye, J.K (2008). *Forest Resource Management in Ghana: An Analysis of Policy and Institutions*. PhD Thesis, Department of Geography, University of Leeds, UK.
- Walker, P. (1995). *Politics of Nature: An Overview of Political Ecology*. Berkeley, Cal, University of California Press.

Williamson, O. E. (1991). "Comparative economic organization: the analysis of discrete structural alternatives" *Administrative Science Quarterly* **36**: 269-296.

Woodecock, K.A. (2002). *Changing Roles in Natural Forest Management: Stakeholders' Roles in the Eastern Arc Mountains, Tanzania*. Aldershot, Hants, Ashgate Publishing Limited.