

REDD+ and equity outcomes: two cases from Cameroon

1. INTRODUCTION

The Congo Basin is home to the second largest tropical rainforest in the world, accounting for approximately 70% of Africa's total forest cover (Megevand et al., 2013). Although the Basin as a whole has high forest cover and low deforestation rates, the region is undergoing increasing forest loss and degradation (FAO, 2015), a trend that might soon accelerate (Tegegne et al. 2016). Key immediate drivers include subsistence and cash cropping, timber extraction, mining, and infrastructure development; underlying drivers include population growth, economic development, and institutional factors (Megevand et al., 2013).

In recent decades, a forest governance mechanism using market-based instruments for climate change mitigation—namely REDD+ (aimed at reducing emissions from deforestation and forest degradation, conserving existing forest carbon stocks, promoting sustainable forest management, and enhancing forest carbon stocks)—has been developed through a series of projects and programs in developing countries. REDD+ pilot implementation expanded quickly, while the development of national REDD+ policies is still in its infancy. In May 2018, there were over 467 REDD+ pilot initiatives in 53 countries (Simonet et al., 2018). From the outset, some REDD+ advocates raised expectations centered on co-benefits beyond carbon outcomes, where REDD+ aspires to become a triple-win solution for climate, biodiversity, and local communities (Turnhout et al., 2017).

One way of interlinking REDD+ mitigation goals with local livelihood benefits is by providing carbon-financed local incentives (Wong et al., 2019). An associated on-the-ground mechanism, namely payments for environmental services (PES), has been piloted across the Congo Basin, including in Cameroon (Awono et al., 2013), the Democratic Republic of Congo (Pelletier et al., 2018), and the Republic of the Congo (Tegegne, 2016). REDD+ incentivizes developing countries to conserve forests and trees by providing direct and conditional transfers for actions to mitigate forest carbon emissions (Angelsen et al., 2012). In principle, REDD+ can be seen as an international-level, multilayered PES scheme, providing payments conditional upon improved forest conservation outcomes (Wunder, 2009). Nevertheless, in practice lower than expected carbon financing flows into REDD+ implementation and insecure land tenure among local communities over the last decade have proved to be key obstacles to a broader REDD+ strategy based on continuous conditional incentives directed toward local forest stewards (Wunder et al., 2020).

These multidimensional expectations have also helped trigger many frustrations over REDD+, and its social impacts have been heatedly debated in the academic literature (Chomba et al., 2016; Myers et al., 2018), along with serious allegations of violations of indigenous peoples' human rights (Barletti and Larson, 2017; Dawson et al., 2018), feeding into strong anti-REDD+ sentiments (Reed, 2011; Schroeder and McDermott, 2014). Allegations concern the marginalization of indigenous peoples in, or their exclusion from decision-making processes, conservation land grabs, and the disruption of traditional lifestyles (Raftopoulos, 2016), thus reinforcing past injustices, inequalities, and elite capture (Chomba et al., 2016).

In this article, we examine the role of equity in two experiences with comparable community-level incentives, carried out under the labels of REDD+ and PES in six villages in the Cameroonian Congo Basin: the Nomedjoh–Nkolenyeng PES and Ngoyla–Mintom REDD+ projects. Four of the six villages are dominated by the local Bantu–Fang peoples (hereafter referred to as Bantu), while the other two are dominated by Baka forest indigenous peoples (hereafter referred to as Baka). The Bantu and Baka peoples are culturally and historically

distinct (Joiris, 2003; Njieassam, 2019). The Baka are semi-nomadic and specialize in hunting and gathering forest products, but are increasingly being “forced to adopt a sedentary lifestyle” (Njieassam, 2019, p. 702). The Bantu are agriculturalists, with relatively higher levels of education and wealth (Awono et al., 2013; Njieassam, 2019). The Bantu peoples perceive the Baka as subhuman beings and primitive people (Pemunta, 2019a), “being subordinate to them” and often “denying them any land ownership” (Awono et al. 2013, p. 80). Pemunta (2019a, p. 218) described Bantu–Baka relations as hierarchical, paternalistic, and an “exploitative relationship that exacerbates their [Baka people] poverty, every Baka family is subservient to and attached to a Bantu family.” In the villages where Baka and Bantu live together, Bantu are the dominant group. All this suggests a strong pre-existing unequal power relationship, with the potential to also influence the ability of marginalized groups to participate in and benefit from payment-focused REDD+ projects (Cleaver and De Koning, 2015; McDermott et al., 2013).

Based on the literature, we hypothesize that strong contextual factors—i.e. pre-existing, unequal social, economic, and political status—disadvantaged Baka indigenous peoples relative to the ethnically dominant Bantu when it came to participating in and benefitting from the two incentive-based projects. Previous case studies about the social safeguards of REDD+ (e.g., Krause et al. 2013, Chomba et al. 2016, Poudyal et al. 2016) reported ambiguous, context-dependent effects on indigenous people. This includes our two Cameroonian projects (Awono et al. 2013, Tegegne et al. 2017). However, none of those studies conducted an extensive analysis of the degree to which the social safeguards of the projects—including the three dimensions of equity (see Section 2)—were locally perceived to have been addressed in practice. Moreover, “most assessments of equity limit their focus on the distribution of benefits; skipping over the issues of procedural and contextual equity” (Di Gregorio et al., 2013). In this paper, we present an analysis of the Baka and Bantu peoples’ self-stated perceptions of the degree to which they participated in and shared the benefits arising from the incentive-based projects, focusing on three dimensions of equity: contextual, procedural, and distributive.

In section 2, we derive our analytical framework from a review of literature on safeguards and equity. We present the research design, data collection, and data analysis in Section 3. In Section 4, we share our findings according to our three dimensions of equity. Discussed in Section 5, our results reveal a complex picture of equity outcomes, which highlight the importance of contextual factors, such as technical capabilities and gender. We find that one factor, the power dynamics within villages, might actually work against the aims of longer, more engaged FPIC processes. In Section 6, we present our conclusions.

2. ANALYTICAL FRAMEWORK

To evaluate the degree of success of REDD+ projects, Angelsen et al. (2012) proposed the “3E” criteria, namely effectiveness, efficiency, and equity. In the following, we focus primarily on equity. Beyond its moral importance, equity co-determines the success and sustainability of REDD+ (Pascual et al., 2014), conservation (Dawson et al., 2018), and community forestry projects (Kenfack Essougong et al., 2019).

Equity is a multifaceted concept that is understood and evaluated differently by different actors at different scales. In the PES debate, there has been much focus on the differential criteria of horizontal vs. vertical equity (Repetti and McDaniel, 1993). PES implementers often follow a principle of horizontal equity, according to which all land stewards should be treated alike, thus paying them flat rates per hectare, household, or community. Conversely, vertical equity criteria would consider that unequal landowners need customized incentives because they face differential costs. In PES design and implementation, vertical equity criteria are easier than

horizontal ones to reconcile with criteria of PES environmental efficiency (Wunder et al., 2018). However, equity perspectives can also differ by the level of contexts and inputs, outputs and outcomes (Weiss, 2001). In our paper, we follow the framework of McDermott et al. (2013), which distinguishes between three dimensions: contextual, procedural, and distributive equity.

Contextual equity refers to the “pre-existing conditions that influence the ability of various actors in REDD+, particularly local communities, to participate in and benefit from REDD+” (Visseren-Hamakers et al., 2012, p. 649). An uneven playing field embedded in pre-existing social and political conditions, may compromise stakeholders’ ability to participate in and to gain recognition and benefit from resource management efforts (Cleaver and De Koning, 2015; Dawson et al., 2018).

Procedural equity refers to participation, recognition, and representation in decision making and implementation processes (McDermott et al., 2013). This dimension could call for ample participation in decision-making processes, and actions favoring marginalized groups, such as women and ethnic minorities (Mahanty and McDermott, 2013). It entails aspects of community participation in project-level activities, the concept of free, prior, and informed consent (FPIC), information transparency, and access to conflict resolution mechanisms (Lawlor et al., 2013).

Finally, distributive equity refers to how costs, risks, and economic benefits are allocated among pre-existing right holders and resource users (McDermott et al., 2013). A benefit-sharing mechanism is an example of an action addressing distributive equity.

Here, we considered these dimensions in hierarchical order, starting with contextual equity (see Figure 1). Our reasoning was that contextual features are crucial for equity outcomes in Cameroon: social norms, elite capture, institutions, education, and wealth are highly likely to have shaped the degree of equity in process (procedural equity) and benefits shared (distributive equity) in both projects. Most importantly, sharply divided ethnic context is key for equity outcomes in Cameroon (Pemunta, 2019a and b). Hence, contextual equity could have had a significant influence on procedural and distributive equity.

[FIGURE 1]

Correspondingly, we addressed three research questions – one for each equity dimension:

- 1) Does the *ex ante* privilege of belonging to an ethnic group with higher social, economic, political, and/or educational status increase an individual’s likelihood of participating in and benefiting from a REDD+ project (i.e., contextual equity)?
- 2) Is the local dominant ethnic group (Bantu) more likely to have participated in the REDD+ process than the Baka indigenous people (i.e., procedural equity)?
- 3) Are Bantu likely to have benefited (more) from REDD+ than Baka (i.e., distributive equity)?

3. RESEARCH DESIGN

3.1 Introducing the case studies

Two community forest carbon projects were analyzed (Figure 2). The first—the Nomedjoh–Nkolenyeng Community PES project—was implemented in 2009–12 by the Cameroonian NGO Centre for Environment and Development (CED), with financial support from UK–DFID. It encompassed two villages and their respective community forests: Nkolenyeng—a predominantly Bantu village in southern Cameroon—and Nomedjoh, a predominantly Baka village in eastern and southern Cameroon.

[FIGURE 2]

The second—the Ngoyla–Mintom REDD+ project—was financed by the European Union and implemented by the World Wildlife Fund for Nature (WWF) Cameroon in 2011–17. It encompassed four villages in south-eastern Cameroon, three of which are Bantu-majority villages (i.e., Messok-Messok, Etekessang, and Zoulabot), whereas the fourth (Ndimako) is a predominantly Baka village. Ndimako (Baka village) and Etekessang (Bantu village) share a community forest, while the other villages have their own community forests. This means that the Bantu of Etekessang and the Baka of Ndimako interacted with each other in the decision-making process relating to REDD+. Hence, the household survey data gathered from Etekessang and Ndimako were merged.

Both projects were developed in accordance with the Plan Vivo System and Standard (CED, 2012; WWF, 2011). The primary goal was to maintain and enhance forest cover and carbon stocks in each community, and to improve livelihoods using proceeds from the sale of carbon credits. Furthermore, they were intended to produce field-based pilot experiences and lessons learned for future community-based REDD+ initiatives, streamlining these into relevant national, regional, and international REDD+ schemes. They were also intended to generate Plan Vivo Certificates by reducing deforestation and forest degradation linked to agricultural expansion and unsustainable artisanal logging.

The two projects exhibited both similarities and differences. First, they shared the presence of land use conditioned local payments (under the PES or REDD+ label), with a clear focus on reducing deforestation and forest degradation. Second, the projects also developed comparable benefit sharing mechanisms. Third, both projects were established in humid forest with high forest carbon content, and with comparable interventions (see Table 1). As for differences, the Ngoyla–Mintom project had more exposure to the FPIC process than the community PES project (see Section 4.2 and Appendix 1 for detailed FPIC process of both projects). The comparative implementation features (see Tables 1 and 2 for further descriptors) gives us a tentative pointer for the potential impact of greater FPIC exposure in Ngoyla–Mintom.

[TABLE 1]

[TABLE 2]

In both projects, REDD+ was implemented within the context of community forests, as defined by the 1994 Cameroon Forest Law. The establishment of a community forest allows local people to create a respective legal entity and manage the forest locally, for an agreement period of 25 years. This legal entity along with a village chief therefore becomes a critical actor in project implementation, for example, for mobilizing villagers, resolving conflicts, and sharing benefits. In addition, the Nomedjoh–Nkolenyeng and Ngoyla–Mintom projects started three and five years, respectively, before the Cameroonian national FPIC guidelines were approved (MINEPDED 2014).

3.2 Methods and data

We employed a mixed methods approach, combining qualitative and quantitative tools, allowing for some triangulation of our results (Hesse-Biber, 2010). We followed a four-step sequence: (i) literature review, (ii) semi-structured household survey, (iii) focus group discussions, and (iv) key informant interviews.

180 *a) Literature review*

181 An extensive review of scientific and grey literature was undertaken. The literature included
182 official and policy documents related to safeguarding approaches, as well as the relevant Plan
183 Vivo Project Design Documents and project outcomes and briefs. The review and document
184 analysis were also used to develop questions for the subsequent steps.

185 *b) Household survey*

186 Semi-structured interviews with Baka and Bantu people were conducted over a three-month
187 period in 2015. We ensured that all participants were asked the same general questions, while
188 allowing for some flexibility of wording. We included demographic variables (e.g., age,
189 gender, education, and income) and aspects of the social safeguards of the projects, such as
190 FPIC, participation, benefits, and benefit sharing. Dichotomous questions were combined with
191 open-ended ones to allow respondents to provide further qualitative context.

192 With the help of translators, 151 households (46 of which were composed only of women)
193 were interviewed across six villages (Table 2). Respondents were selected using stratified
194 random sampling, though the village chief and the members of the Community Forest legal
195 entity were interviewed in every village, and women and young people were systematically
196 included. The respondents were mostly the heads of households (when available).

197 *c. Focus group discussions*

198 Six focus group discussions (FGDs) with Baka and Bantu project participants were conducted
199 in 2015, to capture their expectations regarding FPIC, and participation and benefit sharing in
200 the projects. FGD participants were purposefully selected to maximize the diversity of the
201 respondents (Bedford and Burgess, 2001)—namely village elders, chiefs, and forest entity
202 representatives—and balance the genders. The discussions were recorded, transcribed, and
203 analyzed.

204 *d. Key informant interviews*

205 In-depth interviews with the implementers of the Nomedjoh–Nkolenyeng and Ngoyla–Mintom
206 projects were held in 2015, 2018, and 2019 to gain further insight into the progress of
207 implementation. This was supplemented by the personal experiences of two of the co-authors
208 of this paper, who were involved in project design and implementation (i.e., Fobissie and Mama
209 Moustapha). Fobissie and Mama Moustapha facilitated access to different project documents,
210 and enhanced understanding of local contextual realities to interpret the key findings. They did
211 not directly participate in data collection, but in the interpretation and contextualization of the
212 analysis as well as writing up and revision of the manuscript.

213 **3.3 Data analysis**

214 The data analysis followed three steps. First, we coded ethnicity as a dummy variable (Bantu=1,
215 Baka=0), undertaking simple cross-tabulations and bivariate correlations. As a second step, we
216 conducted a logistic regression (using Rx64 version 3.5.2), controlling for three contextual
217 variables (gender, education, and income). Our dependent variables were FPIC, post-consent
218 participation, and satisfaction with benefit-sharing arrangements. In a third step, NVivo
219 software was used to analyze the content of open-ended responses, following a directed
220 (deductive) approach when theory provided appropriate categorizations, and a conventional
221 (inductive) approach when the categories emerged from the data. Relevant quotations are used
222 in this paper to contextualize the patterns observed in the quantitative analysis.

4. RESULTS

Our results are presented below in sections on (1) contextual, (2) procedural, and (3) distributive equity. Bivariate correlations and logistic regressions are presented in Table 3 (procedural equity: FPIC), Table 4 (procedural equity: post-consent participation), and Table 5 (distributive equity: benefits and benefit-sharing). Responses to the survey questions relating to procedural and distributive equity dimensions are summarized in Table 6.

4.1 Contextual equity

The results in Tables 3–5 suggest that, for both projects, men and relatively more educated Baka and Bantu community members had better options for participating in and influencing the project. These results are consistent with community values and norms that give priority to wealthy, male, and educated community members to manage natural resources. Thus, women, youths, or generally poorer community members, who tend to be illiterate and lack certain skills, are less likely to engage effectively in project decision-making processes and to access and reap benefits:

“Important decisions regarding participation and benefits were mainly made by community hierarchy and men. It feels as if we have been deprived of our freedom.”
(Bantu female respondent)

“We were forced to join the community forest, which is under the full control of Bantu chieftdom. We had limited engagement in the project and the project proponent did not provide us sufficient support considering the social power dynamics.” (Baka male respondent)

[TABLE 3]

[TABLE 4]

[TABLE 5]

An example of contextual inequity is that the Baka people were unable to make use of income-generating activities (see Section 4.3) where both Baka and Bantu were involved (and were thus, in reality Bantu-led), because of the Baka’s lack of education and financial management skills, and hence limited ability to make plans. Some Baka claimed they received limited training in activity planning and management, and therefore relied upon Bantu members:

“We do not know how to write, read, or make plans. We had no other option than to accept whatever they [Bantu] told us. During the implementation of the project, we found ourselves forced to accept non-traditional activities” (Baka male respondent, Nkolenyeng)

Furthermore, while participants in the Ngoyla–Mintom project shared solar panels (see Section 4.3) on an equal-share basis, it became clear that poorer community members and Baka have limited technical skills and financial capacity (e.g., to cover the cost of installing and maintaining the solar panels) to utilize their share of benefits:

“It was our first experience [of using solar panels] and it worked well. However, the benefits could not be sustained because I could not afford the cost of maintaining the solar kits and the solar lamps are expensive. Nor we have trained individuals in the community to provide maintenance service at affordable cost.” (Bantu male respondent, Ngoyla–Mintom)

The project proponents implemented a participatory micro-zoning of the community forest. Yet, the cost of set-aside forest conservation was not distributed equally between Baka and Bantu. The two projects thus affected villagers differently, according to their livelihood strategies (cf. section 3.1):

“While Baka could practice hunting and non-timber forest product activities everywhere in the community forest, the micro-zoning restricted agricultural practices, such as expanding cocoa farms. We were not compensated for the lost opportunities due to forest conservation, as project benefits were shared on an equal-share basis.” (Bantu male respondent, Ngoyla–Mintom).

4.2 Procedural equity

4.2.1. Free, prior, and informed consent (FPIC)

Both projects implemented a type of FPIC process, even though it predated the Cameroonian national guidelines, and an FPIC/PES agreement was signed by the legal entity of each community forest. The agreement provided a legal basis for the projects and is required by the forest law in Cameroon.

The Ngoyla–Mintom project had more exposure to the FPIC process than Nomedjoh–Nkolenyeng, where FPIC was limited to providing information about and training in the PES project. In Ngoyla–Mintom, proponents provided information and training and held serious discussions on the “consent” aspect of FPIC. They implemented an approach of progressive acceptance or refusal of the project, with villagers writing letters of intention and commitment to the WWF and signing PES contracts. Appendix 1 provides details of both FPIC processes.

Regarding FPIC perceptions, our regression analysis revealed mixed results. In Table 3, for Nomedjoh–Nkolenyeng two ethnicity coefficients (“informed” and “consent”) are negatively significant, implying that Baka felt more included than Bantu people in these late stages of the FPIC process. For Ngoyla–Mintom, however, two coefficients (“free” and “consent”) were positively significant, implying reversely that the Bantu people felt more included than the Baka. Counterintuitively, the much more inclusive and lengthier FPIC process in Ngoyla–Mintom did not make the disadvantaged ethnicity feel more process-included; if anything, it did the opposite.

In response to the “free” question (Table 6), 40% of Baka respondents stated they were allowed to individually or collectively decline project participation in Nomedjoh–Nkolenyeng, while only 17% of Baka said so in Ngoyla–Mintom. This shows that perhaps the more lengthy and elaborate consultation in Ngoyla–Mintom led to more process fatigue among Baka people, and perhaps sometimes also built up more Bantu group pressure to move the process forward:

“We were not always invited to project meetings in the village, and hence were reliant on Bantu to get updates on the meetings. Moreover, some of the meetings were organized during fishing or non-timber forest product harvesting seasons and conducted in French.” (Baka male respondent, Ndimako)

“Appointments for meetings were mainly decided by the chief without consulting communities, particularly women. We usually got to know about the consultation meeting’s agenda on the same day.” (Bantu female respondent, Zoulabot).

Baka indigenous people (except in Nomedjoh village) also reported their concerns about ethnic and gender discrimination during the FPIC process, which they thought may exacerbate traditionally existing inequities in society:

“The project should not discriminate villagers based on ethnicity or gender. All villager should be treated and benefit equally. Unfortunately, this was not the case.” (Bantu female respondent, Nkolenyeng)

[TABLE 6]

Regarding the “prior,” about 20% and 14% of the respondents who enrolled in Nomedjoh–Nkolenyeng and Ngoyla–Mintom projects, respectively (the majority of whom were women, youths, and migrant workers), reported that they were not given sufficient notice to Along the same lines, some women, “informed,” at least 70% and 77% of the respondents in Nomedjoh–Nkolenyeng and Ngoyla–Mintom projects, respectively, claimed that they knew what the project stood for (Table 6). However, when asked for the “main project purposes,” most thought these were solely related to conservation, rather than also to livelihoods (Figure 3). Most villagers understood the REDD+ project rules to be at odds with their forest logging. It is worth mentioning that most of the respondents in Nomedjoh village (Table 6) expressed satisfaction with the disclosure of information about the project activities and praised the role of their pastor during the FPIC process:

“Though most of us do not read, the pastor in our village played a crucial role in enhancing our understanding of the implications of the project as well as our rights.” (FGD Bantu female participant)

“He facilitated the implementation of the project by providing comprehensive and understandable information that bridged information gaps among us and with CED.” (Baka male respondent)

[FIGURE 3]

Regarding the “consent” aspect of FPIC, a majority of the respondents (except in Nkolenyeng village) stated that they were involved in the decision-making process to decide whether the project should or should not be implemented (Table 6). Yet, when asked “How was the decision to join the project taken?”, around half of respondents in both projects said that they felt that the decision was made top-down either by the NGO or the village chief (Figure 4). This possibly reflects a more subtle distinction in decision-making, between on the one hand the right to say “yes” or “no”, and on the other hand, the initiative to propose and shape the project proposal along the way, moving it tacitly into ethnically or personally desirable directions.

[FIGURE 4]

4.2.2. Post-consent participation

We reviewed project documents to understand how proponents had engaged communities in implementation. Both projects grouped community members in each village into community activity groups, such as cocoa agroforestry, sustainable agriculture, NTFP, beekeeping, disabled and elders, livestock, and monitoring groups. Each group was expected to organize meetings to plan and carry out their activities, and document results in reports to be shared with the respective project coordinator before receiving their payments.

Our regression analysis shows a significantly higher level of Baka than Bantu participation in Nomedjoh–Nkolenyeng (Table 4), while results are insignificant for Ngoyla–Mintom (Table 5). This corroborates our qualitative analysis (Table 6). Although most respondents enrolled in the Nomedjoh–Nkolenyeng project reported participation in project activities, at least 40% of the respondents in the Ngoyla–Mintom project reported non-participation. Among non-participants, many were Baka, women, youths, or migrant farmers. A migrant farmer in Nkolenyeng commented:

“While we are taking care of the majority of cocoa fields, including clearing forests to open new fields, we were never invited to meetings nor aware of the projects.”

Our logistic regressions (Table 4) and qualitative analysis (Table 6) also indicate that the majority of Bantu respondents with a higher economic status and a higher level of education were satisfied with participation in the Ngoyla–Mintom project, whereas more than half of Baka respondents were dissatisfied, one of whom said:

“We are not happy with our engagement in the project; most projects activities are mainly meant for and implemented by them [Bantu].” (Baka male respondent, Ndimako)

Intimidation, lack of respect, and aggressive behavior on the part of Bantu individuals toward Baka indigenous people were observed during the fieldwork. The FGD with Baka people in Ndimako was interrupted twice by young Bantu individuals. Indicating the seriousness of this pre-existing historic Baka–Bantu relationship, a Bantu respondent commented:

“The domination of local decision decision-making by Bantus, the people among whom Baka have been forcibly settled, made their [Baka people] participation in the project challenging. I fear that this could further marginalize Baka people, who are already on the margins of local social structures and jeopardize their future engagement in similar projects.”

4.3 Distributive equity: benefits and benefit sharing

The projects developed comparable benefit-sharing mechanisms (Figure 5); in fact, both were similar because both projects benefited from the technical support of the private company Bioclimate. BioClimate is a private company that provides research and development services. Bioclimate is involved in project development, transferring skills and knowledge to project stakeholders.

The projects also supported the opening of a community bank account for each participating village to ensure the traceability and transparency of payment management. Overall, both projects aimed to establish needs and ensure equality and fairness in benefit sharing (WWF 2011; CED 2012). In both projects, the legal entity for community forests, as foreseen by the 1994 Cameroonian forestry law, oversaw the distribution of benefits to the different community groups involved in the projects. Both used the mechanisms to distribute non-conditional and performance-based benefits to the communities in the villages. Table 7 presents the planned and the actual payments made to the communities participating in the Ngoyla–Mintom project.

[FIGURE 5]
[TABLE 7]

Non-conditional payments were allocated by the project implementers and funders to civic or community development projects. Regarding civic projects, the Nomedjoh–Nkolenyeng project implemented an electricity network powered by a diesel generator in Nkolenyeng and drinking water supply in Nomedjoh, while in the four Ngoyla–Mintom villages, community-level construction of classrooms, a sport center, and solar panel electrification was carried out. The non-conditional payments affected equity because even those villagers who did not contribute to tackling deforestation received the payments.

Income-generating activities for which performance-based payments were made included improved cocoa-based agroforestry, livestock farming, beekeeping, improved cassava, plantain, and peanut cultivation, as well as the processing and marketing of NTFPs, such as moabi (*Baillonella toxisperma*) and wild mango. For the performance-based payments, the project teams defined indicators that were assessed before any payments were made.

Despite the project implementers' efforts, the respondents expressed some frustration, as indicated by our qualitative and quantitative analyses below. More than half of the respondents enrolled in both projects did not know who was responsible for sharing the benefits among community groups (Figure 6). About 61% of the respondents enrolled in both projects, mostly women, youths, or migrant farmers, did not know about the existence of a community bank account for project incomes.

[FIGURE 6]

If REDD+ benefit sharing had been received and perceived as fully equitable, none of the control variables in the regressions in Table 5 would be significant. In Ngoyla–Mintom, we indeed see no significant differences. However, the negative signs (bi- and multi-variate) for the ethnicity variable in Nomedjoh–Nkolenyeng indicate that the locally dominant Bantu people perceived themselves to have benefited less from the project than the Baka minority. This corroborates our qualitative analysis: most Baka respondents enrolled in Nomedjoh–Nkolenyeng (e.g., 84% Baka respondents in Nomedjoh; Table 6) reported receiving benefits from participation in the project. Two respondents stated the following:

“Honey is culturally part of our food and has social and medicinal roles. The beekeeping techniques introduced by the project allowed us not to have to go further into the forest looking for honey. We are also getting some income by selling the surplus.” (Baka female respondent, Nomedjoh)

“Thanks to the benefits provided by the project we are pressing moabi seeds in large quantities and managed to produce up to one thousand liters of moabi oil every year. The product has good market demand and CED has helped us find customers in Yaoundé. We have continued the activity after the completion of the project” (Baka female respondent, Nomedjoh)

On the contrary, most Bantu respondents enrolled in Nomedjoh–Nkolenyeng (e.g., 51% of respondents in Nkolenyeng; Table 6) reported not receiving any benefits. One stated:

“We expected and even asked for more community development activities than income-generating activities, they provided otherwise.” (Bantu male respondent, Nkolenyeng).

Our regressions results (Table 5) and qualitative analysis (Table 6) reveal disagreement about promoted project activities and benefits between projects and ethnic groups. Bantu villagers enrolled in the Ngoyla–Mintom project noted that the introduction of improved cocoa varieties and farming techniques improved cocoa production considerably, and consequently increased their incomes. As a Bantu male respondent in Zoulabot commented:

“The civic projects have been of great importance to the community. The classrooms built by the project has improved school enrollment rate”

On the contrary, most Baka respondents enrolled in the Ngoyla–Mintom project expressed their dissatisfaction with the benefit sharing arrangement:

“We do not like exotic practices [e.g., pig and poultry farming] as these practices are not in line with Baka traditional lifestyle.”

Finally, while community development activities benefited everyone, including those who did not actively contribute to the project implementation, hardworking individuals preferred at least some form of individual benefits based on their performances.

5. DISCUSSION

Our analysis revealed diverse and uneven findings regarding participation and benefit perceptions and distribution across ethnic groups in the two REDD+ projects, both of which provided benefits for local forest conservation. In general, the Baka indigenous people were more likely than members of the local dominant ethnic group (Bantu) to have participated in and benefited from the Nomedjoh–Nkolenyeng project, while the reverse is true for the Ngoyla–Mintom project. The latter finding supports our hypothesis that contextual factors were key in determining an individual’s likelihood of participating in and benefiting from the REDD+ project.

Regarding procedural equity (as manifested in the FPIC process), more than half of the respondents claimed that they lacked, or were not aware of, the right to refuse the predetermined project options they were offered. About one quarter of the respondents reported insufficient time to reflect and organize. In particular, most Baka participants, women, youths, and migrant farmers claimed to have not been sufficiently engaged in the consent-giving decision process, or said that decisions were by default delegated to representatives. Notably, this finding was not significantly mitigated in the Ngoyla–Mintom project, which (compared to Nomedjoh–Nkolenyeng) adopted a much more elaborate and time-consuming, multi-staged FPIC process. This suggests that a longer and more complex FPIC process might have given locally powerful groups time to exert internal pressure on the process, in turn enabling them to gain the upper hand in struggles over project-related interests. Moreover, the presence of local champions or “translators” of the project concept, such as the pastor in Nomedjoh, could make a markedly positive difference for perceptual outcomes in ways that seemed to outweigh the role played by the FPIC process. Similar observations of extreme context dependency have been made for other community and carbon forestry projects in Cameroon (Duguma et al., 2018; Freudenthal et al., 2011; Kenfack Essougong et al., 2019; Willis et al., 2016), the Democratic Republic of Congo (Pelletier et al., 2018), Ghana (Baruah 2017), and Nigeria (Asiyanbi, 2016; Nuesiri, 2017).

Potential explanations for this context dependency were both internal and external to the projects. First, being FPIC early-bird efforts, project proponents had little guidance on how to implement the process when the projects started in 2009 and 2011, respectively. Second,

project implementers lacked resources for continuously supporting time-consuming efforts on the ground, and for adapting management to integrate elaborate FPIC guidelines that only became formalized afterward. Third, there were often strong divisions and intra-community conflicts between those favoring forest conservation for REDD+ and those who wanted forest exploitation through logging. Hence, reaching advance consent concerning project implementation was a formidable challenge, especially because the communities are non-participatory and hierarchical in their internal structures (Kenfack Essougong et al. 2019, Duguma et al. 2018).

The idealized way the FPIC principles were conceived may therefore not always be fully compatible with the way decision-making processes typically occur in rural African communities. The notion of a free individual right to independent consent may be called into question. In practice, it seems almost impossible to get the consent of everyone within a community prior to the implementation of REDD+ projects in Cameroon (Carodenuto and Fobissie, 2015). Moreover, the Cameroon's FPIC guidelines define consent as the "collective decision made by the rights-holders and reached through the customary decision-making processes of the affected peoples or communities" (MINEPDED, 2014). But across two ethnic groups with markedly different cultural backgrounds and livelihood strategies, it may not always be possible to strike enough compromises to create a stable perception of common consensus around key project strategies.

Concerning post-consent participation, our analysis shows that the relatively more educated Bantu community, with a higher socio-political status, had better options for participating and influencing the Ngoyla–Mintom project than the Baka, while the reverse is true for the Nomedjoh–Nkolenyeng project. The difference in participation between the ethnic groups in the two projects could be explained by four factors. First, considering contextual factors such as low education and a lack of previous experience in community decision-making among Baka "resulted in multiple sensitization meetings in Nomedjoh, as additional time and efforts were invested to ensure that the villagers understood the project, and to explain the benefits of the project and conserving the forests" (project implementer, July 2018). Second, project efforts were, as mentioned, strongly supported by an indigenous NGO and a "local champion," who was convinced about the value of the project and hence mobilized time and knowhow to advance the project in the Baka village. Third, the Bantu in Nkolenyeng "had higher expectations of the project. The degree of control and benefits that they requested was not met by the project" (project implementer, July 2018). Fourth, the Baka community in Ngoyla–Mintom lacked technical and managerial capacities, and a strong local champion.

In the absence of a national benefit-sharing mechanism in Cameroon for either REDD+ or community forestry (Bernard and Minang, 2019), the two projects piloted mechanisms to distribute benefits among the participating communities. One quarter of the respondents reported not receiving benefits from participation in the projects. The process of developing the distributive arrangement did not seem to fully capture the needs of more marginalized groups, particularly women, youths, Baka people, and migrants. These findings suggest a lack of a full understanding of the distribution of benefits and costs that is necessary for designing and implementing a just and equitable benefit-sharing mechanism. Our findings resonate with the recent reviews by Piabuo et al. (2018) in Cameroon, and with reviews of projects elsewhere in sub-Saharan Africa, for example, the Democratic Republic of Congo (Pelletier et al., 2018), Zanzibar (Benjaminsen, 2014), Kenya (Chomba et al., 2016), Tanzania (Khatun et al., 2015), and Madagascar (Poudyal et al., 2016).

There are four probable contextual explanations for our findings on distributive inequities. First, most Baka, women, and poorer community members are illiterate, which makes it more difficult to understand information concerning their basic rights concerning, for instance, the sharing of responsibilities and benefits. Second, to fully utilize the collective opportunities provided by REDD+ projects, complementary access to capital, market information, and financial, technical, or management skills are sometimes needed. For instance, poorer community members were unable to benefit from the use of solar panels. Neither the power generator nor the drinking water supply provided by the Nomedjoh–Nkolenyeng project was functional during our field visits in 2015 and 2019, due to technical and maintenance problems. Third, delegating the distribution of REDD+ benefits to the legal entities created for community forests may have contributed to inequitable benefit sharing, because these entities were often led by local Bantu elites and were sometimes poorly governed (Bernard and Minang 2019, Kenfack Essoungong et al. 2019). Fourth, the pre-implementation socioeconomic study was not detailed enough to capture the needs, interests, and challenges of different strata of the communities in the design of project activities and distributive arrangements. The promotion of pig farms, for instance, was clearly incompatible with traditional Baka lifestyles. Conversely, the opportunity costs of foregoing new forest conversion to agriculture were also unequally distributed (notably affecting Bantu more than Baka people), which was arguably insufficiently considered in the project design.

6. CONCLUSIONS AND PERSPECTIVES

Our analysis of two Cameroonian incentive-based REDD+ and PES schemes in sharply divided ethnic contexts resulted in at least some surprising findings regarding contextualized equity outcomes, with implications for the role of the FPIC process. The dominant ethnic group—the agriculturally focused Bantu people—were not necessarily over-advantageously impacted by the REDD+ and PES outcomes, relative to the Baka indigenous hunter–gatherer people. Our results indicate how challenging it can be to address deep pre-existing inequities, particularly given short project timeframes, and despite undeniable efforts on the ground to “get it right”: powerful contextual factors strongly pre-shaped villagers’ ability to engage in access to (procedural equity) and benefit from (distributive equity) REDD+ and PES. Thus, pre-existing inequities limited the extent of equitable project outcomes (Cleaver and De Koning, 2015). Here, the context included policy and governance factors—particularly local technical and financial capacities—and deeply rooted differences in culture, organization, and livelihood strategies along a marked ethnic–demographic divide.

Notably, the FPIC process did not emerge here as a silver bullet for equity. One project invested in a much more complex and time-consuming FPIC process than the other, yet without having clearly more equitable outcomes. This suggests that even a simple, nascent FPIC process can have some positive impacts on the ground; conversely, it might have been less vulnerable to influence by locally powerful groups than a more sophisticated and longer FPIC process. Going forward, for any policy tool that seeks to conserve forest while improving livelihoods using a participatory and inclusive approach, the FPIC guidelines should be seen as a set of well-intentioned, externally-designed guidelines. Based on a research-informed local knowledge base, these guidelines should be carefully customized to local contexts and the FPIC processes should be designed to be less susceptible to the demands of dominant groups, with additional efforts made to target those less dominant.

To date, the extent to which the practical application of such guidelines has been effective with respect to project-scale REDD+ initiatives has primarily been examined in Asian settings, using a political ecology or ethnographic lens (Boer, 2019; Milne and Mahanty, 2019). Our

study's contribution derives from its African setting and the application of mixed methods, from two projects that heterogeneously dealt with FPIC processes in villages with deep-rooted ethnicity-based inequalities. As African countries engage in the REDD+ safeguard information system, practical experiences with FPIC implementation become pertinent.

Where inequities are long-term and structural, the extent to which incentive-based policies can effectively address these is likely to be limited (Makoudjou et al., 2017; Pemunta, 2019b; Tetinwe, 2017). This feature is not restricted to REDD+ and PES, but also applies to, for example, community forestry and integrated conservation and development projects—an intervention type that was also present in our two projects, and that provides some benefits unconditionally, that is, irrespective of forest outcomes. Targeted research prior to policy interventions might help implementers to better understand the local political economy context and, hence, identify those inequalities that have the potential to be addressed via interventions customized to the local context. Where trade-offs exist, contextually informed choices might need to be made with respect to prioritizing among multiple goals.

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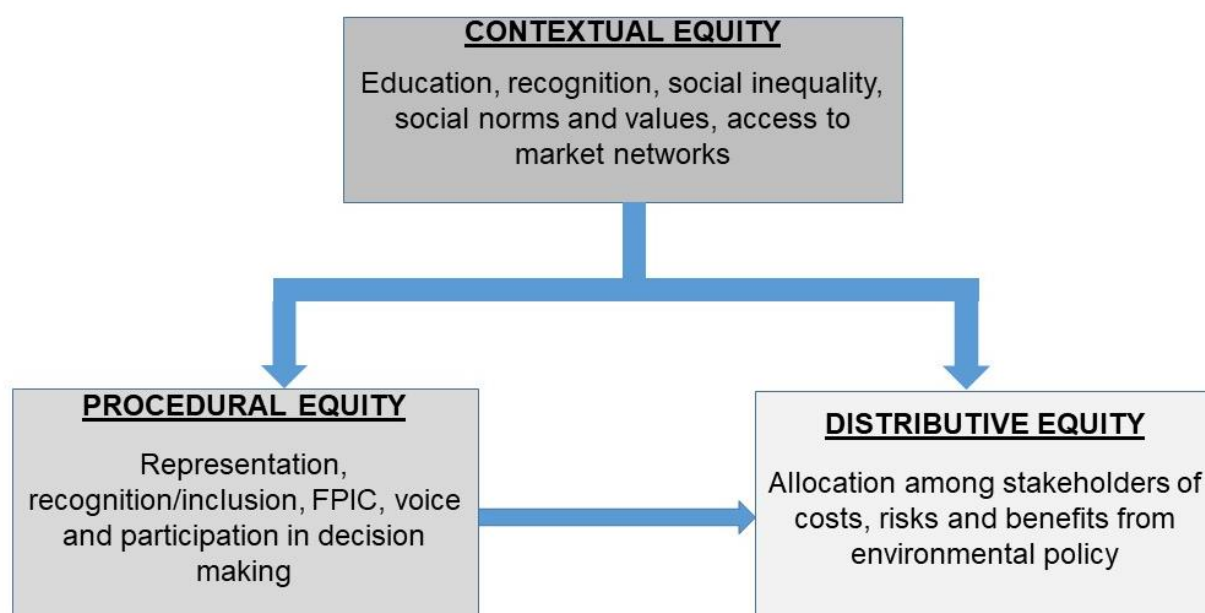


Figure 1. The three dimensions of social equity adapted from McDermott et al. (2013) and their main interactions in the context of the present research.

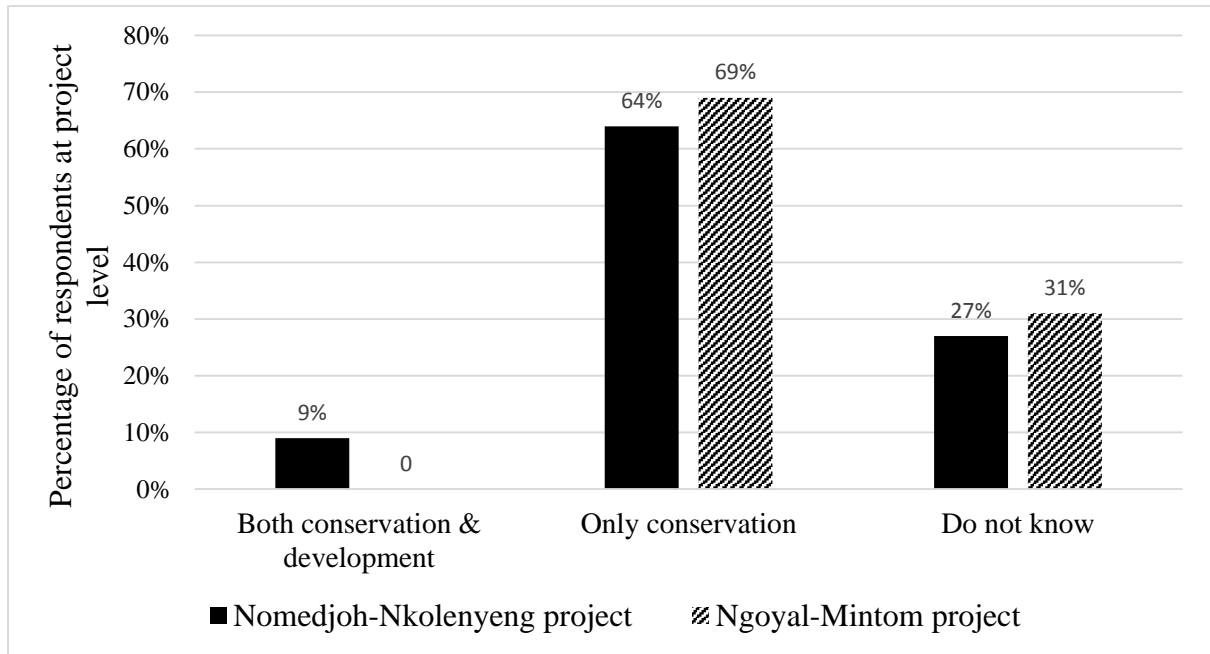


Figure 3. Respondents' stated knowledge about multiple project purposes.

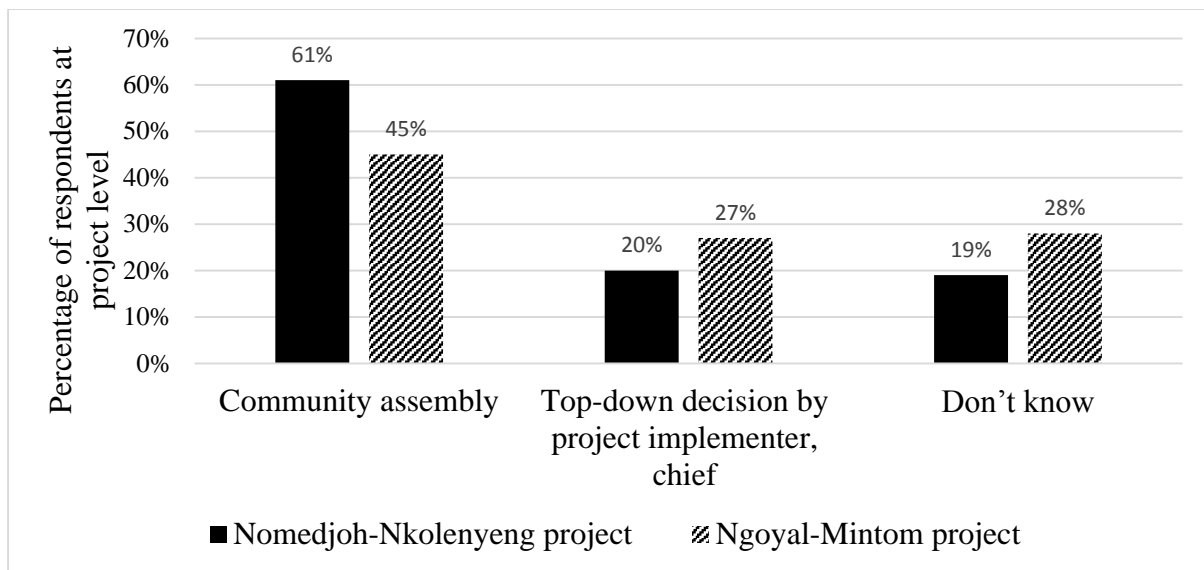


Figure 4. Stated response on how project participation was decided.

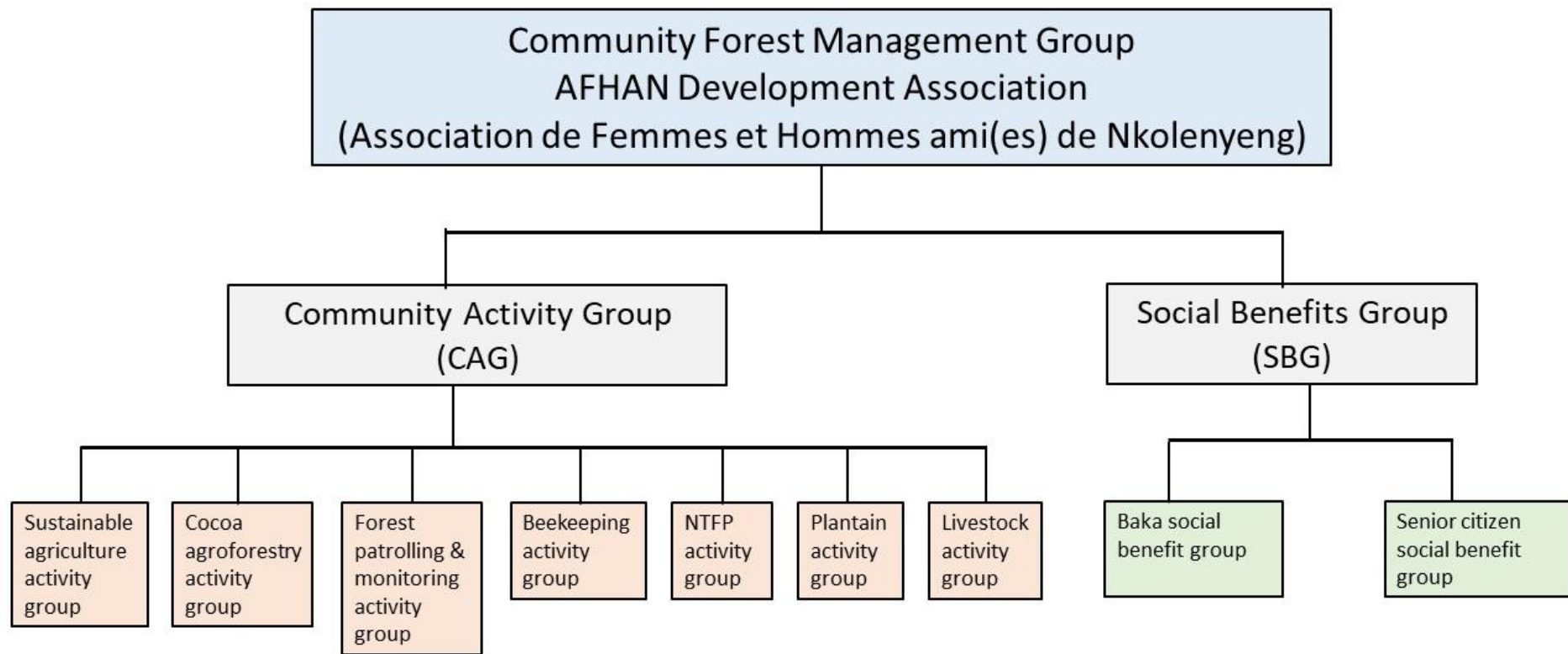


Figure 5. Benefit sharing arrangement in Nkolenyeng village. Source: CED (2011)

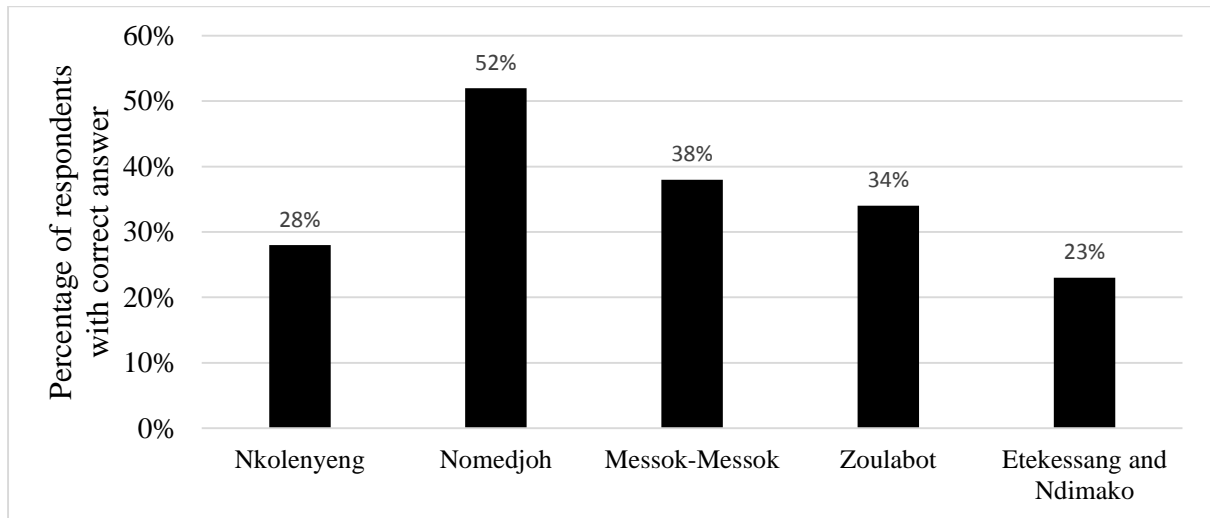


Figure 6. Stated response on mechanisms to distribute project benefits

Figure 2. The location of Nomedjoh-Nkolenyemg amd Ngoyla-Mintom projects in southern and eastern Cameroon

[Click here to access/download;Figure;Figure 2.pdf](#)

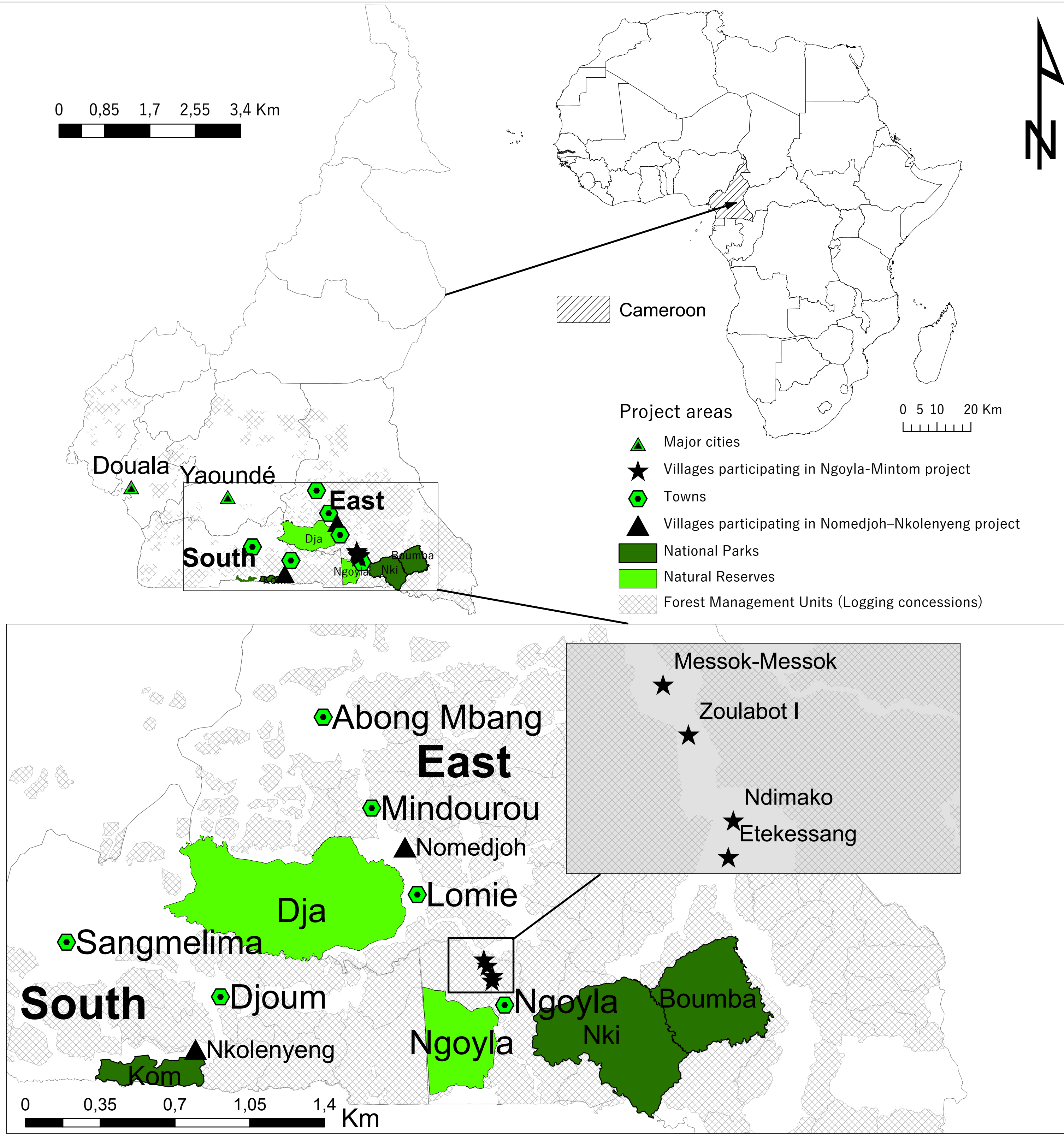


Table 1. Description of the Nomedjoh–Nkolenyeng and Ngoyla–Mintom projects

Project characteristics	Nomedjoh–Nkolenyeng	Ngoyla–Mintom
Start and end year	2009 – 2012	2011 – 2017
Project coordinator	Centre for Environment and Development (CED)	World Wildlife Fund for Nature (WWF) Cameroon
Technical partner	Bioclimate	Bioclimate
Amount and source of funding	£100,000 [†] , UK-DFID	€3,000,100, European Union
Main project income-generating activities implemented at household level	Improved cocoa and cassava farming techniques; agroforestry; beekeeping; livestock farming; non-timber forest products	Improved agroforestry (high yielding cocoa varieties); non-timber forest products
Main project activities implemented at community level (“civic” project)	Electricity network powered by a diesel generator in Nkolenyeng. Groundwater abstraction and distribution and solar lamps (for elderly and disabled) in Nomedjoh.	Solar (panels) electrification, construction of classrooms and community spaces, such as sport and marketing centers.
First payment	2011	May 2016
Second payment	2013	Early 2018 [‡]

[†]Of which £12,500 was allocated for monitoring and coordination by CED; £6000 for annual report verification by the Plan Vivo foundation; and the remaining £83,000 for communities over a period of five years.

[‡]Second payment, according to the contract signed between the WWF and the communities, was to be made in early 2018, but to date (November 2019) it has not been made

Table 2. Characteristics of the intervention villages and the number of interviews held in those villages.

Intervention villages	Nomedjoh–Nkolenyeng		Ngoyla–Mintom			
	Nkolenyeng	Nomedjoh	Messok-Messok	Zoulabot	Etekessang	Ndimako
Size of community forest (hectares)	1,042	1,942	1,300	2,300	2,300	‡
Main drivers of deforestation and degradation	Expansion of cocoa, plantain, and cassava farming; timber exploitation, unsustainable exploitation of non-timber forest products (NTFPs)					
Main economic activities	Bantu: agriculture, logging Baka: hunting, gathering NTFPs, agriculture labor in Bantu fields					
Estimated population size	555 [†]	896	119	179	212	186
Ethnic groups	498 Bantu, 40 Baka, and migrant workers	850 Baka, 46 Bantu	157 Bantu	198 Bantu	212 Bantu	186 Bantu
% of Baka	7.2%	94.9%	0%	0%	0%	100%
% of women	56%	51%	49.6%	52.5%	50.1%	§
% youths (under 25)	60%	59%	§	§	§	§
Without education	6%	47%	§	§	§	82%
Primary education or above	94%	53%	§	§	§	8%
Median annual income (in CFA)	450,000	30,000	600,000	275,000	350,000	50,000
Number of interviews (of which with Baka indigenous people)	32 (4)	34(32)	21(0)	15(0)	20(0)	29(29)

[†]Population size rises to 700 people due to migrant workers during the cocoa season (March to December)

[‡]Ndimako is part of the Community Forest of Etekessang

[§]Information unavailable

Table 3. Bivariate correlation and logistic regression results: was there FPIC?

Dependent Variables: Yes (1), No (0)		Free		Prior		Informed		Consent	
Projects		N-N	N-M	N-N	N-M	N-N	N-M	N-N	N-M
	Ethnicity	-0.186 ⁺	0.314***	-0.118	-0.163	-0.298*	0.161	-0.488*	0.383**
	Ethnicity	-0.93 ⁺	4.19 ⁺	-2.16	2.88	-5.03**	1.29	-2.69 **	0.37
	Gender	2.69 *	0.58	-1.83	0.12	1.43	-0.98	0.78	0.88
	Education (primary)	-2.36 *	0.94	-1.06	0.47	1.14	1.12	0.79	2.13 ⁺
	Education (secondary or above)	4.01 *	14.9	1.84	-0.29	0.23	0.84	0.39	19.6
	Income	-8.5e-7	2.47e-6	9.62e-8	-1.31e-6	4.209e-6*	-5.68e-9	1.08e-7	5.77e-8
	Constant	3.45 *	-2.03	3.62 *	0.46	2.65	-1.88*	2.33 ⁺	0.48
R2		0.31	0.33	0.17	0.19	0.35	0.15	0.24	0.34
N		49	49	46	50	46	50	49	47

Note: ‘***’ p<0.001 ‘**’ p<0.01 ‘*’ p<0.05 ‘+’ p<0.1; N-N denotes the Nomedjoh–Nkolenyeng project & N-M denotes the Ngoyla–Mintom project; “Free” survey question asked “Were you allowed to decline participation in the project?”; “Prior” question asked “Were you given sufficient time to consider the information provided by respective project proponents?”; “Informed” question asked “Do you know what the project stands for?”; “Consent” question asked “Have you been involved in deciding whether the project should be implemented?”

Table 4. Bivariate correlation and logistic regression results: post-consent participation questions

Dependent Variables: Yes (1), No (0)		Participation in implementation		Participation satisfaction	
Projects		N-N	N-M	N-N	N-M
Bivariate	Ethnicity	-0.25*	0.25*	-0.25*	0.29**
Logistic	Ethnicity	-2.84 *	0.91	-1.29	1.36
	Gender	-0.70	0.90	0.43	1.03
	Education (primary)	1.44	1.37	-0.47	0.29
	Education (secondary or above)	1.16	3.48 *	0.69	0.60
	Income	6.49e-7	1.14e-7	1.75e-6	-8.06e-7
	Constant	1.56	0.56	1.70	1.27
R2		0.17	0.17	0.08	0.08
N		48	47	47	44

Note: ‘***’ $p < 0.001$ ‘**’ $p < 0.01$ ‘*’ $p < 0.05$ ‘+’ $p < 0.1$; N-N denotes Nomedjoh–Nkolenyeng project & N-M denotes Ngoyla–Mintom project; “Participation in implementation” survey question asked “Have you been involved in the implementation of project activities?”; “Participation satisfaction” question asked “Are you satisfied with your level of participation in the implementation of project activities?”

Table 5. Bivariate correlation and logistic regression results: was benefit sharing equitable?

Dependent Variables: Yes (1), No (0)		Receipt of benefits		Satisfaction with benefit sharing	
Projects		N-N	N-M	N-N	N-M
Bivariate	Ethnicity	-0.379**	0.176	-0.367**	0.135
Logistic	Ethnicity	-2.08 *	0.39	-0.54	18.02
	Gender	-0.08	-1.19	0.75	0.14
	Education (primary)	0.31	0.19	-0.94	17.88
	Education (secondary or above)	0.23	2.27 ⁺	-1.76	17.78
	Income	2.08	-6.7e-7	5.9e-7	6.52e-8
	Constant	1.89	-0.55	1.73	0.59
R2		0.14	0.21	0.11	0.23
N		48	50	42	39

Note: ‘***’ p<0.001 ‘**’ p<0.01 ‘*’ p<0.05 ‘+’ p<0.1 N-N denotes Nomedjoh–Nkolenyeng project & N-M denotes Ngoyla–Mintom project; “Receipt of benefits” survey question asked “Does your family receive any benefits from participating in the project?”; “Satisfaction with benefit sharing” question asked “are you satisfied with the existing distributive arrangement?”

Table 6. Interview responses (%) related to FPIC, post-consent participation, and benefit sharing, by individual villages. Percentages add up to less than 100%, as “Don’t know” responses are not shown.

Sample survey questions	Nomedjoh–Nkolenyeng				Ngoyla–Mintom					
	Nomedjoh		Nkolenyeng		Messok-Messok		Zoulabot		Etekessang & Ndimako	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Free, prior, and informed consent (FPIC)										
Were you (individual household or in collective decision) allowed to decline participation in the project? (F)	38	62	20	77	14	81	0	10 0	17	83
Were you given sufficient time to consider the information provided by respective project proponents? (P)	69	31	62	19	86	14	79	21	73	25
Do you know what the project stands for (i.e., multiple project purposes)? (I)	97	3	70	27	86	14	93	7	77	23
Have you been involved in deciding whether the project (or project activities) should be implemented? (C)	86	16	33	67	80	20	79	21	46	54
Post-consent participation										
Have you been involved in the implementation of project activities?	81	19	53	47	45	55	56	42	46	54
Are you satisfied with your level of participation in the implementation of project activities?	81	19	62	38	72	23	80	17	52	48
Benefits and benefit distribution arrangement										
Does the participation in the project put any limitations on your family’s activities?	24	76	39	58	20	80	17	73	46	54
Does your family receive any benefits from participating in the project?	84	16	48	51	33	67	40	60	25	75
Are you (i.e., individual household) satisfied with the project benefit distribution arrangement in place?	78	19	48	52	39	56	43	57	36	64

Table 7. The actual and planned payments to communities participating in the Ngoyla–Mintom project. The second payment has still not been paid (November 2019).

Villages	Payment	Amount (FCFA)	Date of payment
Zoulabot	1 st payment	12,093,750	25 May 2016
	2 nd payment	3,093,750	25 May 2017
Lelene [†]	1 st payment	16,468,750	25 May 2016
	2 nd payment	3,468,750	25 May 2017
Messok-Messok	1 st payment	12,093,750	25 May 2016
	2 nd payment	3,093,750	25 May 2017
Etékessang	1 st payment	15,093,750	25 May 2016
	2 nd payment	3,093,750	25 May 2017
Grand total		68,500,000 (actual payment FCFA 55,750,000; remaining FCFA 12,750,000)	

[†] Lelene village was not included in this research

Authors contributions

Y.T.T. conceived the research; Y.T.T., S.V, C.P, M.C. designed the methodological approach; Y.T.T. conducted the field works; Y.T.T. and E.M. analysed the data; Y.T.T. and M.C. wrote the paper; Y.T.T., S.V, C.P, F.K. and M.M. revised the draft manuscript



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