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Poverty Remedies from the Forest; A Review of Forest Resource Utilization in Ghana

Divine Odame Appiah[1, *], Emmanuel Kyeremeh[2]

Department of Geography and Rural Development, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Abstract

The paper reviewed the utilization potentials of forest resources as livelihood support by poor rural communities in Ghana. Rural livelihood in forest fringe communities generally hinges on agricultural production and direct dependence on forest ecosystem services. Forest provides a wide range of products upon which rural communities depend, for their livelihoods and subsistence. Consequently, this has helped mitigate the poverty level of most rural poor in most forest fringe communities in Ghana. Relying on secondary information for in-depth analysis, relevant documents such as published policy data, journal articles, books, institutional records and official reports were collated and critically reviewed. Results indicated that rural populace in Ghana relied on forest resources as an alternatively source of their livelihood during drought, and crop failure, thereby reducing their poverty level. Rural communities relied on the forest for their nutritional benefits, building materials and fibre, medicinal value, cultural value, energy and economic benefits. It is therefore imperative that these resources are sustainably managed by Forest Commission, NGOs, and other institution which has key interest in forest utilization together with the forest fringe people, to ensure that they continue to play their role in reducing poverty in these communities.

Keywords

Forest Resources, Livelihoods, Poverty, Conservation, Ghana

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1. Introduction

Forest resources are very important to many people throughout the world. Globally, millions of people in rural areas derive products such as wild fruits, vegetables, nuts, edible roots, honey, palm leaves, medicinal plants, and bush meat from the forest for income generation and household consumption [1]. According to FAO [2], close to 1.6 billion people – more than 25% of the world's population rely on forest resources for their livelihoods and most of them (1.2 billion) use trees on farms to generate food and cash. Moreover, many countries in the developing world draw on fuel wood to meet as much as 90% of energy requirements. These forests provide many goods and services valuable to society, ranging from wood-based to non-wood based enterprises namely industrial wood, fuel wood to non-wood forest goods such as plant and animal products.

Ghana is richly endowed with forest resources, which are vital for the country's development and future economic prosperity; they contribute to the welfare of most Ghanaians. The Food and Agriculture Organization's (FAO) Global Forest Resources Assessment of 2005 defines 'forests' as 'Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10%, or trees able to reach these thresholds *in situ.*' It does not include trees that are predominantly under agriculture or urban land use. Ultimately, forest-dependent communities in Ghana rely on these goods and services for their livelihoods especially for adaptation during events like droughts, floods and crop failures.

Rural livelihood in forest fringe communities in Ghana generally hinges on agricultural production and direct

* Corresponding author
E-mail address: dodameappiah@gmail.com (D. O. Appiah)

dependence on forest ecosystem services. Forest provides a wide range of products, upon which rural communities in Ghana depend for their livelihoods and subsistence. Forests can serve as subsistence safety nets for the rural poor, essentially mitigating poverty for its users [3]. Vedeld et al. [4], contend that the poor rely on forests to maintain their well-being and in some cases as a source of income generation. The poorer people in general are more dependent on forests for cash and non-cash incomes. This may be because they lack land or labour for more substantial farming activities or for migrant labouring. Though wealthier households may collect more forest products by volume, what is collected by poor households form a far higher percentage of their total income [5, 6].

Hence forests provide goods and services that are needed for the survival of people. These goods and services include a wide variety of products for home consumption and sale, new agricultural lands, restoration of soil fertility on fallow lands used for cultivation cycles, and access to fresh water through the watershed function of forests [7]. The forest products include wild foods such as honey, mushrooms and fruits, medicines, wood fuel, construction poles, and browse and fodder for livestock [8].

In as much as the rural poor depend on these forests for their livelihood, forests have been vanishing. In the course of the last 8,000 years, the earth's forest cover has been reduced by almost half, from 62 million km^2 to 33 million km^2, and much of this loss has occurred in the last three decades [9]. During 1990–97, 5.8 ± 1.4 million ha of humid tropical forests were lost each year, and 2.3 ± 0.7 million ha of forests degraded [10]. The disappearance of natural forests in developing countries is a problem, among other reasons, because it negatively affects the livelihoods of people dependent on forest products and services.

The 2010 Millennium Development Goals Report notes, for instance, that biodiversity is vitally important for human well-being; since it underpins a wide range of ecosystem services on which life depends. Billions of people, including many of the poorest communities, rely directly on diverse species of plants and animals for their livelihoods support for their very survival. The irreparable loss of biodiversity will also hamper efforts to meet other MDGs, especially those related to poverty, hunger and health, by increasing the vulnerability of the poor and reducing their options for development [5].

In Ghana the forest has been subjected to various forms of anthropogenic disturbances such as illegal mining operations, poor farming practices, sand winning, and deforestation leading to its fragmentation and degradation [11-13]. These disturbances occur aside the direct provision and supporting services that it supplies for forest dependent communities in Ghana. The high rate of deforestation is probably because of inadequate involvement of the communities in sustainable forest management and utilization. In addition, it could be attributed to the relaxed role of the Forest Services Division in sustainable forest management in the country. This therefore poses a threat to the sustainability of the forest resources especially the NTFPs, which provide an income and consumption supplement for most households in the forest communities. This paper, therefore, reviewed the role of forest resources utilization by the rural poor in the forest fringed communities for poverty alleviation in Ghana.

There are two main categories of forest products, namely, timber and non-timber forest products (NTFPs). The timber products include sawn wood, pulp, and panel boards normally for industrial uses. The non-timber forest products (NTFPs) includes, roots, fruits, bush meat, medicinal plants, resins, fibres such as bamboos, rattans and other palms used for weaving, fuel wood and carving wood [14]. More than 90 percent of the people in Africa rely on forests and trees for their energy needs, mostly for fuel wood and charcoal which are generally classified as non-timber forest products (NTFPs) [15]. Thus, forests resources can play various roles to reduce poverty in forest fringe communities in Ghana.

2. Methods and Procedures

2.1. Brief Description of Ghana

Ghana is located on the west coast of Africa, bordered by Togo on the east, Côte d'Ivoire on the west, Burkina Faso on the north and the Atlantic Ocean on the south (Figure 1). Ecologically, the country is divided into a high-forest zone in the south, accounting for about a third of the land area (8 million hectares), a savannah zone (14.7 million hectares) mostly in the north, and a transition zone (1.1 million hectares). Estimates of total forest area in the country range from 2.72 million hectares to 6.34 million hectares. It has a total land area of 23.9 million hectares [15].

The land use types are arable lands 17.54%, permanent crops 9.22% and others 73.24%. It has irrigated land of 310sq km (in 2003). The terrain is mostly low plain with dissected plateau in South-central area, with a climate which is tropical, warm and comparatively dry along southeast coast, hot and humid in southwest; hot and dry in the north [16].

2.2. Procedures

This study was carried out by critically reviewing literature and policy and other scientific information on poverty and forest resources utilization. On relying on secondary data, relevant documents such as published policy data, journal

articles, books, institutional records and official reports were retrieved from the internet using Google scholar and general Google search engines. Key words and phrases such as; "poverty" "forest livelihoods" "forest fringed communities" "forest-based livelihoods" "rural livelihoods" "Non timber forest products" "poverty reduction" etc. these documents retrieved were collated, reviewed and analysed incomplete. This review, led to the thematic analysis and extraction of the salient aspects for detailed analysis and discussions.

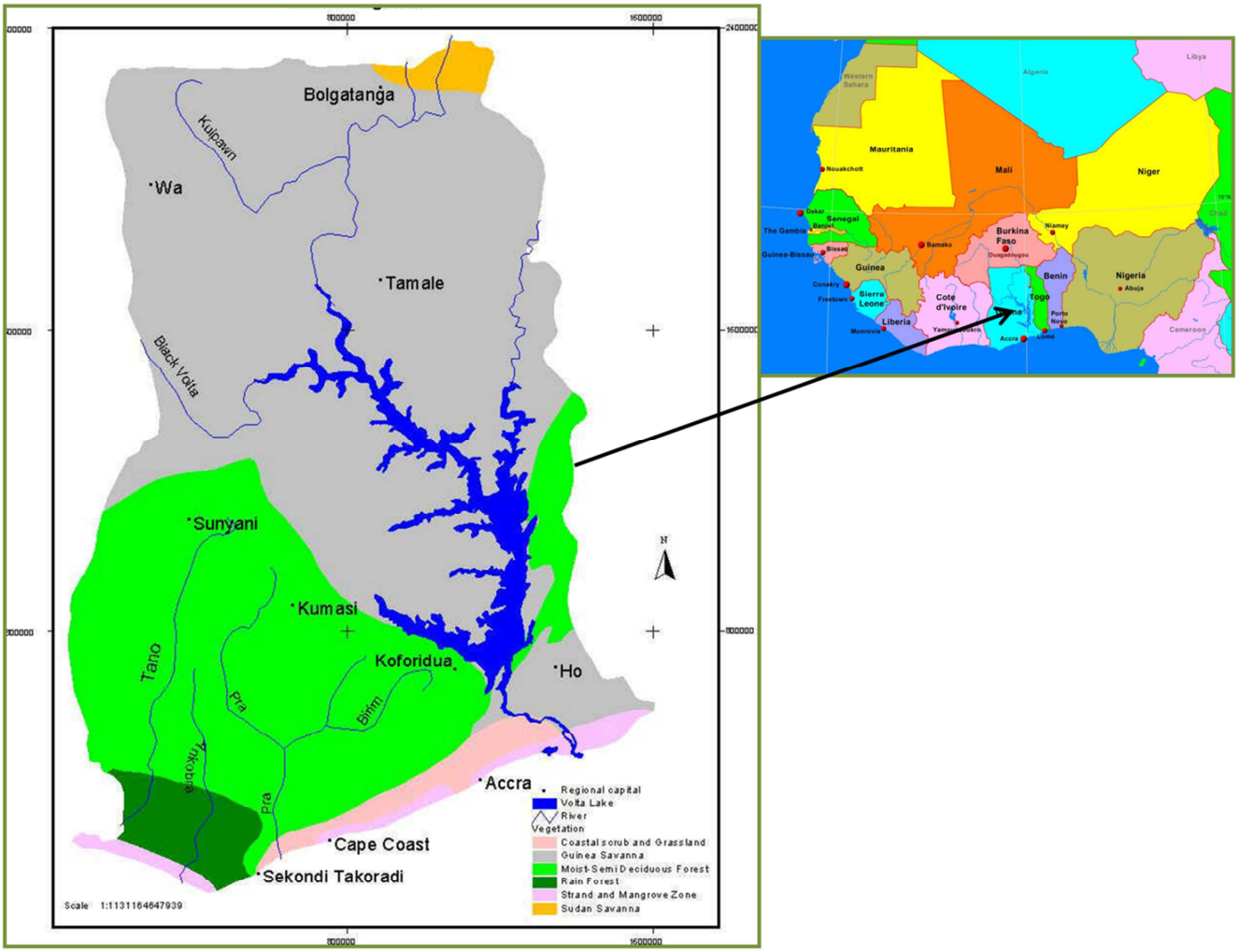

Figure 1. Map of Ghana showing an insert in the West African Map.

3. Results and Discussion

The role of forest resources in alleviating poverty in the forest fringed communities have been identified and discussed briefly in the ensuing sub-section.

3.1. Nutritional Benefits

In traditional forest communities, many non-timber forest products (NTFPs) are a part of household subsistence strategies, providing macro-nutrients, carbohydrates, fats and proteins, or other essential micro-nutrients such as various minerals [17, 18]. The NTFPs can be staples for those living near forests, or part of coping strategies when regular access to agricultural commodities is not possible, (e.g. after extreme climatic event).

Bush meat commonly provides an important protein source in the tropics and gathered plant foods an important source of dietary supplements to the starchy staple diet. Even where there has been a change from a hunter-gatherer lifestyle to pastoralism or agriculture, hunting and gathering remain important to a high proportion of rural households in Ghana and for that reason, African woodlands [19, 20, 21] and tropical forests [22].

In some case NTFPs may just provide exceptional 'treats' rather than essential nutrients, but they may be important due to their cultural economic impacts. For example wild mushrooms in European countries might not be a necessary element of a healthy diet, but people go to great lengths to collect them and are willing to pay high prices for them. In fact, special forest access laws have been created for these

goods.

In a second important 'level' of food, NTFPs are used for feeding livestock. NTFPs such as grasses and leaves are collected by rural communities to feed or house livestock, or to meet other needs such as providing ground cover for them to sleep on. Since in many cultures such livestock provide dietary and living staples (e.g. milk, meat, leather, fur, hair, horns and manure), and collecting these non-edible NTFPs can be central to rural development and poverty reduction in particular [23]. Other woody materials have been of immense support to indigenous rural architecture for housing and other purposes.

3.2. Building Material and Fibre

Timber and non-timber forest products (NTFPs) are a source of wood and fibre used in building, clothing, paper and ropes. These can range from grasses used in roof thatching to *tapa* cloth from the Pacific islands, made from a variety of tree bark. Plants and bamboos have been used for load bearing constructions and infrastructure around the world in rural areas, and it is interesting to note that bamboo is also greatly used as scaffolding, with large commercial markets in many countries catering to this use [23].

3.3. Medicinal Purposes

Forests have provided material and medical herbs for traditional systems of medicine for millennia. According to [24], the perceived efficacy of Traditional medicine use is ubiquitous and apparently, cuts across whether or not being considered under the Ghanaian National Health Insurance Scheme.

Many modern medicines are based on wild plants or their extracts. The global international trade in medicinal and aromatic plants exceeded 440,000 tonnes in 1996 with a projected value of US$1.3 billion [23].

Currently, in many developing countries with limited access to medical doctors and hospitals, the World Health Organisation (WHO) estimated that up to 80% of the population rely on traditional medicines, mostly plant-based drugs, for their primary health care [24]. In many cases, such medicines are a central source of health care available to the poor.

Along with this, the developed world demand for traditional medicines has increased as customers demand 'natural' medicines which seek to cure illnesses in ways which more conventional scientific medical systems have not managed to cure. Many people use these remedies. In fact, the percentage of people using traditional medicines is 40-50% in Germany, 42% in the USA, 48%in Australia and 49% in France [23]. Both in China and India, traditional medicines based on wild plant and animal source are major export industries.

3.4. Cultural Value

The cultural significance of non-timber forest products (NTFPs) arises from two factors: some NTFPs have significant cultural value in themselves, as totems, incense, and other ritual or religious items. Others may be more related to personal or home decorative purposes; dyes and essences fall into this category. The gathering and collection of honey or medicinal plants can also represent culturally significant activities for communities [23].

3.5. Energy Use

Small scale fuel wood collecting and use often fall under the utilisation of NTFP umbrella. In recent times the small scale (non-industrial) manufacturing of charcoal was also added. The NTFPs are also recognized as contributing to energy security in rural areas. As energy sources, small twigs which are not suitable for other commercial uses are collected and sold as a source of income. Such materials are sold in many rural Asian and African markets also in small quantities.

Furthermore, the use of NTFPs in charcoal making is a recommend practice (Arnold and Jules, undated) to provide energy to rural households as well as income [2], while at the same time protecting old growth forests. These activities provide energy security in areas where electrification has not yet reached or where other fuels, such as fuel oils, are too expensive for poor people to afford.

3.6. Economic Benefits

Forests have both products and services on which forest communities depend for both economic and social gains [25, 26]. These NTFPs form part of high income commercial operations, especially those based on engineered bamboo or medicinal plants. The NTFPs are also important as they provide income generation for those outside the standard economic systems. In India, NTFPs contribute from 20% to 40% of forest dweller annual income, mostly in disadvantaged and landless communities [23]. In many countries, village communities, individuals or sub-groups develop skills to manage and harvest specific NTFPs but there are also those who specialize in collecting thatching material or catching snakes. Such small scale income generation and livelihoods, may be one key to using NTFPs as a strategic tool.

An estimated 15 million people in sub-Saharan Africa earn income from forest and related activities, and several million people derive their main source of income from forest-based micro enterprises such as fuel wood sales, charcoal making, artisanal saw milling, carpentry, furniture making, handicraft

and commercial hunting [27, 28].

It has also been estimated that chainsaw milling and related activities have employed about 94,000 people in 2009 and still provide livelihood for many Ghanaians [28, 29].

4. Conclusion and Policy Recommendations

Forest resources play important role in households` livelihood strategies through the provision of fuel wood, bush meat, medicinal and other plants, arts and craft materials and income. These products contribute significantly to household food security, nutrition, health, and income, especially during the lean farming seasons. This, therefore contributes significantly to poverty reduction in forest fringe communities.

The livelihoods of forest fringe communities are predicated on the availability, access, and the utility the forest biodiversity offers. It therefore imperative that these resources are managed with sustainability principles by the Forest Commission, District Assemblies, environmental non-governmental organisations (ENGOs) in partnership with the forest-dependent communities. This paper argues that conscious efforts need to be brought to bear towards the enforcement of judicious use of forest resources, as household poverty remedy in rural Ghana.

Other institutions with key interest in forest utilization are to ensure that they continue to play their role in reducing poverty in these forest dependent communities.

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