

Alternative Livelihoods of Forest Edge Communities around the Gola Rain Forest National Park in Malema Chiefdom, Kailahun District.

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ABSTRACT

Forest edge communities are often regarded as poor and deprived due to their distances from urban communities and main routes. Their livelihood sources are associated with the forest reserve and therefore are always at logger heads with conservationists, environmental organizations and governments. Without the forest, the communities have indigenous livelihood strategies they depend on for their survival from time immemorial. Therefore the aim of this study is to explore alternative livelihoods and their sustainability in forest edge communities around the Gola Rain Forest National Park in Malema Chiefdom, Kailahun District. Various related literatures were reviewed based on the study objectives. The study communities were purposefully selected because they had all the variables needed for the completion of this work. Five (5) forest edge communities were randomly sampled and in each community, eight (8) respondents totaling 40 were randomly selected. Five (5) respondents were also randomly selected thus; two (2) forest rangers, two (2) traditional leaders and one (1) youth leader who were permanently residing in the study communities for focus group discussion. The total number of respondents was forty-five (45). Five to six (5-6) indigenous livelihood activities carried out in the communities including upland and swamp rice farming, domestic livestock rearing, artisanal diamond mining, trap setting, weaving, lumbering etc were selected. Accusing fingers were pointed at community members by forest rangers for unlawfully exploiting the Gola Rainforest National Park while the community people pointed at them as liars. It was concluded that forest edge communities had alternative livelihood sources order than what is provided by the Gola Rainforest Programme. It is recommended that the existing indigenous livelihood strategies of the forest edge communities be built on to enhance cultural sustainability.

1.1 INTRODUCTION

Various definitions of forest are used throughout the world, incorporating factors such as density, tree height, land use, legal standing and ecological functions (Schuck, et al., 2002). According to FAO (2018) a forest refers to tree covered land that is not predominantly under other uses than forestry. A forest land spans 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 land

that is predominantly under agricultural or urban land use. The Gola Forest is the largest area of lowland rain forest remaining in Sierra Leone and is one of the most important sites for the conservation of threatened wildlife in the country. The Gola Rainforest project area covers 110km stretch within seven (7) chiefdoms. The importance of the forest as a timber reserve has been recognized for over One Hundred (100) years with Forest Reserves first declared in 1926-1930 and extended in the 1950s to over 70,000 hectares <https://www.birdlife.org>. Rural communities in and around forest reserve communities traditionally accessed the reserves for numerous reasons such as farming, hunting, timber extraction and traditional medicines (herbs). The Gola Rainforest Reserve is a home to over three hundred (300) bird species such as White-necked Picathartes, picarthartes gymnocephallus and White breasted Guinea fowl Agelastes meleagrides. Apart from bird species, it is also rich in mammal fauna with at least fifty (50) species such as Pygmy Hippopotamus, Choeropsis liberiensis, Western Chimpanzee Pan troglodytes verus (Myers, et al., 2000). Forest edge communities have been exploiting the forest as source of their livelihood for several decades before the enactment of forest acts, policies and regulations. With the policies, they are restricted from entering the forest reserve even though it is located in their community. For the fact that they restricted to enter the forest reserves in search of their livelihood, they unlawfully enter the forest and exploit it in various forms such as shifting cultivation, lumbering, hunting, and mining of gold and diamonds which deplete the forest ecosystem leading to loss of its unique biodiversity. The Gola Forest programme and partners have therefore engaged the communities to manage community forests adjacent the forest reserves and further provide them fringe opportunities such as scholarship to their children, income generating activities other than exploiting the National Park. The forest communities have therefore embarked on alternative livelihood fending though with continuous threats to the forest reserve. Sustainable livelihood of reserve forest edge communities has been absent in most of the country's policies on forest management and protection. As captured by (Shahbaz &Suleri, 2009), the scope for sustainable livelihood is actually not consistent with requirements of international standards; as a result forest dwellers are the most vulnerable when it comes to policy implementation relating to restricted forest usage. The situation is evident in Sierra Leone forest protected areas as there is hardly any substantive information dealing with the sustainable use of forest environment that guarantees the protection of local residents. This situation encourages local forest dwellers to continue carrying out destructive activities in the forest reserve in search of their livelihoods rather than protecting it. Alieu (2001) as cited in Jackson (2015) noted that to sustainably manage the forest resources in Sierra Leone, there is need for the incorporation of institutionalized legislations and physical protection to deter access set in place to assist with the preservation of forest locations so as to ensure that it meets the livelihood needs of those who rely on it for their daily means of survival without destroying the ecosystems.

1.2 STATUS OF PROTECTED FOREST IN SIERRA LEONE

The forest Act of Sierra Leone came into being on 1st July 1988 and was gazetted in the same year (gazette Vol.CX1XX, No.38/dated 7th July 1988). This Act made provision for effective forest administration (be it national or community leased forest/ classified forest), and general provisions specified the role of the Minister of Agriculture, Natural Resources and Forestry,

Chief conservator, the forest Officer and forest edge communities. According to Blinker (2006), forest reserves and protected areas in Sierra Leone are only confined to such areas; Gola (77,044 hectares), Kambui (21,213 hectares), Dodo Hills (21,185 hectares), Nimini (15,557 hectares), Freetown Peninsula (14,0899 hectares), Tama (17,094 hectares) Tonkolili (47,656 hectares), Kasewe (2,333 hectares), Loma (33,200 hectares), Sanka Biriwa (11,885 hectares), Kuru Hills (7,001 hectares), and Kangari Hills (8,573 hectares). Gola Forest has the largest hectares in which the Gola Rainforest Programme operates. Within the seven (7) protected forest managed by Gola rain Forest programme, Malema Chiefdom has the largest hectares of the reserve which is the center of this study.

1.3 ALTERNATIVE LIVELIHOOD SOURCES OF FOREST DWELLERS

In the words of Chambers and Conway (1992), the analysis of securing rural livelihoods, enhancement of agricultural production, livelihood opportunities and security in terms of employment and income cope with vulnerability. Therefore livelihood is defined as a network which comprises the abilities, assets (stores, resource claim and access) and activities required for a means of living. Livelihood is considered sustainable if it can cope with and recover from stress and shocks, maintain and enhance its capabilities and assets provide sustainable livelihood opportunities to the next generation; and contribute net benefits to other livelihoods at the local and global levels in the short and long term. Alternative livelihood project is a widely used term for interventions that aim to reduce the prevalence of activities deemed to be environmentally damaging by substituting them with lower impact livelihood activities that provide at least equivalent benefits (Wright J.H, et al., 2016). A good number of studies that have specifically examined small scale livelihood initiatives implemented as part of REDD+ or forest conservation efforts have shown mixed results. A point in case was the work of (Bauch, Sills & Pattanayak, 2014) who conducted an evaluation of the social and ecological impacts of an enterprise based conservation strategy in the Tapajos National Forest of Brazil and their findings found positive impacts on household income, but no discernable impacts of household assets, livelihoods or forest conservation. Similar alternative livelihood package is used in forest edge communities by the Gola Rain Forest Programme in seven (7) chiefdoms in Sierra Leone. The programme implements livelihood initiatives in Malema Chiefdom, Kailahun District as part of REDD+ project and the main thrust of this study is to examine alternative livelihood initiatives used by forest edge communities in Malema Chiefdom. In the same vein, a study was conducted by (Sainsbury et al., 2015) on the impacts of alternative income generating activities in a forest conservation programme in Tanzania and found out that high heterogeneity in the social and ecological impacts was delivered across activities and therefore stressed the need for more case studies to better understand the factors affecting livelihood outcomes. Therefore, the objective of this study is to explore alternative livelihoods and its sustainability in forest edge communities around the Gola Rain Forest National Park in Malema Chiefdom, Kailahun District.

2.1 METHODS AND MATERIALS

2.1.2 MAIN CHARACTERISTICS OF THE STUDY COMMUNITIES

Malema Chiefdom is found in Kailahun District, Eastern Sierra Leone. It has the largest hectares of land 24,007.7ha within the Gola Forest National Park. Out of the one hundred and twenty-two (122) forest edge communities of the seven (7) Gola Rain Forest National Park, the chiefdom has thirty-four (34) forest edge communities. According to Bulte et al., (2013), all Forest Edge Communities describe themselves as poor and the vast majority lack basic amenities such as latrines, clean water supply, health care and education. Majority of the communities are remote and are at some distance from vehicular roads. This situation better describes the Forest Edge Communities in Malema Chiefdom as they are hardly accessible by roads making market inaccessible. This appalling situation denies the communities economic and other social opportunities. They are mainly agrarian societies which forms the basis of their livelihood. For years they have depended on the Gola Forest for their livelihoods and with the intervention of the Gola Rain Forest Programme, they have been forbidden from entering the forest thereby limiting their livelihood opportunities.

2.1.3 METHODS

The study is a case study research design as it explores an in-depth study of a particular research problem (alternative livelihood of forest edge communities in Gala Rain forest Reserve in Malema Chiefdom, Kailahun District). A case study research is often used to narrow down a very broad field of research into one or a few researchable examples. The main focus of using this design is to identify alternative livelihoods and analyze the situation in the study communities in detail using theoretical concepts. However, the main demerit of a case study research design is that it is subject to selection bias. A stratified random sampling was used to select forest edge communities and forest rangers in the chiefdom. The forest edge selected communities were Bandajuma, Dambala, Taiama, Takpoima, and Jagorlahun. The stratified random sampling selection criteria included proximity of the Forest Edge Community to the Gola Rain Forest National Park and the declining forest cover. Purposive sampling was also used to select eight (8) households from each sampled village due to the fact that they are residing in the Gola Forest Edge Communities and were involved in livelihood activities outside the reserve forest and therefore can provide in-depth information about alternative livelihood of the communities for the completion of this study. Forty (40) households were selected from the five (5) selected Forest Edge communities. Similarly, two (2) staff members of Gala Rainforest National park (forest rangers), two (2) village chiefs (from Jagorlahun and Bandajuma) and one (1) youth leader (from Dambala) who was permanently residing in the sampled community totaling five (5) were also selected for focus group discussion. In total forty-five (45) respondents were selected. Data was analyzed by means of descriptive statistics.

4.1 RESULT AND DISCUSSION

4.1.2 ALTERNATIVE LIVELIHOOD IMPLEMENTED BY SELECTED COMMUNITIES

Selected Forest Edge Community	Number of alternative activity	Alternative activity presently engaged in.
Bandajuma	5(Five)	-Diamond Mining -Livestock rearing (goat and sheep) -Upland and swamp rice farming -Cash crop plantation (cocoa and coffee) -Lumbering
Dambala	6(six)	-Diamond mining -Livestock rearing (goat and sheep) Cash crop plantation (mainly cocoa) -Upland and swamp rice farming -Lumbering -Petty trading (mainly cooking condiments)
Taiama	6(Six)	-Livestock rearing (goat and sheep) -Weaving (basket) -Diamond mining -Traps (mainly for meat) -Farming (upland and swamp rice) -Petty trading (mainly cooking condiments)
Takpoima	5 (Five)	-Farming (upland and swamp rice) -Traps (mainly for meat) -Weaving (basket) -Cassava and groundnuts farming -Livestock (goat and sheep)
Jagorlahun	5 (Five)	-Farming (upland and swamp rice) -Lumbering -Diamond mining -Traps (mainly for meat) Livestock (goat and sheep)

SOURCE: Field Survey, 2021.

It is essential to understand that livelihood strategies are different for different groups of people within a community, and can change over time. Those provided by conservation organizations are not sustainable and therefore communities have their own indigenous livelihood strategies as coping strategies that are sustainable though not effective enough to alleviate poverty. This is contrary to the work of Chambers and Conway (1992) who defined and suggested that livelihood is sustainable when communities can cope with and recover from stresses and shocks as well as maintain their capabilities and means of living such as food, income and assets. In the rains, Jorgolahun and Takpoima have limited capabilities as they have limited access to income from their community forests. The chiefdom headquarters, Jojioma becomes inaccessible in the rains

due to poor road network and damaged bridges leaving them in shock to access markets that are far away from them. The community members hire motorbikes to convey them and their products to the chieftom headquarters at the cost of \$1.44 (Le15, 000) per person and their products (loads) are equally priced. The motor bikes drop them at a stream that is not accessible and they carry their loads on their heads for a considerable distance. All the selected communities are engaged in upland and swamp rice cultivation in the primary or community forests though at subsistence level which cannot sustain them in the rains. Rural forest community livelihood is purely agrarian and mainly depends on common property resources such as fishing, hunting and gathering from the forest. But their limited access to the Gola Forest National Park leave them in stress, shock and poverty. This is justified by the work of (Mckenney and Tola, 2002) who suggested that rural forest livelihood largely depends on property resources and the forest reserve and to which access should be opened. It was also discovered that all the sampled communities are engaged in livestock management mainly goats and sheep though for domestic and cultural purposes. But the animals are at risk of diseases, demand of socio-cultural celebrations and theft. Diamond mining is a major livelihood activity of the selected forest communities and draws the young and energetic rural forest communities to the mining spots. The mining is mainly artisanal and is carried out in three selected communities of Bandajuma, Dambala and Taiama as shown in figure 1.



Figure 1: Gravel packed near Dambala village

Abandon diamond pit near Bandajuma village

The mining site near Bandajuma village was established on the bed of Mamawa Stream and the miners refused to be identified because the mining was very close to the Gola Forest National Park. The study communities particularly Takpoima and Jargolahun experienced rural depopulation especially in the rains living the aged, women and children in the impoverished villages in search of greener pastures in the mining villages. This has negative implications on the livelihood of those left behind as they are not strong enough to till the land and hence the cycle of poverty widens. A similar situation was reported in the work of (Hetch, S. et al. 2015) who opines that forest reliant communities experience an unprecedented exodus predominantly of working aged men. During discussions, the Gola Forest Rangers reported that the forest reserve has suffered and continues to suffer from illegal mining by the rural communities though it was contested by the youth leader and local chiefs as baseless and unfounded. Subsistence

hunting is a traditional livelihood strategy for food security and nutritional health in forest edge communities in Malema Chiefdom. Indigenous people set traps on land for meat and streams for fish as it was reported in Jargolahun, Takpoima and Taiama. Although issues were raised about limited gains in catching animals in the community forest due to the facts that the animals have gone into the Gola National Park; the forest rangers accused the community people of setting traps and fishing in the forest waters. At Takpoima village, the chief who happens to be a female Madam Amie Momoh shown in figure 2 postulated that they have no access to the forest and their main source of protein over the years is got from smoked fish bought from Jojioma and is expensive.



Figure 2: Madam Amie Momoh at Takpoima

Fish trap 'Bubui' to catch fish at Taiama

Village during discussions.

Hunting and fishing in the forest reserve may have negative implications on the ecosystems and may lead to the extinction of valued species. This is in line with the work of Wright S.J (2003) who stated that unsustainable collection of game species is known to trigger feedback mechanisms that can negatively affect entire ecosystems and the services they render. This supports the idea that hunting as a livelihood strategy of forest edge communities is not a sustainable, reliable or desirable activity. Provision of protein such as livestock to forest communities will improve their livelihood strategy and hence reduce their dependence on the reserved forest but it was not the case in any of the sampled communities. Van Vliet, N. (2011) supported this view on the grounds that provision of alternative protein and income generating sources is one of the most widely used strategies at the community level to reduce bush meat consumption and trade while aiming to improve local livelihoods which has no negative impact. Cocoa, coffee and oil palm are widely grown by the selected communities as sustainable livelihood strategies in the community forest and they have been supported by the Gola Rain Forest programme in areas of supplying them nursery bags to nurse seeds, improved cocoa hybrid such as Mercedes and Amazon. To turn the community's attention from exploiting the National Park to cocoa farming on their community forest, the Gola Rain Forest was reported paying higher prices for dry cocoa beans at \$2.20 (Le 23,000) per Kilogram (1kg) and a yearly benefit of \$ 0.19 (Le2000) per kilogram (1kg) compared to other dealers in cocoa with a price of \$1.72 (Le 18,000) with no yearly benefits. This has attracted many young people to embark on cocoa production in the study communities. Lumbering is carried out in all the sampled communities. Large logs of

timber were sawn in two villages; Bandajuma and Dambala and it was claimed by the respondents during discussions that they were sawn from their community forest. This was contested by forest rangers who claimed that timber is logged in the reserve but there were no reports of such activities to the local authorities. However, a large pile of timber was seen near Banjuma where the road stops as shown in figure 3.



Figure 3: Timber near Bandajuma ready to be transported for sale

There were a number of piled timber close to Dambala, Takpoima and Jagorlahun ready to be transported. The communities had more young men than others. The main site where they are extracted was difficult to determine as the respondents claimed it to be from the community forests while the rangers pointed fingers at the Gola National Park. Baskets are also made as means of transporting food products and the excess sold at Jojioma in the periodic market (Dorwayhun in their Mende language). Apart from agricultural products taken to the periodic market every Friday, each village is engaged in petty trading mainly in cooking condiments like salt, Maggie, and dry fish. It is worth noting that the study communities had alternative livelihood sources other than those provided by the Gola Rain Forest programme.

5.1 CONCLUSION

Forest edge communities in Malema chiefdom are poor and limited in many livelihood areas due to the rough terrain of their communities and their distance from the chiefdom headquarters; Jojioma. Apart from livelihood opportunities provided by the Gola Rain Forest Programme in the communities, the indigenous people have sustained livelihood activities which have been practiced since time immemorial. Since they are prevented from entering the Gola Rainforest National Park, they have developed coping strategies which empower them live in remote forest environments.

5.1.2 RECOMMENDATIONS

Forest edge communities in Malema Chiefdom need to be empowered by government and organizations wishing to manage and protect the forest ecosystem through sustainable alternative livelihood means if the forest is to remain reserved and protected. These could be done in addition to their indigenous livelihood sources; livestock rearing, beekeeping, cash crop production, education of children in schools, petty trading etc. These will minimize their access to the Gola Rainforest National Park as they will be busy with income generating activities that

can better address their livelihood needs than exploiting the forest reserve. It should be also borne in mind that the livelihood opportunities introduced to them to improve their indigenous livelihood strategies should be locally relevant. For example hunters who are given goats or sheep to rear will see it as a source of protein and income for them. This will allow them add value to the activities; hence sustainability is assured.

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