

HOW LIBERIA'S FOREST COMMUNITIES CAN BENEFIT MORE
FROM THEIR TIMBER RESOURCES IN SMALL FOREST RESERVES

Community Forestry in Liberia



How Liberia's forest communities can benefit more from their timber resources in small forest reserves — COMMUNITY FORESTRY IN LIBERIA

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Front cover image: 'Ripping' an *abura* (*Hallea ciliata*) into planks in the Wealiquah & Gotuma Forest

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Acronyms

CFMA	Community Forest Management Agreement
CFMB	Community Forest Management Body
CRL	Community Rights Law with Respect to Forest Lands
FACE	Farmers Associated to Conserve the Environment
FCI	Foundation for Community Initiatives
FMC	Forest Management Committee
FDA	Forestry Development Authority
LD	Liberia Dollar
LISGIS	Liberia Institute for Statistics and Geo-information services
NFRL	National Forestry Reform Law
SAMFU	Save My Future Foundation
SDI	Sustainable Development Institute

- Standard 14'x10"x2" planks of 'pit-sawn' (chainsaw milled) *nanga* (*Brachystegia leonensis*) at a 'lining' (roadside piling place) in the Wealiquah & Gotuma Forest.



Introduction

This research focused on a largely ‘invisible’ type of community forestry in Liberia. The three case studies looked at communities or families with forests ranging in size from 75 ha to circa 1000 ha, and their forest governance and exploitation scenarios can be summarised as follows.

1. **Wealiquah & Gotuma Forest.** This is a small community with a strong sense of forest ownership, where a self-organising management committee monitors pit-sawing operations¹. The community generates community funds from their timber.
2. **The Favey Family Forests.** Here, families cash in on their timber reserves with a hands-off approach to pit-sawing operations, and there appears to be little transparency within the families involved.
3. **Bomboja & Fomba Reserve Forests.** After 90+ years of autonomous forest protection, for local canoe timber and rattan supplies, the forests are controlled by a few male elders, with limited transparency.

These forests are too small to interest commercial logging operations, yet revenues are being generated, predominantly via pit-sawing planks but also via the specialised case of canoe carving. Critically, this research shows that communities and families can manage these small forests, sometimes to a high level, as in the case of the Wealiquah & Gotuma Forest, where there is forest zoning and logging controls.

The 2009 Community Rights Law with Respect to Forest Lands (henceforth CRL) is the legal framework in Liberia aiming to regulate community forestry. The CRL specifically provides for medium-scale forest areas, from 5,001 to 49,999 hectares, although under the CRL a community can also enter into a small-scale commercial use contract for areas smaller than 5,001 ha and large-scale concessions of more than 49,999 ha.²

The idea behind the CRL was to give communities control over relatively large-scale logging operations and related benefits on their land, rather than focus on small-scale logging. The CRL stipulates that for large-scale contracts, communities have the rights to at least 55% of all revenue/income generated,³ which is significantly more than communities get from existing logging concessions.⁴ Thus, compared to places like Cameroon where community forests are only permitted up to maximum 5,000 ha, in Liberia, formalised community forestry concerns much larger areas.

Managing a forest of 75–1000 ha is a very different undertaking to managing one of 5,000–50,000 ha, not least because only the latter size is likely to be of interest to industrial logging operations. The question of scale is also fundamental to a key issue of forest management, flagged up in this research, namely community monitoring: depending on its location in the local landscape, it is far easier for

1 This is the term used throughout Liberia to refer to the in-situ chainsawing of felled trees into planks and will be used in this sense throughout the report.

2 Section 6 of the CRL.

3 Section 3.2.d of the CRL.

4 How much do communities get from logging? Fern, June 2017, available at <https://fern.org/how-much-do-communities-get-from-logging>

community members to be aware of logging activities in a small forest than the larger forests the CRL focusses on. Through daily movements such as visiting forest edge farms, crossing paths through the forest to neighbouring settlements, or while hunting, fishing or collecting forest products, people are more likely to be aware of what is going on in smaller forests – or small sections of large forests – and such familiarity has a very significant implication for governance: it invites inclusion, but doesn't by itself enable it.

Setting aside whether the types of small forests covered in this report could become authorised community forests, as defined by the CRL – and more importantly, if this presents them with the most appropriate governance options – we need first to address the questions around the potential of sustainable revenues from these forests. In other words, what management scenarios could governance of small forests aim to achieve?

The two pit-sawing case studies in this report illustrate the relatively low returns forest owners get for their timber. A more comprehensive study by Bickel & Cerutti (2017: 43) presents⁵ figures for the different shares of the final sales revenue of a cubic metre⁶ of sawn wood produced along the value chain. Within the 39.5% accounted for under the rural production category it shows wages to rural workers (13%), informal payments (4.5%), miscellaneous rural (8%) and rural profits (14%) with the latter including payments to forest 'owners'.

Bundling profits into a simple rural category glosses over the contribution of outsiders in moving timber from forests to urban areas. Non-citizen saw owners, operators and haulers were common in two of the three case studies examined here. To provide some quantification of their importance, Bickel & Cerutti (2017: 17) reported that 72% of surveyed chainsaw millers (n = 178) were not from the communities and/or districts where they operated, but do not provide details for saw owners and haulers.

The significance of this large outsider role is not only the complex web of brokerage and patron-client relations that underlie their entry and living arrangements in the community, but more fundamentally, their presumed lack of vested interest in sustainable harvesting practices. This is compounded by the low-value shares towards the forest end of the chain for insider and outsider alike, as well as per plank payment systems that probably encourage cutting wood of the standard dimension as simply as possible.⁷

Though this analysis may suggest an ongoing scramble to pit-saw small forests out of all their timber of commercial interest, under current market conditions the price of hauling planks from forests limits exploitation to about 1.5 km from roadheads. Thus, without an extensive road network, or the means to create one at low cost, there are clear physical limits to the exploitation of small forests by pit-sawing.

Without more specialised alternatives to plank pit-sawing, such as canoe carving, which is only economically viable beside the coast or near navigable rivers, the current options for communities with small forests appear limited to managing cycles of pit-sawing for a few years, followed by longer periods of natural regeneration. A key policy question then is how can communities (or families) with small forests get a greater share of the revenue from their timber?

5 See Bickel & Cerutti, Table 13.

6 A volume that equates to just over eighteen 14'x10"x2" planks.

7 To give two examples: first, the 14-foot length standard means that the remaining straight bole after the last 'ring' (as each 14-foot length along the trunk is called) is ignored. Secondly, we saw a case at a felling site where although there was still another potential ring to cut and plank, it was abandoned because the ground was 'ugly', i.e. it required too much underbrush removal to access because of how the tree had fallen. It was easier to move on to the next tree, and it probably required less chainsaw fuel.

Upgrading along the timber value chain

From the plank fields, timber generally goes either towards construction sites or to carpenters, with the latter route sometimes leading to considerable added value. One illustration of this is the conversion of two standard 14'x10"x2" planks into a door. On the 27th February 2018, around Brewerville on the north-western outskirts of Monrovia, one wood shop was selling a basic door made from whismore at US \$50 and a more elaborate one at US \$70. A more ornate door from the attractively grained lavo, was priced at US \$120. The forest management committee (FMC) formed at Wealiquah & Gotuma was selling planks of these species at US \$2.3 to \$3.1 (300–400 LD) each. This suggests that there is a case for examining the possibilities for undertaking such added value options in the timber-producing community, i.e. upgrading along the value chain.⁸

According to some informants at Wealiquah & Gotuma, they have been obliged to engage in the timber value chain because no logging company came for their standing timber, which would have been their preference, despite previous negative experiences. The Wealiquah & Gotuma FMC have gone on to move further along the value chain than the Favey families of the second case study by selecting and selling their toll planks to buyers who come and collect. Through appreciation of the differentiated plank market they plan to start demanding a higher price for their more valuable toll planks. Advancing even further along the chain to increase profits with the means available to them would require arranging and paying for transport, possibly with payment up-front, which carries financial risks.

Leaping along the value chain to any type of on-site carpentry at a collective level requires significant investment in terms of both capital and knowledge. The way that the self-employed canoe carvers at Bomboja and Fomba work to order may be a reflection of these constraints, but it may also relate to supply-and-demand factors, as well as risk aversion.⁹

One way of looking at the challenges of a radical shift in the location of furniture manufacturing is to ask why and how carpenters involved in this trade operate in cities. With the majority of pit-sawn timber moving to plank fields in the major cities, especially within Greater Monrovia (home to a third of the nation's population), it is probably straightforward to answer the question 'why', in terms of product demand and labour availability.

At the operational level, whilst I am unaware of any specific studies on this trade in Liberia, the clustering of wood shops, which casual observation suggests occurs around Monrovia, has been examined more thoroughly in comparable markets elsewhere. In south-western Nigeria, Joseph *et al.* (2014) found the advantages of clustering among furniture-makers to include sharing tools, equipment, information, experience and collaboration among workshops. An isolated rural operation would therefore need to be well equipped and linked to diverse sources of market information in order to overcome its disadvantages in this regard.

Good market research is needed to determine the most feasible products to make, especially given transport constraints, which may favour less voluminous and less ornate items, such as doors, chairs and folding tables. The latter two items, which require higher levels of skill to make and are apparently uncommon in the market, could help overcome locational disadvantages by selling higher price

8 Upgrading refers to the execution of more activities/functions by producers along the value chain (its opposite, referring to fewer activities, is called downgrading). Van Hulsen (2014) provides a useful examination of the factors that influenced a community forestry organisation in Bolivia to add activities, such as extra stages in harvesting, sawing, transporting and/or processing, compared with continuing to sell standing timber. The basic activity of her case study therefore has similarities with the situation in Bomboja & Fomba.

9 Solo operations are not necessarily the norm in the canoe-carving industry. In 2016, several informants in Buchanan told me about buying canoes at a 'factory' in River Cess where they were available to take away upon payment. In some areas it may have been a particular group activity involving expeditions into the forest for several months, something that was still occurring in Sasstown in 1964 (Nagbe, 2009: 103–4).

differentiated products, though any success may be short-lived if designs are copied. The use of lesser-used woods with attractive finishes could be another area to explore, and an old German-funded study on this topic in Liberia (Dudek *et al.* 1981) may be a useful starting-point.

In terms of building the skills required to operate a successful rural furniture enterprise, basic carpentry training experience should not be hard to find. It will probably be harder to develop the critical adaptive workshop management skills needed (for example) to balance timber flows in and products out, and to maintain profitable employment levels. Various governance options of the enterprise will also need to be considered, e.g. fully private or with varying degrees of community ownership and/or oversight. Setting prices for timber, labour and products as the operation develops will be another challenge. The literature contains useful and accessible material on creating local forest enterprises (e.g. Macqueen *et al.* 2014, Bolin *et al.* 2016), but none of it relates specifically to Liberia.

Looking to the future, there is probably a good business case for developing a furniture-manufacturing industry with a regional inland export orientation, which would represent a marked change from the current and historical focus on getting logs on ships. For a rural-based wood-manufacturing industry to become the driver of sustainable forest management, there are many challenges and solutions beyond the confines of the forestry sector and other branches of government will need to be engaged. Creating rural employment opportunities is not the remit or expertise of Liberia's Forest Development Agency (FDA) but linking jobs to small community-managed forests could play an important role in ensuring their sustainable management.

Developing such a vision into an evidence-based strategy requires piloting a project to upgrade timber value. Given the uniqueness of any such endeavour in Liberia, a learning approach is essential, with a strong commitment to documenting the numerous challenges that emerge. Documentation should cover not just the figures of production, costs, output, earnings, people involved etc., but also the social issues around initiating such an enterprise. Depending on the outcome of the pilot, the appealing proposition that enabling higher returns to communities from their forests encourages sustainable forest management¹⁰ will attract a lot of scrutiny, especially around the costs involved and the scalability of any such initiative.

Community forestry in small forests: to formalise or not to formalise?

The timber-harvesting practises documented in all three cases studies are informal. In other words, they do not follow the legal prescriptions of the National Forestry Reform Law of 2006 (NFRL), the 2012 Chainsaw Regulations¹¹ emanating from it or the CRL. What is clear, however, is that these practises are embedded within systems of local regulation, and therefore must be included in what is understood by the term community forestry. It is not claimed that these systems are perfect in terms of equity or sustainability, and indeed more detailed research would be required to make such an assessment. However, the point is that community forestry in Liberia as seen by the FDA, and many others working in the sector, is typically framed in terms of formalised community forestry as per the CRL. The underlying assumption is that formalisation brings some inherent advantages for achieving equity and sustainability. This assumption must be questioned, since there are also many examples of its negative effects (Putzel *et al.* 2014). Questions must be asked about the appropriateness of the formalisation options available.

10 Proving this would not be straightforward. If it is considered a key outcome to validate, monitoring efforts would need to be made from the outset of the pilot, which could include monitoring comparable control forests.

11 <http://extwprlegs1.fao.org/docs/pdf/lbr160033.pdf>

The enactment of the 2009 CRL undoubtedly advanced the formal recognition of communities' rights to forest resources in Liberia. However, nearly ten years later, weaknesses in its implementation need to be acknowledged. As pointed out by SDI¹² and Global Witness¹³ in recent reports:

- Several if not most of the Community Forest Management Agreements (CFMAs) approved to date have not been compliant with the CRL or its regulations. Illegalities and irregularities include:
 - logging companies paying communities to initiate the CFMA application process
 - logging happening before a Community Forest Management Plan has been approved
 - CFMAs being approved by the FDA before community constitution and by-laws have been formalised.
- Most (if not all) CFMAs have been formed with outside involvement, and in essence, it is these actors who have assembled the communities around forests they are interested in. In other words, communities have not been able to identify forests on their own terms.
- Logging interests are known to be behind many applications, which drives up forest sizes and distorts community governance.

It could be argued that it will take time to bed in the CRL processes. However, the surge in applications for authorised community forest status has overwhelmed the relevant FDA department, and the FDA has not been able or willing to do due diligence on all applications before approving them. More pragmatically however, it has to be asked whether the CRL is the right tool to formalise forest governance, notably in forest estates smaller than 5,000 ha.

Understanding scale is critical and a helpful approach in terms of formalisation is to examine the notion of forest jurisdictions. Following Murphree (2000), jurisdiction denotes a socially determined proprietary unit which forms the locus of use, management and control over defined areas or resources, be this *de jure* or *de facto*.

As shown above, to date the CRL has been implemented through bringing together multiple, spatially distinct co-residential communities (typically towns), to grant them management rights to forest areas which they are not necessarily all adjacent to. Several CFMAs have been formed around administrative units despite the limited evidence that clans or chiefdoms have played a significant role in customary land management in Liberia, which is typically at the level of the patrilineages¹⁴.

Thus, the situation prevails in some CFMAs that people from communities who are not adjacent to the forest are implicated in its management. This has significant governance transaction costs, which may

12 The Sewacajua Community Forest; SDI Briefing Note 5; March 2018 available at <https://www.sdiliberia.org/node/306>

13 Power to the People; Global Witness; October 2018, available at <https://www.globalwitness.org/en/press-releases/community-forestry-being-hijacked-global-logging-companies-liberia-increasing-risk-future-conflict/>

14 The local recognition of the three families (lineages) to their forests in Favey is a good demonstration of this. For a detailed study of how territorial claims can emerge in Liberia, see Murphy & Bledsoe (1987). Whilst this relates to a specific Kpelle chiefdom and equivalent studies from other cultural landscapes in Liberia are sourly lacking, the anthropologist David Brown believes there is limited evidence of any land management above the lineage level in Liberia (pers comm 16th October, 2017). It is however important to acknowledge the strategic roles chiefs may have played, at least in the past, in asserting where land use practises occurred e.g. by encouraging the establishment of frontier villages. In the contemporary setting, chiefs, as the Fomba case shows, may play a significant role as gatekeepers to forest resources.

already be large for adjacent forest communities simply because of the forest size. For example in the Bluyeama CFMA in Lofa, it reportedly takes two days for some members of the three CFMA bodies¹⁵ to walk to meetings. As a result, only those who can meet make decisions and this explains some of the governance confusion that has occurred there (Julie Weah, FCI, pers. comm. 4th December, 2017)

This approach to creating new forest jurisdictions flies in the face of decades of scholarship on the conditions necessary for successful resource management by local people (see Ostrom, 1999, for a useful overview focussed specifically on forests). Resource jurisdictions emerge from shared knowledge of both the spatial extent of the resource and those who are entitled to use it. Their successful governance in turn requires the vital ingredient of social cohesion to legitimise the organisations that manage the resource in the common interest. Whilst there may be some socio-historic basis to some clans and chiefdoms in Liberia, this does not necessarily mean they are effective forest governance units. As Murphree (2000:5) wryly notes:

“Local cohesion and internal regime legitimacy are variables that critically influence the success or failure of the community conservation and community development initiatives that are currently in vogue. The fact that so many of these fail can be attributed in part to the fact that these factors are often not considered when such initiatives are planned, in spite of a growing body of scholarship which shows their importance. For project planners such factors are elusive and their understanding tedious and time consuming; it is much easier to assume that they are either present or can be imposed. It is doubtful that they can be imposed. Whether they can be induced is a more open question.”

This study asks whether it is appropriate to impose the legal framework of the CRL onto small community or family forests. It does not seem practical to oblige communities to go through the 11-step process for a small forest with limited logging potential which only supplies the domestic market.¹⁶

The newly adopted Land Rights Act (2018) gives communities ownership rights over their customary land but its implications for community forestry are not yet fully clear. If as permitted under Article 38 a community decides to allocate part of its customary land into a forest land category (which requires timber as its primary cover) it appears that harvesting the timber to sell can only be done in keeping with the provisions of the CRL and the NFRL. How to allow communities to manage their small forest areas for their own benefit in a manner that builds on existing community structures rather than creating new ones, is something that should be considered in the implementation of the Land Rights Act (LRA). Planned revisions to the 2012 Chainsaw Regulations should also be in step with the changes envisaged by the LRA.

15 Community Assembly, Executive Committee & Community Forest Management Body

16 The eleven steps are detailed in the 2009 implementation regulation to the CRL available at: <https://www.documents.clientearth.org/wp-content/uploads/library/2017-05-17-regulation-2017-forestry-development-authority-regulations-to-the-community-rights-law-with-respect-to-forest-lands-liberia-ext-en.pdf>

Background and rationale

The adoption of the Community Rights Law in 2009 marked the start of ‘formal’ community forestry in Liberia. It has generally been pursued around large forest blocks where outside actors (development and conservation projects, local government, logging companies and the Liberia Forestry Development Authority) have assembled the surrounding communities and helped them create the necessary institutions to gain legal recognition.

There is limited evidence that these new institutions have yet created the desired governance outcomes, let alone been able to generate meaningful forest revenues for the communities. Recent briefings by SDI¹⁷ and a report by Global Witness¹⁸ indicate that many CFMAs have been approved despite not having met all legal requirements, and that many are being driven by logging interests. It appears that despite the portrayed simplicity of the 11-step formation process¹⁹ required by the Community Rights Law, it is hard for communities to participate without input from outside.

Yet informally, and largely unseen (partly because they concern much smaller forests), some communities and individual families are actively managing their forests for future development, whilst others have allowed chainsaw millers, more typically called pit-sawyers, to operate. In small and/or hard-to-access forests, pit-sawing is the only viable means to exploit timber. Returns to the forest owners from these activities are often uneven, both in terms of who receives what and their overall share of the value chain (Bickell & Cerutti, 2017). Therefore, there is a need to examine how self-organising communities who are preserving or exploiting small forested areas could formally seek opportunities to sustainably benefit from the timber coming from these areas.

Methodology

This report is based on three case studies and 14 days of fieldwork conducted by the author and Edward Suloe in three forest areas in Gbarpolu, Bong and Grand Cape Mount counties between 11 and 27 February 2018. The first case study was selected based on a brief visit in 2011, when I was told that the community was reserving their forest for future development. Two other communities in Gbarpolu were also lined up for study but were found to fall within a huge community forest management area (CFMA) under application, so were abandoned. Contacts then kindly helped identify two other areas, one with a reserve forest and the other managed by a family rather than a community.

All fieldwork proceeded from a community meeting to seek approval for and explain the purpose of our research. Thereafter, our research focused on conversations and interviews with only one or two individuals at a time who were involved in forest governance and/or forest exploitation, identified by previous informants.

17 The Sewacajua Community Forest; SDI Briefing Note 5; March 2018 available at <https://www.sdiliberia.org/node/306>

18 Power to the People; Global Witness; October 2018, available at <https://www.globalwitness.org/en/press-releases/community-forestry-being-hijacked-global-logging-companies-liberia-increasing-risk-future-conflict/>

19 The 11 steps are detailed in the 2009 implementation regulation to the CRL available at: <https://www.documents.clientearth.org/wp-content/uploads/library/2017-05-17-regulation-2017-forestry-development-authority-regulations-to-the-community-rights-law-with-respect-to-forest-lands-liberia-ext-en.pdf>

Through guided visits we attempted to understand the extent of the forests, and to find out about their exploitation, both past and present. These trips were also a good opportunity to gathering information, both through conversations with our guides and by observation. By basing ourselves in the communities for five days – three in the Bong county family forest site – we had many opportunities to cross-check information, although cross-checking was more challenging in Grand Cape Mount, as the forest studied was split between two large separate communities.

Case studies

- 'Hauling' an *abura* (*Hallea ciliata*) plank weighing around 107lbs (48.5 kg) in the Wealiquah & Gotuma Forest



Case study 1: Wealiquah & Gotuma, Gbarma district, Gbarpolu county

Setting

The settlement of Wealiquah was founded around 1926,²⁰ and the current population consists of about 32 families. Gotuma, 5 km to the north-west of Wealiquah (see Map 1) along the Gbarma to Takpoima road, was established later by people from Wealiquah, and is said to consist of more than 15 families.²¹

The Wealiquah & Gotuma community have attempted to secure their land rights, to prevent anyone coming on the land between the two settlements. On 3 January 1982 they acquired a Tribal Land Certificate (original document seen), and in 2006 an area said to be 1,200 acres was surveyed by the county surveyor.²² We understand that soap trees and cement corner-stones have been planted along the boundary, but we did not have time to confirm this for ourselves.

We were shown a public land-sale certificate stating that the 'Wealiquah-Gotumah Family' paid 15,000 LD for the 1,200 acres of land described in the survey attached to the document. However, although it was prepared in the name of President Ellen Johnson-Sirleaf, crucially it does not bear her signature. They were advised by their representative not to present it, since the land falls within the Sime Darby concession area.²³

Prior commercial forest exploitation

The extent to which the Wealiquah & Gotuma forest has been commercially logged previously is unknown. The first company, known locally as Manari,²⁴ started operating during Tubman's presidency (1944–71) and was responsible for creating the local road infrastructure and cutting various haul roads within their forest. During the Samuel Doe years (1980–90), another company – GETRAC – operated locally and constructed additional roads. The road-building legacy of these two companies has had a significant bearing on current forest use.

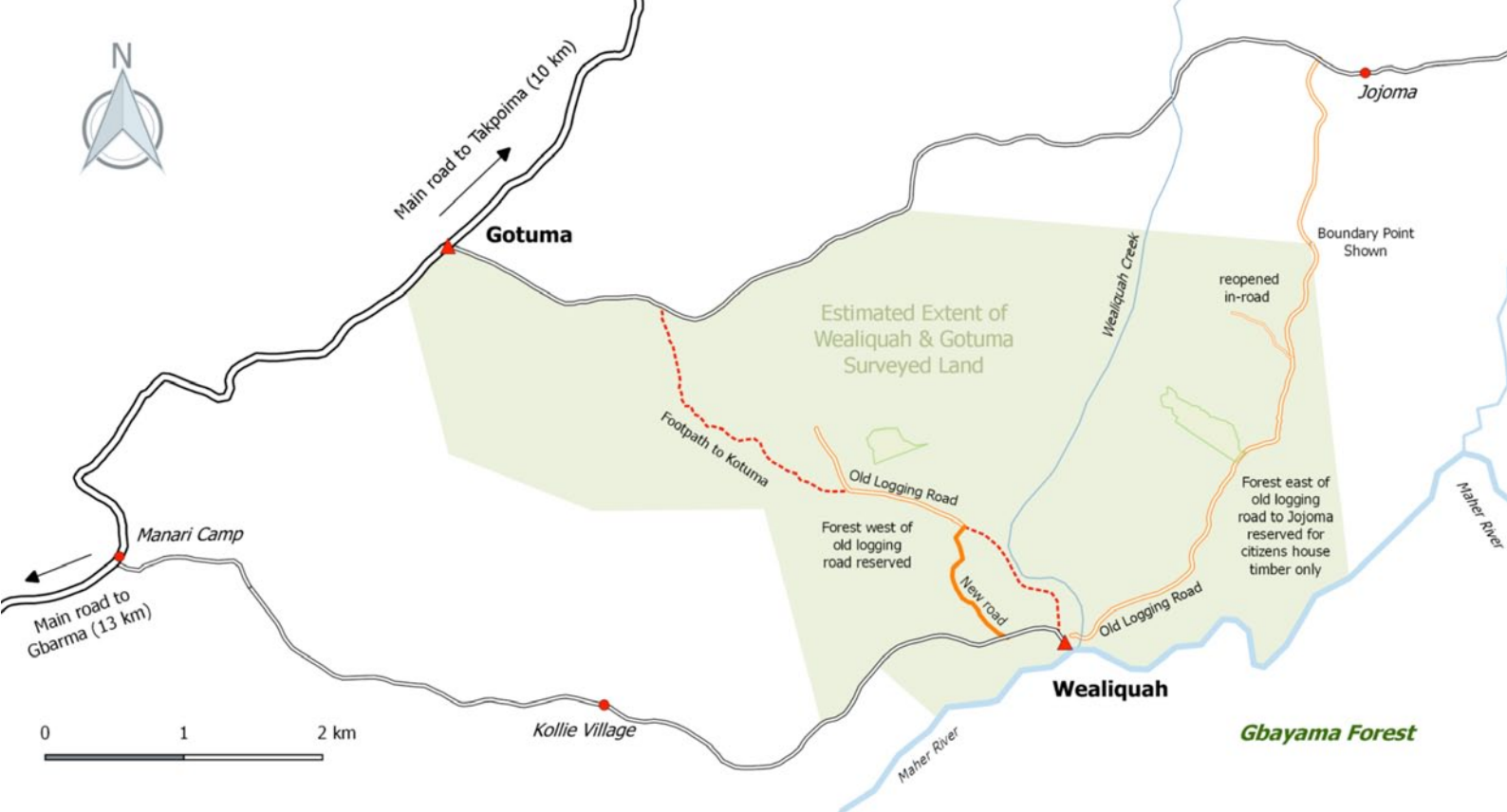
20 It was said to have been founded four years before President Charles B. King started freeing slaves. According to Ford (2004: 296), King outlawed pawnship on 29 September 1930.

21 The 2008 Census gives 126 inhabitants at Wealiquah and 41 at Gotuma. Applying the national average annual constant growth rate of 2.3%, this would equate to 158 and 51 respectively in 2018.

22 Based on our assessment of the shape of the survey map's 11 perimeter points, roads and river, and having taken a GPS point of one of them, we believe that the area is probably much greater. The estimated area shown in Map 1 is c.1,600 ha (3,953 acres) of which Google Earth suggest 360 ha is farm bush. Surveying errors are not uncommon.

23 The Sime Darby Concession agreement was signed with the Liberian Government in April 2009. This would suggest there was an unfortunate delay after the survey in finalising the public land sale certificate – which is probably typical of those without the right political networks. The area does indeed fall within Sime Darby's Gross Concession Area Block F, but the Round-table for Sustainable Palm Oil (RSPO) rules, if adhered to, would probably exclude much of the forested area. In any case, the president placed a temporary moratorium on the sale of public land in March 2010. Ironically, in October 2011, the RSPO instructed Sime Darby to halt further concession expansion until standards were upheld, and since then they have made no progress in Gbarpolu County.

24 This name presumably relates to Vincente Munariz, who signed a concession agreement in 1957 for a joint Spanish/Liberian company called the Liberian Industrial Forestry Corporation (van der Kraaij (1983: Table 19, p. 271). Though this author locates the 40,000 acre concession in the Gbama Tribal Forest Reserve, Western Province, it is not clear whether logging started here initially, as he later (Annex 19, pp 606, 609–10) also describes how the original concession was in Nimba. A later 1969 agreement gave the company 250,000 acres near the Kpelle National Forest ('Area A') and 150,000 acres near the southern boundary of the Gola National Forest ('Area B'), which may have covered Wealiquah. The company had their base at a place on the Gbarma–Takpoima road, which is still called Manari Camp (see Map 1).



Map 1: Wealiquah & Gotuma

During a brief community meeting at Wealiquah in November 2011, I was told that the community had closed their 'deeded' forest and were waiting for a good logging company to come for it. On our recent visit, we were told that efforts had been made in 2013 to contact a logging company, and that through an intermediary an outfit calling themselves the Mah Group²⁵ did an assessment in their forest as well as around Takpoima and Weasua, but this came to nothing.

Back in November 2011 there were several pit-sawyers based in Wealiquah, mainly outsiders.²⁶ They were operating in the Gbayama forest over the Maher river in Gungbeyah Clan. Wealiquah provided the nearest road access, and the various experiences of this business activity (which may have started as far back as 2006) by community members has probably had an important bearing on how they have subsequently decided to exploit their forest.

Formation of a Community Forest Management Committee

In April 2017, the Wealiquah & Gotuma community put to paper the guiding rules and penalties for pit-sawing activities within a defined section of their forest (see Appendix A). Two provisions in these are meant to ensure that some financial benefit goes to the community, namely a twice-yearly saw registration fee and a toll on the number of planks cut. The document names a six-person forest management committee (FMC), comprising three men and three women, to oversee operations. The FMC is charged with making a report to the community twice a year, and handing over the money they collect to two nominated individuals to bank. Oversight of the FMC is entrusted to a two-person monitoring team, which includes a youth leader. The General Town Chief²⁷ acts as an advisor.

Such local forest management has precedents in Gbarpolu County. To cite two examples: Jojoma was said to be collecting saw registration fees, to be paid into a community development fund, and charging a tax for road maintenance; and at Guyan-Ta, further up the Maher river, pit-sawyers were

25 No trace of a logging company of this name has been found. This is not surprising, as SDI are familiar with pop-up so-called companies seeking forest agreements and then scrambling to find logging capacity.

26 My colleagues memorably described a particularly vocal participant at the meeting as having shown characteristics typical of a 'general'. Cheng (2011: 233-4) describes various reasons why ex-combatants, especially more senior fighters, were dominant in pit-sawing, especially in the early post-conflict period.

27 The general town chief is from Wealiquah. In addition to Gotuma, he has official responsibilities for four other settlements in the vicinity.

said to be giving 10% of their cut to the community.²⁸ The co-chair for the Wealiquah & Gotuma FMC had acted in the same capacity for the Gbayama forest over the river. Over there they were charging a similar registration fee for one year, but in Wealiquah & Gotuma they wished to get more money for the community.

Unbearable poverty was said to have been the stimulus for opening up part of the forest for pit-sawing after years of closing their forest, with elephant crop damage noted as an important cause.²⁹ However, other factors cannot be dismissed. One factor may have been the closure of the Gbayama forest by its 'owner'³⁰ Momo T. Kamara, the Paramount Chief of Gungbeyah Clan, around 2013–14, depriving influential locals of revenue streams.

It was decided that initial pit-sawing activities should be limited to two areas, east of the old logging road towards Gotuma and west of the old logging road to Jojoma (see Map 1). To enable this, these roads were reopened and the bridge over the Wealiquah creek on the Jojoma road was restored. The FMC used some of the money it had collected from saw registration to help finance this work. On the Gotuma road side a new 1 km road section was put in, including a new log bridge, mainly by a Ghanaian saw owner. Why the existing road into the town was not used is not known, but to some extent it reduces the possibility of community surveillance of the comings and goings of plank trucks. The general secretary reported that there were four portions allocated along the Gotuma–Jojoma road, and we saw some evidence, though it was not ascertained whether this was for the first or second round of saw registrations.

Saw operators were said to have been left to do their own timber assessment after registration, following which they indicated their area of interest to the FMC, who demarcate the portion they are then permitted to operate in. Each portion has a designated 'lining' beside the road, where all planks are to be stacked, so that the FMC can count them easily. The perimeters of two portions were partially walked with a GPS (shown on Map 1), and these were significantly different in size (11.3 and 5.5 ha respectively).

If a portion is finished within six months, the operator can inform the FMC, who will check, and then allow them a new portion if the rules have been followed – though this has not yet been the case. Although operators are meant to be restricted to particular portions, we heard about two infractions. In the first case, one operator had cut planks in someone else's portion, and this was subsequently resolved between them without the FMC's involvement. In the second case, after I heard the sound of sawing west of the old Gotuma logging road, where it is not permitted, the FMC member with me admitted there had been an infraction. The Ghanaian saw owner had been fined 5,000 LD by the FMC, and after paying 1,500 LD, asked for forgiveness since he was not present when his operators cut the two trees in question. The sawing heard was the operators taking the planks from the two trees, but who these belonged to was not clear. Tensions between saw owners and operators are apparently not uncommon in the business,³¹ and one manifestation can be operators doing things like this so the owners feel the 'weight'.

28 Source: unpublished fieldwork by the author in November 2011

29 Elephant crop damage was also reported back in in November 2011. During our visit, we saw evidence of the presence of elephants: dung, footprints, and tusk rubbing marks.

30 Assumed forest ownership by traditional authorities is commonplace in the region. The Gbarpolu County Development Agenda (2008–12, available at http://www.mia.gov.lr/doc/Gbarpolu%20CDA_web.pdf) notes on p. 12: 'Pit-sawing is having a negative impact on the potential yield from timber production. Most of the proceeds go to local chiefs who control the forests in their regions.' One reason given for the closure of the Gbayama forest was that the owner's children were taking money from sawyers and 'eating it'.

31 For example, see p. 27 of What Every Pitsawyer Should Know: The Complete Handbook on Pitsawing in Liberia. Prepared by the Association of Environmental Lawyers of Liberia (Green Advocates), with support from the Rights and Resource Initiative (RRI), February 2010. Available at: https://www.growingforestpartnerships.org/sites/growingforestpartnerships.org/files/gfp_What%2BEvery%2BPitsawyer%2BShould%2BKnow-A%2BDraft%2BHandbook.pdf

Most of the ten registered saws that operated in the first six-month period were working along the Jojoma road. Though time constraints meant that we were unable to visit all four portions, one part of the inside boundary line was indicated to us on the operating side of this road. This was just over the Wealiquah creek shown in Map 1 and in combination with the effort made by one operator to reopen the old inroad shown, this suggests an important limitation to the forest area accessible to pit-sawing, namely hauling distance.

Haulers are paid for each plank they head load to the lining, and they negotiate a price based mainly on distance but also taking account of other factors such as the nature of the terrain and type of wood. The majority of planks are cut to the same size, 14 feet long, 2 inches thick by 10 inches wide. Weights can vary by species. Hauling a 107 lb (48.5 kg)³² plank of *abura* or *niangon* is a physically demanding and potentially dangerous job.³³ We went to one felling site, 650 meters by path from its respective lining, where the rate was said to be 80 LD per plank. Another place shown, 1280 m from the lining, was said to be 85 LD. The highest reported haul rate so far in the Wealiquah-Gotuma forest was said to be 125 LD per plank which was for one distant but high-value *lavo*. The operator who had reopened the 600 m old inroad showed us a felling site where the haul fee to the lining on this road was 60 LD. Without this inroad, the distance would indicate a haul fee around 85 LD, which suggests that timber haul prices are an important cost consideration.

Indeed, two members of the FMC reported that operators are starting to complain about these distances. They may also have an important bearing on how much longer pit-sawing can continue in the Wealiquah-Gotuma forest. In the Gbayama forest, however, haul prices had apparently reached 150 LD per plank, though qualifying details of other costs and benefits, e.g. payments to the forest owner and species involved, are not known.

Table 1: Timber species harvested at Wealiquah & Gotuma

NB: Identifications come from Blackett *et al.* (2009), unless otherwise stated

Name	Probable species	Notes
Framira*	<i>Terminalia ivorensis</i>	
Whismore*	<i>Heritiera utilis</i>	Also known as Niangon
Nanga	<i>Brachystegia leonensis</i>	Voorhoeve (1965: 148) gives the trade name Naga for this species, which sounds similar
Abura*	<i>Hallea ciliata</i>	
Koshia	<i>Nauclea diderrichii</i>	
Ayeloloko	? <i>Milicia excelsa</i> & <i>M. regia</i>	The name given is maybe a pronunciation variant of iroko.
Lavo	<i>Lovo trichilioides</i>	
Bassa Whismore	<i>Pycnanthus angolensis</i>	Has a latex. Id from Voorhoeve (1965: 291)
Suka	? <i>Sacoglottis gabonensis</i>	A heavy wood. Could be a corruption of the trade name Ozouga for this sp. (Voorhoeve, 1965: 116).
Anuwa	<i>Anopyxis klaineana</i>	A heavy wood. Said also to have scientific name 'Antopieces' which is probably Anopyxis
Dahoma	<i>Piptadeniastrum africanum</i>	

Table 1 lists the tree species being harvested in the Wealiquah–Gotuma forest, but unfortunately no records are available to determine if any have been particularly targeted. Two national surveys have found that four or five species dominate the domestic timber market (Blackett *et al.* 2009:8 and Bickel & Cerutti 2017:23), of which two were not reported (*tetra* and *wawa*). Asterisks indicate the others.

32 Based on per cubic foot weight figures for these species when freshly sawn as given in Kryn & Fobes (1959).

33 We were shown the spot where one hauler broke his ankle when his plank fell.

One FMC member claimed that sawyers are rushing to obtain the six species at the top of Table 1 and ignoring those below. He believed that they would get behind these in the future, but clearly some people are cutting these already. Though different species attract different prices (see page 19), the plank system – as well as the way operators are paid by plank regardless of species – may discourage selective harvesting.

The pit-sawn harvest and community profits

The FMC presented its first report on pit-sawing activities to the community on 6 January 2018. However, a brief examination of the record book, which also contains this report, indicates that saw registration fees may have been collected as early as the end of 2016. Though in separate interviews the secretary and co-chair³⁴ both said that 15 saws were registered for the first six-months, they disagreed about how many belonged to citizens (five or six), which would equate to a fees' revenue of either 27,000 LD or 27,500 LD.³⁵

The record book cites 16 registered saws and a total sum of 23,555 LD, from which 9,995 LD was deducted for bridge works and printing of registration forms. Furthermore, the co-chair said that some of the 15 (or 18 according to the secretary) saws registered for the second six-month period had already started operating in October 2017. In short, the accountancy period used by the FMC to report to the community is unclear.

The records show that the first plank toll was levied on 28 May 2017. The two FMC members interviewed said that they themselves select the plank toll in kind and sell at a fixed rate of 300 LD each, regardless of the timber, to buyers who come and collect. Though the toll rates stipulated in the rules (Appendix A) indicate 10% of planks go to the community if the saw owner is local and 15% if an outsider, the co-chair explained that this 15% had been reduced to 12% for outsiders, because they had claimed that 15% was too much due to their costs for fuel and spare parts for the saw.

The record book revealed that the toll was sometimes collected in cash from the operators. But record entries were poorly made: for example, it was not always noted if any outstanding balance had been paid. The co-chair, also a saw owner, admitted that he still owed 6,000 LD; another owner, who had played a part in the opening of the Jojoma road, owed 10,700 LD.

The practice of providing credit was also admitted, but this was not evident in the records. A quick count of the records of plank tolls collected came to 582, more than the 516 declared in the report and this ignores the tolls collected in cash instead of planks. Therefore, the figure of 169,025 LD declared by the community as their financial benefit from fees and tolls minus expenses for the first six-month period, needs to be treated with caution.³⁶

When the co-chair and youth leader were asked what they thought about the amount of community benefit, their reply was that though it was small, it was better than nothing, especially compared to when the logging companies were active. Back then the only benefit they got was selling food to the workers, and only the commissioners and local chiefs received any money.

34 The youth leader member of the monitoring team was also involved in the interview with the co-chair.

35 The rules in Appendix A stipulate that citizens pay 1,500 LD to register saws and strangers 2000LD. So 10 strangers x 2000 + 5 citizens x 1500 = 27,500; if 9 strangers and 6 citizens it is 27,000.

36 Using the February 2018 exchange rate of 130 LD to US \$1, these community earnings equate to US \$1,300.

The pit-sawn timber value chain

The FMC co-chair said that based on his own assessment, he was aware of plank prices being paid at their destination plank field in Monrovia. His data for three species is shown in Table 2, along with comparative prices taken from Bickel & Cerutti (2017: 34; Fig. 18) based on data from a weekly survey of a sample of plank fields in Monrovia over eight weeks from April to June 2016. Though his prices are higher, they were not contradicted in later fieldwork in Bong County, presumably reflecting inflation. Considering his observations, the co-chair had recommended to the FMC to sell *lavoa* and *whismore* toll planks at 400 LD and retain construction woods (essentially *framira*) at 300 LD. Another common local timber species, *abura*, which we saw being cut, should presumably also attract the higher sales price.

Table 2: LD Prices in Monrovia for a standard 14"x10'x2' plank

		Framira	Whismore*	Lavoa
Co-Chair's Info		700	800-850	1,000
2016 Data**	Average	300	500	700
	Max.	900	900	1,700
	Min.	0	150	150

* Also known as Niangon.

** From Fig. 18 in Bickel & Cerutti (2017).

Although adjusting the sale price of the high-value tolled planks would increase revenues to the community, another way of looking at the value chain with the same objective in mind, is to question the toll percentages. In other words, what are the costs along the value chain from the forest to the plank field in Monrovia that would justify the crude price shares in Table 3?

Table 3: Crude Price Shares of 100 Planks between Saw Owners and the Community

Plank Share	Toll Formula		
	Citizen @ 10%	Stranger @ 12%	Stranger @ 15%
Saw Owners Share if <i>framira</i> @ 700LD	63,000	61,600	59,500
Saw Owners Share if <i>lavoa</i> @ 1,000LD	90,000	88,000	85,000
Actual Toll Value to Community as sold in Town	3,000	3,600	4,500
Potential Toll Value at Plank Field if <i>framira</i> @ 700LD	7,000	8,400	10,500
Potential Toll Value at Plank Field if <i>lavoa</i> @ 1,000LD	10,000	12,000	15,000

As Table 3 indicates, the community are foregoing more than 50% of the plank field value of their toll by opting to sell to buyers who come and collect. The plank fields near Duala market in Monrovia are 100 km away by road from Wealiquah. We heard of two different transport costs per plank (225 and 180 LD), and rumours of a 'true' price (120 LD); the differences may depend on whether they include the formal FDA toll of 60 LD per plank, and the informal 'drop gate' fees at the Sawmill and Klay checkpoints and parking charges at the plank field. The comprehensive 2016 study by Bickel & Cerutti (2017: 21) showed that transportation costs, excluding fees along the road, are the highest expenditure item of pit-sawing operations in Liberia, accounting on average for 23% of costs.

Time did not permit a full examination of pit-sawing operational costs. It should be noted that this activity can be organised in a variety of ways, e.g. owner-operator outfits, use of bush managers, local hire or outside labour recruitment. In addition to transport, two other costs incurred by saw owners

have already been mentioned, the registration fee and the variable haulage costs to the lining. For some of the other major costs, we were given the following price indications:

- Saw operator's pay: 60 LD per plank, from which food is deducted
- Gasoline: variable. 500 planks may need 50 gallons @ 440 LD a gallon, so 5 gallons can give 40–50 planks
- Spare parts: variable. A new chain costs US \$30, for example.

Taking all the above figures into consideration, a very rough estimate of 50,000 LD may cover all the costs associated with cutting 100 planks and getting the saw owner's share (85, 88 or 90 planks depending on the toll formula) to the plank field in Monrovia for sale. If the species involved are all *lavoia*, the profit margins on paper using this estimate against the values in Table 3 would seem quite attractive, but if they are *framira*, much less so.

However, such paper estimates gloss over many hidden or hard-to-account costs, such as mustering and coordinating the various actors, advancing money, dealing with delays, resolving labour issues, repairing saws and getting supplies, and any other unforeseen circumstances. Furthermore, they assume that prices at the plank field are guaranteed, whereas Bickel and Cerutti indicate they are variable.

As with all businesses, good organisational skills and a dose of luck are essential to do well. The Wealiquah & Gotuma community have been pragmatic. Through outsourcing pit-sawing operations they have collectively generated revenue they didn't otherwise have, whilst providing a small incentive for individual community members to engage in this activity at their own risk. Improvements in accountancy and seeking higher prices for the more valuable planks could generate more revenue. An unknown percentage of their forest remains to be exploited, but it appears that much of the easily accessible area is being harvested, and haul distances may become a limiting factor in the near future.

Case study 2: Favey, Zota district, Bong county

Setting

Favey is a long-established settlement of more than a thousand people, which falls inside the Gwilapolu clan area. Its name means 'behind the forest',³⁷ reflecting its geographical separation from the rest of Zota District to the north-west by a long, forested ridge (see Map 2). The town sits at an altitude of around 300 m on the edge of a plain extending gently eastwards to the St John river 20 km away. Less than 2 km west of the town there is a steep ridge, made up of numerous peaks around 400 m, and with some as high as 480 m.

The Camp Jackson barracks were constructed beside the town of Naama, 7.5 km over the ridge from Favey, probably in the early 1960s. This had a significant bearing on contemporary local forest exploitation. These barracks were home to Liberia's artillery and engineering battalions. As the former required a live firing range, a large area of land, some of which is said to have belonged to the Betteh family from Favey, was expropriated and two villages were relocated. More positively, the engineering battalion constructed a road between Favey and Naama (and other access roads in the area), though unfortunately the impressive earthworks climbing the ridge behind Favey are today in disrepair and only passable by motorbikes or strong cars heading downhill.

The only local commercial logging was by people associated with Charles Taylor during the conflict years. They loggers were armed – the local people had no say in the matter – and unsurprisingly, there were no benefits to the community.

Contemporary forest exploitation

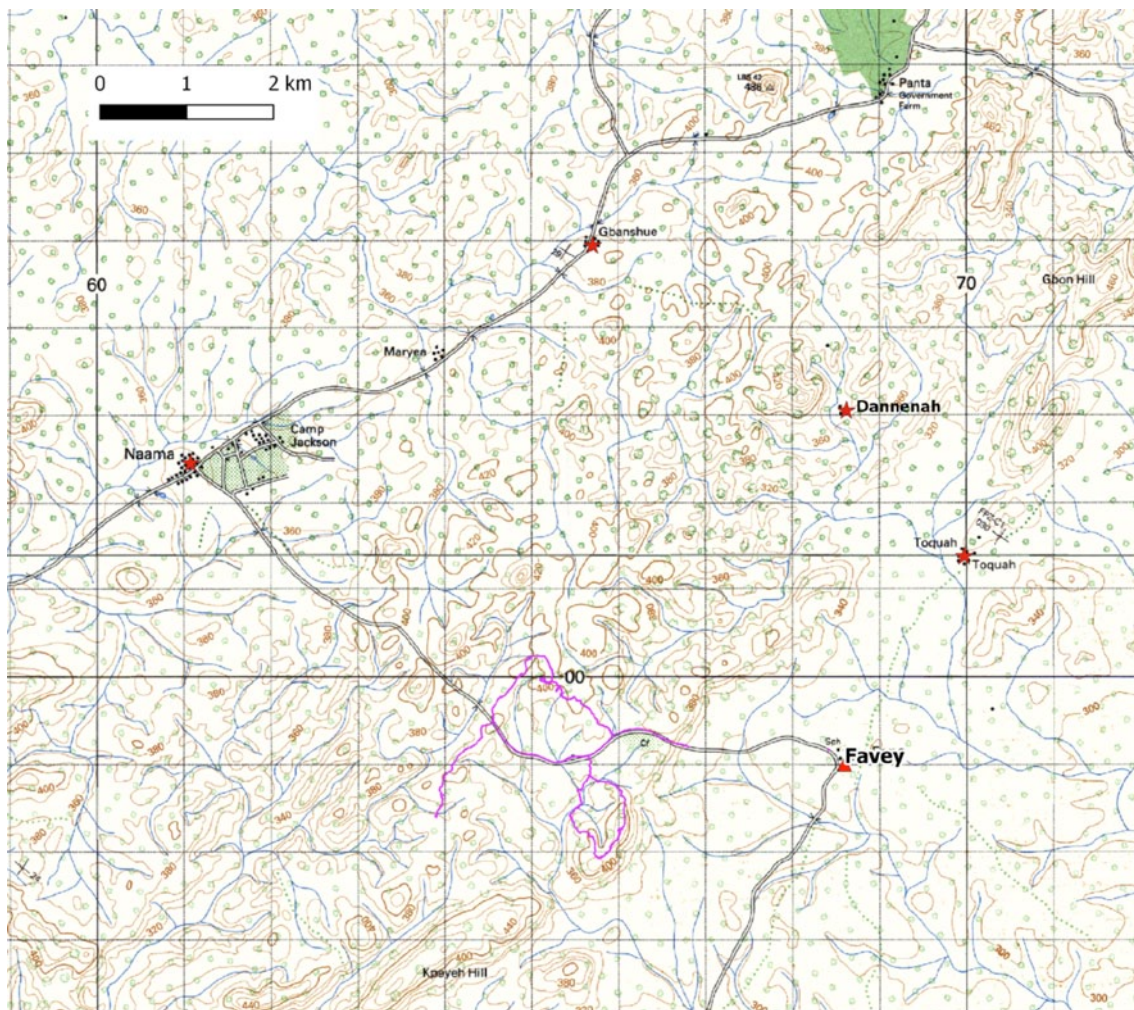
A characteristic of forest exploitation around Favey today is that it is organised at the family rather than the wider town level. The underlying reason for this is that customary land tenure recognises family land ownership and by extension, exclusive timber rights on the associated land.

During our brief visit we only looked at timber exploitation in the three forest areas on the ridge, each associated with a particular family. Timber exploitation also occurs in the farm bush on the plain, where the focus is particularly on cotton trees (*Ceiba pentandra*). Sawyers apparently buy individual cotton trees³⁸ from the locally recognised landowners, and plank them to a wider but thinner standard dimension to the forest species (12" x 1"), which reflects their reported typical use as shutter boards for concrete moulds.

37 This is the census spelling of the name. For this meaning, and sounding closer to local pronunciation, the name is presumably *wolá-pôlu*, where *wolá* specifically means high forest (Leidenfrost & McKay, 2007).

38 These trees can be huge: it was said that the owner could get paid as much as 8,000 LD for a tree if it produced 500 planks, and some trees can apparently yield even more.

Map 2: Location of the Favey Family Forests



NB: Base map made up of the four 2739 sheets of 1:50K series produced in the early 1980s

Pit-sawing in the Favey Family Forests

There are three family forests in Favey, controlled by the Betteh, Atta and Doum families respectively. Time permitted us to only consider how the first two are using their forests. Of the three family forests in Favey, the Betteh's is by far the largest. It lies on the northern side of the road between Favey and Naama, apparently extending to Gbanshue. Though Dannenah's forest is said to be even larger, and the location of the boundary between the two is unknown, using recent Google Earth imagery, a crude estimate for the area of Betteh land under forest is 400 ha (each square in Map 2 is 100 ha).

Moses Doum's family land lies along the south side of the road, and is probably no more than 100 ha (on the basis of crossing a couple of boundaries to visit the Atta family land behind it – tracks shown in purple on Map 2). The Atta family land, which borders land belonging to people from Yowee to the south-west, may cover 200 ha.

The first saw operator began working in these family forests sometime between 2006 and 2008 on the land of the Atta family, with whom he had some loose connection by marriage. He negotiated a fee with a family representative, who unfortunately left town before we could speak to him. Subsequently another operator worked on this land up until July 2017, paying a fee of 10,000 LD for every 500 planks

cut. This operator was working for a Bassa bush manager, who was based in Favey for six years and currently controls five saws active in the town on behalf of a wood shop owner in Gbarnga. We heard accounts of his operations on the Atta family land from two sides, a stand-in for the family head who took us up to the forest, and later from the bush manager himself. There seems to have been some problem in the working relationship. We were shown felled trees that had been sawn into planks and then abandoned, and we heard accusations that more was cut than declared and then transported away by truck in the night. We cannot confirm this, but it is possible, as to get to the roadside lining, trucks can only pass via Naama. The bush manager said only that the forest there was finished, and he had been paying 90 LD per plank haulage to the road. The two abandoned sites, one only partially, were both over 1 km from the road over steep terrain. The Atta family had been intending to use the money they obtained from pit-sawing to get their land surveyed, but they experienced a land dispute in 2017, and the money was being used to fight the case in court.

The representative from the Betteh family said they were also paid a fee of 10,000 LD for every 500 planks cut. During a tour of part of their forest, he said he knew little about the timber the sawyers were after, apart from the *framira* which accounted for all of what we saw. His observation that they were happy when they found red wood suggests a limited knowledge of the potential value of their timber. Another perspective is that, because of the 10,000 LD payments, they were at least getting something from their forest. The money collected is apparently used for family-related costs, such as funerals and marriages. Unlike the other two families, there are several road access points to the Betteh forest and there seems to be limited surveillance of operations. However, the terrain has limitations for future sawing. Unlike on the plain, where the bush manager was making a road into a cotton tree area to reduce haulage from 45 to 15 LD per plank, this is not possible here.

A closer look at the pit saw value chain in Favey

Compared to Wealiquah & Gotuma's benefit from an equivalent number of planks, the two families we studied in Favey are getting substantially less value: 10,000 LD compared to 15,000 at the lower 10% toll when sold at 300 LD per plank. Is this the cost of foregoing involvement in plank sales by instead taking the cash option from the pit-sawyers? Other factors could influence this course of action, e.g. higher operating costs and smaller profit margins for the sawyers in Favey, unwillingness to engage in plank sales on the forest owners' side which could decrease transparency, or conversely the strength of collective bargaining of a community that leaves sawyers with no other local timber options. Unfortunately time constraints meant that we could not gather the type of information required to look into this. However, separate interviews with the Bassa bush manager and a Favey saw owner provide some useful context.

Both informants described how (at least in their early days of operating) they would cut timber for house-building jobs, a line of work that the Favey owner was still doing. Both also noted that money did not always form part of the agreement with the tree/forest owners. One astute remark about the outcome of negotiations with the timber owners concerned their responsibility to inform the rest of the family about the agreement reached with the pit-sawyer. Family leadership is not always clear-cut and undisputed, and indeed tensions around the right to speak and decide on behalf of a family may be the norm. In the Betteh family, for example, the designated head we talked to had an older brother in Monrovia who he was in frequent contact with, as well as an older brother in Favey who thought he was being sidelined. There were also underlying questions about the extent of land under the family head's custody due to classic inheritance division issues, with some members where 'the rope is thin'³⁹ feeling marginalised. Sawyers can clearly sometimes get caught up in these family

39 This expression comes from James Makor who used it to eloquently describe the case of a woman of an only child on one branch of the family who felt to be in such a position. Extended families and their complex histories are the essential fabric of land division within families.

matters which can presumably both complicate their work and provide room for manoeuvre in their negotiations.

Table 4 lists the timber species being harvested at Favey. The two major species are lower-value construction woods, with *framira* selling at just over 700 LD a plank and cotton at only 300 LD. Both are typical pioneer species on open sites such as abandoned farms and logging roads, and it would be interesting to know more about the age of the trees being harvested. The Bassa bush manager had received training from the German Forestry Mission in the 1980s and remarked that his work in Favey is not like that of a logging company, so he will cut trees with only 10 planks, but can also cut some with up to 60. These plank volumes indicate that small diameter trees are being sawn, but as *framira* is a fast-growing species, the time lag to potential regeneration, if such land use is envisaged, could be less than 20 years.⁴⁰

Table 4: Timber species harvested at Favey

Name	Probable species	Notes
<i>Framira</i>	<i>Terminalia ivorensis</i>	Most frequent
Cotton	<i>Ceiba pentandra</i>	From farmland
Tetra	<i>Tetraberlinia tubmaniana</i>	Only a few
Abura	<i>Hallea ciliata</i>	Only a few
Sepou (Sipo?)	<i>Entandrophragma utile</i>	Only a few
Lavaa	<i>Lovoa trichilioides</i>	Only a few
Whismore	<i>Heritiera utilis</i>	Only a few
Demanday	?	Only a few

Gbarnga is 50 km from Favey via the Naama road, and 56 km via Foequelleh. As the bush manager works for a wood shop in this city, this is the destination for his wood, though some of it, such as his cotton, gets sold on to Monrovia, a further 150+ km away. For transport to Gbarnga, he has the benefit of a vehicle so he only needs to pay the driver, but without one, he estimated the price would be 80 LD per 14'x10"x2" plank. The Favey owner on the other hand must arrange all his transport, and talked of doing 'short haul' with a pick-up or small Kai motor truck to get his planks on to big trucks along the Naama to Belefanaï or the Lofa roads. He said that this requires being strong financially, and the only other option was to sell to someone locally, probably the bush manager. Transport costs to market would therefore appear lower than at Wealiquah & Gotuma, though onward costs to Monrovia were not discussed. However, it was said that transport to Monrovia requires paying the FDA toll of 60 US cents⁴¹ per plank, for which papers can be obtained in Gbarnga or Monrovia.

Transportation of planks to market necessitates crossing many bridges, and on the secondary road network these can be susceptible to damage from heavily laden trucks. Up and down the land, plank trucks get blamed for damaging local bridges, and because of the wider impact of road severance, this can be a contentious issue. The town chief of Favey recounted that in about 2014, allegedly before the pit-sawyers came (though this is later than in other accounts) the community agreed to fix the six bridges between them and Yowee. They provided the labour, and a local politician from the town provided planks and nails. According to the clan elder there was then meant to be a toll of 1,500 LD on each load in case of the need for repairs. This does not seem to have held, but the bush manager, who

40 See growth rates at <https://www.prota4u.org/database/protav8.asp?q=pe&p=Terminalia+ivorensis+A.Chev>

41 Whereas this charge was expressed as 60 LD in Wealiquah, it is interesting that both informants at Favey referred to it as 60 US cents, which at the time would have been around 80 LD. Bickel & Cerutti (2017: 16) mention that this 60 cent tariff is the only enforced regulation. The actual currency stipulated in the regulations is not known.

■ **Abandoned *Framira* (*Terminalia ivorensis*) planks in the Atta Family Forest**

is certainly responsible for most of the plank truck passage, said there was an FDA rule making sawyers responsible for bridges in the towns where they worked, so he repaired them himself, which the town chief confirmed he had seen. The bush manager also said he built the town palava house⁴² for free, and that he pays 3,000 LD per load to the youth leader as a contribution towards the town's emergency fund, which we were not able to confirm. If true, it is surprising that this was not mentioned by anyone else. However, there is reportedly a wider debate among some sections of the population about whether the town should benefit from the exploitation of timber on family land, since whenever they have a problem, these families are quick to seek resolution, so perhaps this payment relates to that.



In terms of labour costs, some plank haulage prices to the roadside have already been mentioned. The bush manager said he could pay up to 150 LD, but above that rate 'would go against the business', and the Favey owner said he had paid up to 125 LD. For this task, both recruit haulers from outside town; locals are occasionally employed, but they do not work full-time. The bush manager reported employing haulers from among people asking for work at the Gbarnga plank field; the Favey owner also reported finding recruits there, as well as from a Monrovia plank field. Both said they were then responsible for their workers' lodging but did not pay for their food, which is why they got paid more per plank than the saw operators. These operators (of whom there are five working for the bush manager) are housed by their boss and get paid per load (500 planks), according to one of two formulas: 50 LD per piece (25,000 LD), plus one 25 kg bag of rice and 3,000 LD for soup money, or 30,000 LD, plus two 25 kg bags of rice.

To conclude the Favey case study, apart from adding to our understanding of the diversity of pit-sawing operations, more fundamentally it reveals some aspects of the underappreciated layers of forest use and governance behind the simple word 'community', at the intra-community as well as intra-family levels.

42 A palava (or palaver) house is a basic, typically open-sided, roofed structure used to hold community meeting.

Case study 3: Bomboja & Fomba, Garwula district, Grand Cape Mount

Setting

The two relatively large⁴³ and old neighbouring towns of Bomboja and Fomba share a lagoon, called Mama Lake on maps but locally known as Gbo. They also share ownership of an adjacent forest of about 75 ha on an old beach ridge along its northern shore (hatched in white in Map 3), which was the focus of our research. Ownership is used here in the statutory sense, because both towns possess formal deeds for their land which were shown to us: Bomboja's is for 860 acres, comprising 518 acres inland and the rest along the beach,⁴⁴ signed on 14 February 1978 by President Tolbert, and Fomba's is for 5,659 acres comprising 5,230 inland and the rest along the beach, signed 10 December 1976. Each town has a fishing camp on their respective beaches, which are particularly active during the dry season. A few fishermen remain at the Bomboja fishing camp over the rainy season too, focusing their activity on the Lofa river. Bomboja also claims ownership over two islands in this river and deeded land on the other side, in Bomi county.

Map 3: Bomboja & Fomba

Map Data: Google, DigitalGlobe



43 We struggled to get coherent population estimates: whereas a staff member from the clinic at Bomboja gave figures of 625 and 350 respectively, the town leaders said the numbers were 1,000 and 2,300+. The 2008 Census data indicates 554 inhabitants at Bomboja (plus 68 on their beach) and 335 at Fomba. Applying the national average annual constant growth rate of 2.3%, this would equate to 695 (+85) and 420 respectively in 2018.

44 Curiously these deeds do not, on brief reading, appear to give the towns ownership of the lagoon.

As the large signboards outside the two towns indicate, they fall within the Lake Piso Multiple Use Reserve, but what this means in legal terms is unclear: the FDA website gives no mention of the legislation that created it. In practical terms, however, the biodiversity value underpinning this designation, as well as its relative accessibility from Monrovia, make the area highly attractive for conservation projects. A Liberian NGO called Farmers Associated to Conserve the Environment (FACE) has worked in the two towns, and Conservation International has recently started a three-year Global Environment Facility project,⁴⁵ focusing on mangrove forest livelihoods, and looking to set up conservation agreements.

Forest management

Since at least President King's time (1920–30), there has been a local law that nobody can establish a farm in the lakeside forest, although rattan can be harvested, and trees felled to make canoes.⁴⁶ In each town's version of the history of this law there was an account of settlers (or white people) planting coffee in this forest, and apparently a few bushes can still be seen. Whereas the Bomboja elders said that the reserve was there before the coffee planters, in Fomba the timing was unclear. The scarcity of rattan elsewhere in the Garwula clan was also mentioned. Exerting control over the forest was perhaps driven by perceived needs to both (re)stake territorial claims and manage resource use. Regarding the former, it is worth noting that Liz Alden Wily's (2007) study across five counties found Grand Cape Mount to be the most formally titled, as well as the area where the first Aborigines' land deed in the country was granted (in 1906), with the neighbouring Tombey chiefdom securing one in 1930. Furthermore, the Lower Garwula Clan chief, a Fomba resident, recounted an unverified story that back in 1924, the town won a case before the clan court against a man from a neighbouring town who had paid people to saw planks in their whismore (*Heritiera utilis*) reserve forest.⁴⁷

The contemporary provision for rattan collection in this forest is that it is free for citizens using it for non-commercial purposes. The harvesting of trees for canoe carving, which was the focus of our enquiries, has a similar bias towards citizens. Before looking at this particular use in more detail, it is worth considering three major changes that have coloured the felling provisions for this use over time: land titling, land use during the civil crisis, and changes in livelihood activities.

The 1973 survey preceding the acquisition of the town deeds presumably led to the hardening of boundaries⁴⁸ within the forest between the communities, which for Bomboja resulted in the smaller share of 15 ha. The neighbouring towns of Bomi and Fando were surveyed at the same time, with the former sharing a continuation of the forest, which is apparently considerably larger on their side. A more certain outcome of the granting of deeds has been the associated need to pay the annual land tax – officially known as the Real Property Tax – which both towns said they were up to date with. The receipts at Bomboja were briefly examined, showing that they were charged 15,695 LD (around US \$120) for the last two years, which suggests a calculation of 10 LD per acre, despite earlier receipts stating 50 LD. If the same rate is applied at Fomba, their deed would result in a larger tax burden (around US \$435).

At Bomboja, community funds to meet needs such as the land tax are met through an annual cassava patch tax of 250 LD, plus various charges on fishing activities on their beach. Non-citizens⁴⁹ are also

45 <https://www.conservation.org/gef/Documents/Liberia-Mangroves/20160311%20ProDoc-5712-Liberia%20Mangroves.pdf>

46 In recent years, trees have also occasionally been felled for local development works such as the school.

47 This small reserve, which we did not have time to see, was apparently plundered in 1995 and again in 2002, by 'brothers' from the town, who came with armed men.

48 Brushing boundaries were said to have been used, and since these would normally have been along roads and paths between settlements, it is unlikely that they would have included the forest.

49 The citizen/non-citizen definition is more than a question of birthright, and the elder responsible for collecting the various contributions to the community fund in Bomboja clarified that for cutting trees to make a canoe, even if you are a stranger, as long as you are doing town work, you do not have to pay. He then added that in contrast the fishermen on the beach did not do this work, so had to pay. On a quick visit to the Bamboja beach it transpired that citizens from the town were fishing there, so there is some doubt as to whether all fishermen there are liable to pay.



■ A new town canoe that will carry up to 10 people across the Lofa river made from *kohlah* (*Parinari excelsa*) after felling and first carving with a chainsaw in the Bomboja Forest



■ An axe-felled *fos-saw* (possibly *Quassia undulata*) cut for a canoe in the Bomboja Forest which was being carved in place but was found to be defective so abandoned.

charged for felling trees to make canoes, even outside the forest, where the rate is lower, though this was not corroborated. At Fomba, the uniform application of the various local taxes claimed by the clan chief and treasurer for the same type of community purposes, such as a cassava patch and rice farm tax of 350 LD and a 1,000 LD levy on every charcoal kiln, appeared uncertain. However, charges for non-citizens, such as people from Bomboja, to cut trees in their reserved forest were verified by several informants, though there were exceptions, indicating that there may be some flexibility.

Prior to the civil war, Fomba was home to some Guinean Fula (Fulbe), some of whom were involved in charcoal production,⁵⁰ an activity which locals are becoming increasingly engaged in. Sometime around 1996, over one hundred Fula, many of whom were later killed, hid in the forest and made a farm there. The area is still visible today (see Map 3).⁵¹ Google Earth imagery indicates a break in forest cover along the beach ridge, extending about 1.5 km to the west. It is not known whether all of this was created in 1996, and how much lies within Fomba, but it suggests that an area of about 50 ha of forests has been lost, which will presumably have had some impact on the availability of local timber for canoes.

Fishing has always featured in local livelihoods, but it probably makes a more significant contribution today, in various forms. Fishing occurs in three major areas: in the lagoon and associated waterways, along the Lofa river and at sea. Lagoon fishing is said to be restricted to citizens⁵² for subsistence purposes, and people from either town can fish anywhere. The number of canoes used for fishing in the lagoon was said to be just four from Bomboja and six from Fomba. Though Fomba land has frontage on the Lofa river, apparently no town people fish there. In Bomboja, however, there were estimated to be more than 50 canoes on the river, though this could not be confirmed. With town people farming on the other side of the river as well as on one of the islands, it cannot be assumed

50 Apparently they would buy the rights to dead wood on abandoned farms to make charcoal, which adds another layer of local experience in the commercialisation of wood resources.

51 The lack of subsequent regeneration over 20 years is curious, but may be due to soil factors.

52 A Malian who had been in Bomboja 14 years was also included in this permitted fishing category. Interestingly he used a plank canoe, which he had made himself, though it is not known why he chose this timber-saving construction method.

that all of these are used regularly for fishing, if at all. Fishing activities on the river include the setting of fish baskets for 'crawfish' (freshwater shrimps) in the rains, which are sold on both local markets and in Monrovia.

Data from a Bureau of National Fisheries survey in 2013⁵³ shows 28 canoes on 'Bomoja/Kenema Beach' (landing site code 103), of which one was motorised (so perhaps a plank, rather than dugout canoe), and 18 non-motorised ones on 'Fumbah Town Beach' (107). Canoe numbers are likely to vary from year to year, as many fishermen are known to adopt mobile strategies along the coast, especially in the dry season (unpublished research by the author over several years with the Buchanan fishing community, and Arthur, 2011). It is not known whether the men from Bomboja and Fomba who engage in sea fishing, which includes beach seining, are equally mobile. In Bomboja at least, local men were said to have engaged in sea fishing before the war.

Table 5: Names of trees used for canoe carving at Bomboja & Fomba

NB: Species determinations mainly based on triangulating names with characteristics provided by several people after fieldwork: see acknowledgements for those involved.

Vai Name	Probable Species	Notes
<i>Boh/boh-yeh</i>	<i>Hallea ciliata</i>	Trade name, Abura
<i>Bos-saw</i>	<i>Coelocaryon oxycarpum</i>	Dark wood with a red latex that stains clothes. This is the <i>Wild Nutmeg</i> , though not widely known by this name in Liberia
<i>Debenaye/dobenaye</i>	<i>Pycnanthus angolensis</i>	Trade name, <i>Bassa Whismore</i>
<i>Fas-saw/fos-saw</i>	?? <i>Quassia undulata</i>	A white wood. The name may cover several species
<i>Kohlah</i>	<i>Parinari excelsa</i>	Also called the <i>Rough Skinned Plum</i>
<i>Konnaye</i>	<i>Erythrophleum ivorense</i>	Commonly called <i>Sass wood</i>
<i>Kpo-aye</i>	<i>Canarium schweinfurthii</i>	The resin was formerly used for candles hence alternate name, candle stick
<i>Lombor</i>	<i>Uapaca sp.</i>	Seeds edible. Has distinctive stilt roots
<i>Mehn</i>	<i>Piptadeniastrum africanum</i>	Commonly called by its trade name, <i>Dahoma</i>
<i>Pauwah</i>	<i>Berlinia spp. probably B. confusa</i>	Wood at centre of trunk red, outer white
<i>Tou (or Tou-wey)</i>		A light weight wood
<i>Wallor</i>	<i>Beilschmiedia manni</i>	Fruits used to prepare a traditional soup

A variety of species are used to carve canoes (Table 5), some of which are more durable than others: for instance, canoes made of *lombor* and *mangra* are said to last ten years, whereas those of *fas-saw* last only three to four. Whilst some men may choose to make their own canoes, there are three residents who carve them as a line of work. We managed to speak to two of them, the locally recognised 'canoe doctor' (master builder) from Bomboja, and a man from near Robertsport who has been living in Fomba's Wúra-lá village⁵⁴ for 15 years. Both men said that when someone wants a canoe, they discuss the dimensions and costs, then the carver selects a tree that meets the requirements and informs the relevant chief, who sends somebody to see it and agree the price.

In 2017 the doctor made five sea-fishing canoes and the other carver two, one for himself and one for the town. Table 6 lists the prices the doctor recalled paying for the trees. Though he initially said they all came from the Fomba forest, he later said some came from the Bomi forest and that the clan chief gave permission to cut in both.

⁵³ Previously available at: https://www.liberiafisheries.net/data/artisanal_statistics

⁵⁴ The name of the village means 'on the edge of the forest'.

Table 6: Tree prices paid by the Bomboja canoe doctor in 2017

Tree	No. persons	Price paid
<i>Dahoma</i>	6	US \$150
<i>Dahoma</i>	4	5,000 LD
<i>Mangra</i>	5	7,000 LD
<i>Fos-saw</i>	7	6,000 LD
<i>Pauwah</i>	4	4,000 LD

In Fomba, a few years ago FACE organised a local resource-management committee with two bush managers responsible for surveillance, one for the farmland around the town and the other for the forest and two villages beside it. The committee treasurer, who has the same function for the town, claimed that only two trees had been cut in their forest in 2017, and none in the three years beforehand, which seems odd. There was unfortunately little willingness to share with us the accounts of levies on local resource use, which may be indicative of underlying problems. However, if the prices in Table 6 are accurate, and just a few of them were indeed harvested in the Fomba forest, they would make a not insignificant contribution to the town's annual land tax bill.

The canoe doctor said he would charge 15–20,000 LD (US \$115–143) for his workmanship to make a six-man canoe, which would be a three-week job involving a power saw operator to reduce the amount of wood to be dugout manually. Though these figures were not cross-checked, a total cost of around US \$300 for a canoe of this size compares favourably with other prices I recorded in 2016 at Buchanan for two- to three-man canoes brought down from River Cess, which were sometimes over US \$200.

According to the doctor, local demand for sea canoes only started around 2006. What created this is unknown, but it seems to be in line with a similar trend in the Buchanan fisheries, where canoe numbers have been increasing in recent years and some men from non-fishing backgrounds have turned to this livelihood. I am not aware of any specific study on the Liberian canoe construction industry, but based on the above-mentioned 2013 survey, there are over 3,000 dugouts⁵⁵ nationally, few of which have a lifespan longer than ten years and perhaps average around five. As production in River Cess seems to be responsible for most of the supply in Buchanan and at least some in Monrovia, it would be interesting to identify the origin of the 340 or so dugout canoes counted in Cape Mount and Bomi counties by that survey. Thirty years ago, canoe-builders in Robertsport reported problems getting logs locally, though they could obtain them from Taylor, which is along the coast towards the Sierra Leone border (Ratcliffe & Lindley, 1988).

Forests in areas where suitable trees can still be cut within a short physical hauling distance of a canoe launch site may offer a price advantage over timber sources needing motor transportation. An interesting question is whether the Bomboja and Fomba resource base can support a sustainable canoe manufacturing business in the future.

55 The survey only makes the distinction between motorised and non-motorised canoes, but only the latter can be assumed to be predominantly Liberian-origin dugouts. Though most motorised canoes are built up with planks from a dugout hull, an unknown number of these are imported from Ghana.

Table 7: Crude dimensions of four canoes made from timber cut in the Bomboja & Fomba Forests

Tree	No. persons	Length (m)	Width (m)
<i>Pauwah</i>	2	6.2	c. 0.48
<i>Kohlah</i>	10	8.2	0.65
<i>Fas-saw*</i>	?	6.0	c. 0.45
<i>Wollor</i>	4	7.15	0.49

* Canoe abandoned

Table 7 provides some basic canoe data which gives an idea⁵⁶ of the size of trees being sought. During a short visit to the Bomboja forest, it was evident that wastage is another factor to consider when calculating harvest rates. Without actively looking, we saw one tree which had been felled and then found to be damaged – a second where a wedge had been taken out at the base before the tree was found to be hollow – and two partially carved canoes which had been abandoned on-site because of faults found during this stage of work.

Though a specific forestry assessment is required to determine the sustainability of future timber harvesting in the Bomboja and Fomba forests, trees are currently sourced, and probably have been for a while, from other areas, such as the Bomi forest continuation, the Lofa banks and in Bomboja's land across the river. The range of species used may reflect a process of adaptive use of formerly eschewed timbers. Though the canoe doctor thought there were still plenty of small trees for lake canoes, questions need to be asked about the long-term local provision of timber for the bigger, more sturdy canoes.

Whilst there might be some of the foundations in place to build up a canoe building industry⁵⁷, collective forest management would need to shift from custodianship to active engagement in ensuring the long term sustainability of timber supplies, such as more stringent felling controls and replanting, though other sources⁵⁸ could also have roles. As things currently stand, with a largely local demand and an uncertain locational advantage, a transition to such a form of management would seem unlikely. Our observations of local forest governance suggest that key decisions are being made by a small group of male elders. In Fomba in particular, the clan chief appeared to be the gatekeeper to canoe trees in their forest, and possibly also in its extension in Bomi. Gerontocratic and elite control of access to forest resources is far from unusual in Liberia.⁵⁹ Transiting from these old forms of forest governance to inclusive and transparent management requires more than the adoption of a new template: incentives for monitoring, sanctioning and managing the forest need to be widely felt. In this case study, people have timber alternatives outside the community forest and this probably reduces the incentive for changing current forest management practises.

56 From measurements of five dugouts made by Tawahka carvers in Honduras, McSweeney (2000: 201) found that a comparison of standing tree diameters (dbh) with resultant canoe size suggests that maximum width represents about 73% of the original tree's diameter, but notes that Tawahka do not use fire, hot water or cross poles to widen the beam of their craft, unlike other groups. The extent to which the cross poles used by Bomboja & Fomba carvers widens their canoes is not known.

57 Among other things, skill transfer would need to be looked at in detail. In the 15+ years the canoe doctor had been plying his trade, he said he had only trained one person and whether this related to the terms of the apprenticeship with him or the appeal of the work itself would need to be considered.

58 There was for example mention of a private whismore plantation over the Lofa river, and this is a known canoe timber.

59 James Otto of SDI reported chiefs in River Cess providing access to pit-sawyers in the unclearly owned forests between towns (pers. comm 4th December, 2017) and also see the reported influence of a paramount chief in the Gbayama forest neighbouring Wealiquah & Gotuma.

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Appendix A: Wealiquah & Gotuma forest management committee rules

WEALICUAH & KORTUMAH TOWNS FOREST MANAGEMENT COMMITTEE
WEALICUAH & KORTUMAH TOWN
YANGARYAN CLAN, GBARMA DISTRICT
GBARPOLU COUNTY

APRIL 16, 2017

RULES THAT GOVERN THE FOREST

1. Registration FEES: Lrd1500.00 (One thousand five hundred Liberian Dollars. *for citizen*)
 - a. After every six months; renewal of registration.
 - b. Outside management registration fee is Lrd2000.00 (Two thousand Liberian Dollars).
2. One person cannot operate with two power saws in the forest.
3. No unregistered saw is allowed to enter the forest.
4. All management shall pay their fees before carrying their wood.
5. All fees shall be paid in pieces.
6. All pieces shall be put to the lining.
7. Citizen management; every hundred pieces of wood is 10% to the community.
8. Outside management; every hundred wood is 15% to the community.
9. The first privilege shall be given to the citizens for sawing.
10. No one is allowed to fight in the forest.
11. No operator is allowed to fell in another person's area.
12. All managements are to work in line with these rules.
13. If any management workers fight in the forest, said management will be responsible to pay the fine.

PENALTY FOR VIOLATION OF THE RULES

1. If anyone fights in the forest, the fine is Lrd5000.00 (Five thousand Liberian Dollars).
2. Anyone who saw in the forest without registering his or her saw will be arrested and turned over to the committee.
 - b. He/she will pay the amount of Lrd5000.00 (Five thousand Liberian Dollars).
3. Any management who brings car/truck to carry his/her wood without paying the fees, the wood will be arrested by the committee.
4. Anyone fails to inform the committee before felling the wood will be arrested and taken out of the forest.
5. If any management refused to pay the fine, the committee will arrest the wood until he/she pays the fine before giving their wood.

Signed: Momo G. Kamara
Momo G. Kamara
General Town Chief, Wealiquah Town

Signed: Moses G. Johnson
Moses G. Johnson
Youth Leader, Wealiquah Town

Signed: Gbateh D. Momo
Gbateh D. Momo
Chairlady, Kortumah Town

Approved: Gbanjah Zinnah
Gbanjah Zinnah
Elder, Wealiquah Town

**Kortumah & Wealiquah Towns Forest Management Committee
Leadership**

Name of Leadership

<u>Name</u>	<u>Position</u>
1. Zinnebu Johnson.....	Treasurer
2. Zoe Johnson	Member
3. Gbateh D. Momo	Chairperson
4. Moses Konah	Co-Chairperson
5. Olando B. Momo	General Secretary
6. Gamie Momo	Co-Treasurer

May God richly bless all of us



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