Community capacity for social enterprise development: Empirical evidence from community forest enterprises (CFEs) in Cameroon

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ABSTRACT

With increasing forest devolution globally, community forest enterprises (CFEs) are emerging as potential options for local development based on forest resources. CFEs trade to meet their economic, social, and environmental goals; however, empirical studies have highlighted capacity deficiencies as key drawbacks to their development. Knowledge of what these capacity gaps are is low. This paper uses a systematic framework to explore capacity and deficiencies in capacity and the relation between the two within CFEs in Cameroon. Using the contextualised organisational capacity theory in combination with asset-based mobilisation theory, data was gathered from 31 CFEs based on focus group discussions. Principal component analysis and descriptive statistics were used to evaluate community capacity at individual, organisational (CFE), and network levels. Pearson correlation tests were used to explore the relationships between different domains of community capacity. The results indicate that community members and development practitioners agree that communities are weak in creating partnerships, networking, and resource mobilisation. The participatory community evaluation highlights major capacity gaps in infrastructure, members' skills and knowledge, and sense of community. This confirms that capacity gaps were larger at the individual and social network level, while organisational capacity scored higher except for a sense of community and resource mobilization. Although the community capacities at the individual level are generally low, these capacities correlate strongly with organisational capacity. The potential of the CFEs to meet objectives depends a lot on the capacities of individual members and networking capacity, indicating that these should be prioritised in development efforts, which should involve multiple stakeholders, with policy support and participation by the entire community.

1. Introduction

The last three decades have been marked by a paradigm shift in forest management from centralised government management to devolution of management rights to local communities in a bid to increase local participation in forest management (Shackleton and

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Campbell, 2001; Minang et al., 2017). Over time, more than 15% of tropical forests have been allocated to community management and are a source of livelihood for more than 1.2 billion people (FAO and UNEP, 2020; RRI, 2014; Agrawal et al., 2008). To ensure livelihood improvement through the devolved access and management rights to rural communities, community-based development approaches that promote social change, address the needs of the poor, and establish economic resilience have emerged over the past decade (Chaskin, 2001; Minang et al., 2019). These community-based approaches for local development equally used business approaches in generating profits for community development. These approaches coincide with growing enterprises with a principal social mission that emerged at different scales globally (Eversole et al., 2013; Antinori and Bray, 2005; Foundjem-Tita et al., 2018). These approaches have led to the widespread proliferation of community forest enterprises (CFEs), widely defined as "*an entity undertaking a commercial business based on forests or trees. A credible representative body oversees it. The enterprise can claim legitimacy within a self-defining community in terms of people and area, and it generates and redistributes profits within that community*" (Macqueen, 2008, p3). These CFEs have been promoted because they create employment, wages, capital accumulation, profit sharing, investments in public goods, and enhance sustainable forest management (Donovan et al., 2006).

However, due to the poor economic performance of CFEs, the ability of CFEs to generate profits for social development has been questioned over the past decade (Counsell et al., 2007; Lescuyer et al., 2012; Gilmour, 2016; Ojha et al., 2016; Minang et al., 2017). The capacities of these communities to respect business principles while respecting sustainable forest management practices have been underscored as a key drawback (Piabuo et al., 2018). Given that CFEs are rooted in a community, CFEs are often developed based on the available capacities in that community (Hsia, 2021). The evaluation of community capacity so far has been done in a fragmented manner, with most authors focussing on communities' business and governance capacities (Foundjem-Tita et al., 2018; Piabuo et al., 2018; Beauchamp and Ingram, 2011). Efforts have been made to develop the business management capacities of local communities involved in CFEs (Minang et al., 2019, Macqueen, 2008). Unfortunately, only some elements of a community's capacity, such as a sense of community, have generally been improved (Foundjem-Tita et al., 2018; Piabuo et al., 2018). Zurcher et al. (2018) indicate that employing a systems approach permits a better understanding of the system and the relationship between capacities, thus, greater impact. This allows better self-organization (Ostrom, 2009), more effective and efficient use of natural, social, and economic assets, the development of synergies to tackle emerging challenges (Vachon et al., 2001), and the development of social networks necessary for a CFE to function and achieve development objectives (Becker, 1975; Ojha et al., 2016). Chaskin et al. (2001) emphasizes that the employment of a systems approach has the advantage of considering other community elements, such as infrastructure and social capital, thus the need for community capacity building. The reason for taking such an approach is that community capacity (1) is more than the collection of individual capacities, (2) should be considered as the outcome of ongoing and multiple non-linear interactions between systems within a community, and (3) is responsive to its external environment. However, studies employing a systems approach in evaluating the community capacity of CFEs are sketchy or non-existent in Cameroon; this paper, therefore, aims to fill this gap. Contrary to existing studies that dwell on practitioners' perceptions of community capacity, this paper captures community capacity from the perspective of practitioners and communities themselves to paint a clear image of community capacity for CFE development. The paper goes a step further to investigate the relationship between domains of community capacity so as to underscore capacity domains for prioritization during capacity development efforts.

Against this background, this study contributes to the literature exploring community capacity development in CFEs. In contrast to much of the community development literature, which focuses either on economic outcomes in terms of quantitative indicators (including employment rate and income) to determine "success" (e.g., Becker (1975); Beesley and Russwurm (1989), Reimer (2000) and Schatan (1990)) or on social gains (including education attainment, community activeness, and community satisfaction) (Brown, 1993; Goudy, 1990), we follow Becker (1975) in their view that community capacity encompasses a range of assets and outcomes. This sharply contrasts traditional and reductionistic approaches to community capacity and captures the complexity of a community dealing with certain situations (Amadei, 2020). Therefore the following research questions are addressed.

- What are the existing areas of capacities and deficiencies that affect the economic, social, and environmental performance of CFEs in Cameroon?
- What is the relationship between the different capacities?

From a theoretical perspective, this evaluation is difficult because contingency theories developed by Fiedler (1967), Hounslow (2002), Vroom and Yetton (1973) underscore that leadership and management styles should be adapted to the organisational context. Goodman et al. (1998) highlighted that they should be contextualised and appropriate assessment methodologies developed; this paper will therefore contextualise for CFEs in Cameroon. CFEs have specific risks, opportunities, and challenges embedded in their hybrid character, which makes community capacity evaluation complicated. This paper seeks to overcome these challenges by (i) empirically taking a system approach to appraise community capacity and deficiencies at the individual, organisation (enterprise), and network levelanalysing by analysing the relationship between capacities to guide CFE development practitioners to prioritise community capacity development initiatives better.

The research focuses on CFEs in Cameroon because the country has been practising community forestry for over 25 years (World Agroforestry Centre, 2015; IIED, 2019). A review of two decades of community forestry in Cameroon highlighted the importance of community capacity (Foundjem-Tita et al., 2018; Piabuo et al., 2018). An empirical investigation using recent data covering all aspects of capacity is thus critical for practice. This paper thus seeks to draw lessons for CFEs in Cameroon, community forestry and CFEs in other countries.

2. Conceptual background on community capacity of CFEs

2.1. Defining community capacity

A community is generally defined as people sharing common interests or goals (Williams and Lawson, 2001). Verity (2007) adds that they should live in a geographically defined area with some level of interdependece, sharing the same desires and aspirations with a sense of belonging relating members in all aspects of life. Community capacity is generally defined as the ability of community members to work together to maintain changes (Hounslow, 2002; Howe et al., 2001). Researchers in the rural development domain use a broader approach to define community capacity; they introduce concepts of community assets, organization, facilities, and social capital. Easterling et al. (1998, p12) used the concept of assets to define community capacity as "*the set of assets or strengths that residents individually and collectively bring to the cause of improving community quality of life*". Meanwhile Jackson et al. (1999) defined community capacity as "*a wholistic representation of capabilities (those with which the community is endowed and those to which the community has access) plus the facilitators and barriers to the realisation of those capabilities in the broader social environment.*" The most used definition of community capacity is that of Chaskin (2001, p. 7), who used different types of capitals to underscore community capacity as: "the *interaction of human capital, organization resources, and social capital existing within a given community that can be leveraged to solve collective problems and improve or maintain the wellbeing of that community. It may operate through informal social processes and organized*
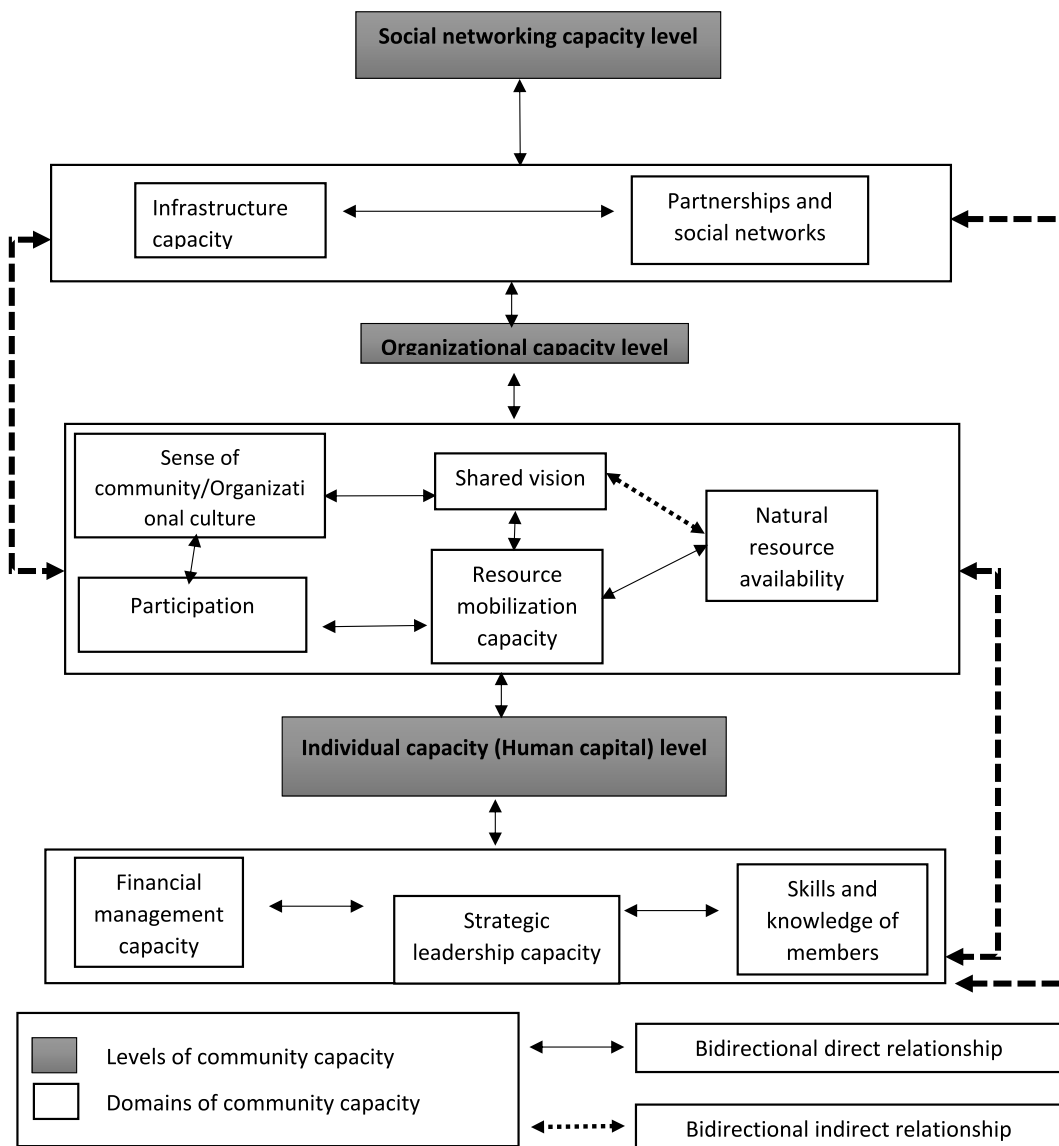

Fig. 1. A conceptual framework for Community capacity of CFEs in meeting their economic, social, and environmental objectives.

efforts by individuals, organisations*, and social networks that exist among them and between them and the larger systems of which the community is a part*". The ability of communities to use their individual, collective knowledge and resources to enhance the economic, social, and environmental performance of the CFEs and the community as a whole comes out as the overarching message from the different definitions. These definitions all emphasise community capacity as the collective valorization of individual, collective (organization), and social networks for collective gain as part of a large system. It also emphasizes that community capacity exists in different domains; these domains will be explored further by levels (individual, organizational, and networks) below.

2.2. Conceptual framework

The concept of community capacity developed in this paper draws on Chaskin (2001), which is widely used in conceptualising community capacity (Hacker et al., 2012; Turner et al., 2017). Community capacity is conceptualised at three levels: individual, organisational, and network (Chaskin, 2001). Skills at the individual level include human capital, leadership skills, awareness, training, knowledge, education, and participation in community-related activities (Chaskin, 2001; Bennett et al., 2010). At the organisational level, capacity refers to aspects that improve organisational performance, such as human resources, physical resources such as materials, facilities, and equipment, key intellectual resources such as organisational strategic planning, business know-how, production system, inter-institutional linkages, and process management (Aref and Marof, 2009); Aref et al., 2009. The network-level captures the social context, patterns, and relationships between individuals, the organisation, and other partners, both formal, informal, and local decentralised community organisations (Chaskin, 2001).

The dimensions used for assessing community capacity (Easterling et al., 1998; Chaskin et al., 2001; Laverack, 2001; Khosravi and Badaruddin, 2013) emphasise the ability of community members to mobilise internal resources and access external resources (Laverack, 2001; Bush and Mutch, 2002; Bush et al., 2002; Gibbon et al., 2002). The nature of social relations includes how the community interacts with other stakeholders, the type of relationships they have, and the role of other agents (Easterling et al., 1998; Chaskin et al., 2001). Other dimensions include the capacity of communities to put in place organised structures that enhance community dialogue, with leadership that encourages civic participation while maintaining community values with appropriate learning culture (Cottrell, 1964; Goodman et al., 1998; Easterling et al., 1998; Chaskin et al., 2001; Laverack, 2001).

To capture the internal and external capacities of CFEs, organisational capacity theory and the asset-based mobilisation theory (Nash, 2010; Shahidullah and Haque, 2016) are employed. These theories capture the capacity of organisations, individuals, and social networks to improve the overall well-being of the CFEs. Organisational capacity emphasizes how an organisation's characteristics can ensure the achievement of sustainable development goals and enterprise objectives (Christensen and Gazley, 2008). These characteristics include a sense of community/organisational culture, strategic leadership, resource mobilisation, shared vision, financial management capacity, and participation (Allison and Kaye, 2005). CFEs are composed of individuals with diverse educational and professional backgrounds endowed with varied individual, public, and institutional asset mobilisation.

Asset-based community development theory emphasises the capacity of individuals and organisations within a community to identify problems and build on their assets to resolve them (Shin et al., 2014). Kretzmann and McKnight's (1993) definition is adopted in this paper, defining community assets as the "capacity and technology of individuals, organizations, institutions" (1993, p. 25), where community members can map community assets and devise options to maximise them to meet community needs. Individual assets include members' knowledge and talent, including education, training, and knowledge of community members, such as skills or training related to forest management, marketing, business planning and development, financial management, agriculture, health, and education. In Fig. 1, the dimensions of organizational capacity and asset mobilisation are expanded to organizational resources, human capital, and social capital, following Chaskin (2001) and contextualized to capture natural resource endowments in terms of availability.

Tseng and Siedman (2007) propose that communities are social settings with social processes or transactions between groups of people to make use of resources within the community. These resources can be human, economic, or natural resources within the framework of a particular organisation of resources to achieve particular aims. In the case of CFEs, individuals within a community with specific capacities in financial management, strategic leadership, and specific skills and knowledge can mobilize these skills to develop and contribute to the organisation. The organisation is the CFE, which requires key skills that define the organisation's strength, such as shared vision, participation, sense of community, resource mobilisation capacity, and natural resource availability. The organisational capacity can be affected by infrastructure capacity, partnerships, and the organisation's social networks. These relationships are all bidirectional; thus, individual capacities can enhance organisational capacity through social networks, the individual capacity of members can be enhanced, and also, through strategic leadership, skills, and knowledge of members, social networks of the organization can be broadened. This emphasises a system of relationships between individual, organizational and social network levels of community capacity and between different capacity domains. This new framework allows a systemic evaluation of community capacity and the relationship between community capacity domains, which are further explained in the next section.

2.3. Community capacity domains

2.3.1. Organizational capacity level

Sense of community/Organizational culture is the relationship between an individual community member and the organization (Sarason, 1974). For engagement and commitment of staff, organisational culture should permit both vertical and horizontal collaboration, communication, and participation in decision making (Han et al., 2015; Satar, 2018). Vertical communication in this

study means an established communication strategy where the management team communicates to the community and the CF management committee about enterprise activities and relates to how the CFE management advises the management team. Horizontal communication refers to how community members participate in decision-making on the use of profits and aspects such as the election of the management team.

Participation refers to the effective engagement of community members from different socio-cultural divisions of the community (youths, women, men, and minority groups) (Foundjem-Tita et al., 2018; Piabuo et al., 2018), such as the election of leaders, community activities, meetings, and general oversight of management activities (Foundjem-Tita et al., 2018).

A shared **vision** is the capacity of community members to blend their personal goals and aspirations with that of the organisation (Allen and Allen, 1987). It is crucial in engaging members in a common cause (Murray and Dunn, 1995; Bopp et al., 2000).

Resource mobilisation capacity captures the ability of a community to mobilize resources from internal and external sources, to identify resource mobilization opportunities, and develop them.

Natural resource availability includes the abundance of forest and non-timber forest products (NTFPs), which affects the capacity of a CFE to generate income in conjunction with production trends accessibility.

2.3.2. Human capital level (individual capacity of community members)

Financial management capacity refers to keeping records of transactions, clear financial statements, an auditing system, debt management, and the capacity of management to record and report financial information plans and budget planning (Haupt and Padayachee, 2016; Han et al., 2015).

Strategic leadership capacity is fundamental in aligning and maintaining actions towards the mission and objectives of the CFE by sharing experiences and knowledge to create innovations that have a societal impact and address societal problems while ensuring enterprise sustainability (Dees and Anderson, 2006). Management capacity refers to the ability of management to search and adapt processes to meet customer needs while enhancing the organisation's marketing, communication, and quality systems (Andreasen and Kotler, 2008). In the CFE context, this implies the ability of CFE managers to mobilise community assets, develop marketable products, and generate profits for community development.

Skills and knowledge refer to the skills and knowledge of individuals within the community in the CFE context on subjects related to sustainable forestry and business management, marketing, enterprise development, financial management, health, and education.

2.3.3. Social networks level (social capital)

Infrastructure capacity refers to the presence of infrastructure within the community that enables business/community development. This was assessed by investigating whether communities had infrastructures such as local government offices, storage rooms, roads (km), clinics, hospitals, schools, guesthouses, tents and camps, restaurants, hotels, and shops.

Partnerships and social networks refer to local groups, public institutions, local government, non-profit organizations, social enterprises, and other companies and the ability to network with these organisations to leverage growth. In the CFE context, this includes research and educational organizations, donor agencies, non-governmental organizations (NGOs), and other Community Forest enterprises.

3. Methodology

3.1. Evaluating community capacity

To evaluate the community capacity of CFEs in Cameroon, this paper draws on the theoretical framework developed in section 2. Ten community capacity domains and 45 capacity indicators (see Appendix 1). An interview guide that captures the domains was developed. Although quantitive methods provide broad knowledge, they do not offer data on the different aspects of community capacity. Qualitative methods were thus used, inspired by Aref (2011), to investigate barriers to community capacity development. To benefit from the advantages that qualitative and quantitative research designs offer, this study employs a mixed method of qualitative and quantitative design. Qualitative data collected through focus group discussions (FGDs) were analyzed to bring out community capacity gaps from the different CFEs, and quantitative techniques such as correlation analysis were used to capture the relationship between the different community capacity domains.

3.2. Testing of the survey instrument

Using Lovell et al. (2015) to guide the evaluation of community capacity in situations where quantitative measures are not available and qualitative studies on community capacity as peer-reviewed sources to inform about the key indicators to consider; the manual of procedures for the management of CFs was used to contextualise indicators to the context of CFEs in Cameroon. Inspired by Lovell et al. (2015), indicators contextualised to capture community capacity domains were pre-tested in one community, and elements with low factor loadings were removed after factor analysis; other elements were removed when not adapted to the community forest context. The questionnaire was finally made up of a total of 10 community capacity domains captured using a total of 48 indicators (see Appendix 2). Cronbach's alpha was used to capture the level of internal consistency within dimensions (Table 1).

3.3. Sampling and data collection

Data for this study were collected during the implementation of a research and development project called "DRYAD: Financing Sustainable community forest enterprises in Cameroon" executed by the World Agroforestry Centre between June 2015 to June 2020 (World Agroforestry Centre, 2015). Data used was collected from 31 communities between January 2017 and June 2018 from five regions of Cameroon; Centre (16), South (2), Littoral (3), East (6), and Southwest regions (4) of Cameroon were studied (see Fig. 2 below). These regions account for more than 85% of CFs and CFEs in Cameroon, and only CFs with a valid simple management plan (SMP) were considered; this was done to ensure only legally authorized communities make up the sample.

Secondary data sources such as annual enterprise activity reports, minutes of CFE meetings, contracts with partners, and other legal documents (waybills, annual exploitation permits, and environmental impact notice) were collected and used during field visits to CFEs, giving more insights into past operations of the CFE, income generated, source of income and use of income. CFE books equally indicated the number of jobs created through CFE activities, salaries paid to community members, and engagement of CFE with other partners. The minutes of meetings equally showed how often CFE management meets with community members to decide on CFE management, information sharing between CFE, and community engagement in key decisions.

3.4. Focus group discussions (FGDs)

To capture differences in the perception of community capacity by practitioners and communities, this study was carried out in two parts. Firstly, a sample of 10 CFE development practitioners based on their experience in practice and research on CFE were purposefully selected by the research team and requested to take an online survey. These development practitioners scored the community capacity indicators and domains based on their perception of where CFEs in Cameroon need significant capacity building or where they think CFEs have the most significant capacity gaps. Secondly, the survey was used to evaluate the community capacity of 31 CFEs from a total of 41 CFEs with a revised SMP (GFW, 2019). Thus, the sample represents 75% of CFES. Lovell et al. (2015) used an individual approach to evaluate community capacity; however, they suggest that such an approach can create significant differences due to selected individuals and proposed a collective approach. FGDs were used as a tool for collective data collection and validation. To ensure that responses capture the views of all social groups within the community, FGDs were organized with a representation of men, women, and youths, and in some communities where necessary with minority tribes such as the Baka people in the East region and the Bedjang people in the Centre (Ngoume village) was used. Focus group participants were asked to score 48 community capacity indicators organised into 10 community capacity domains. In all the communities visited, FGDs were first conducted with CFE managers and the CF management committee members. Separate focus groups were held with women and youths from the community. In villages with minority groups, a fourth focus group discussion was held with the members of the minority group to understand their implication in community affairs and the enterprise (see Table 2). Focus group discussions with CF and CFE management were made up of 9 members, youths and women averaged 7 per focus group, the two focus groups with minority population were made up of 09 individuals. In total, 731 persons participated in the 92 FGDs. At the end of each FGDs, the scores were summarised to participants for validation.

A scoring sheet with a 5-point Likert indicators; 1 = No capacity, 2 = little/some capacity 3 = neutral, 4 = good knowledge (Capacity), and 5 = excellent mastery (Capacity) was used. The scoring of indicators was based on the community's perception of their capacity. This approach was employed because Lovell et al. (2015) suggest that non-development practitioners' perceptions of community capacity are more viable and comparable between locations. These scores were explained to focus group members, and after discussions on each indicator, FGDs participants were made to understand their expected capacity levels for each indicator; they used this as the benchmark to score their current capacity level. In most of the cases, FGDs came to a consensus on a score based on their current practice. In some FGDs, all the members could not agree; elements of proof (record, minutes) and majority point of view were considered as justification to allocate a score of the majority.

Transect walks: To capture natural resource availability and the capacity of CFE members to sustainably manage these resources, a team made up of the forest management officer, four youths with good knowledge of the forest, and the community and researchers laid transects within the forest. Transects were laid out in the forest to collect information about forest-related activities and the nature of vegetation in the forest. Two transects (one along with areas with low activity and another in areas with considerable activity) were

Table 1
Test of internal consistency for community capacity domains.

Community capacity domains	Indicators	Cronbach's alpha (α)
Resource mobilization capacity	2	0.795
Sense of community	3	0.852
Shared vision	2	0.989
Leadership	3	0.837
Participation	3	0.823
Financial management	5	0.842
Skills and knowledge	7	0.842
Partnerships and social networks	6	0.844
Infrastructure	10	0.825
Natural resource availability	5	0.916
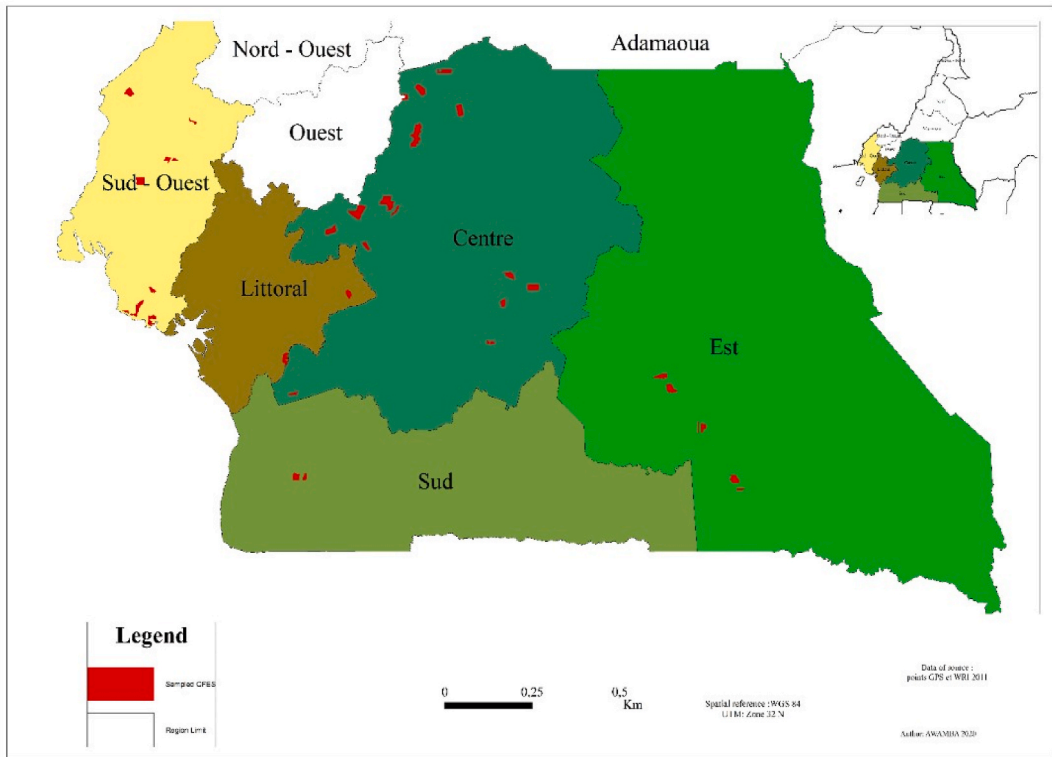
Fig. 2. Sampled CFEs in five regions of Cameroon.

Table 2
Constitution of FGDs.

	Data collection instrument	Number focus groups discussions	The average number of participants per FGD	Total number of participants
Focus group discussions	CF management committee and CFE manager	31	9	279
	Youths	31	7	217
	Women	31	7	217
	Minority groups (Bedjangs and Baka)	2	9	18
Total		**92**		**731**

Fig. 3. Layout of plots along the transects for verification (Note: Lengths indicated are not to scale and are indicative only).

laid, a total of seven plots per CFEs with each plot covering 625 m^2 were sampled. The main aim of the transects was to collect data on vegetation status the intensity of acti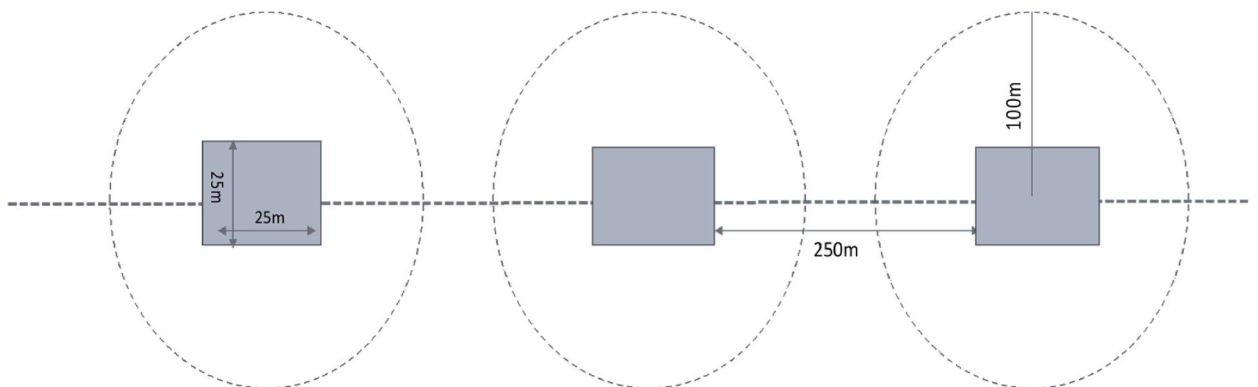vities and identify the types, abundance, and uses of the tree species recorded in the plots across the transects. In both cases, the plots were separated from each other by at least 250 m, as shown in Fig. 3. In each plot, information was collected about trees species, their diameter at breast height, and main uses. In addition, GPS points and elevation data were collected for each of the plots (see Fig. 3 below).

The transects permitted the team to capture the availability of timber species, NTFPs, and the rate of exploitation by comparing densities in areas of high activity and low activity. During the walks, the team discussed exploitation techniques used, how sustainable they were, and scoring was done on their ability to exploit these resources sustainably. For agricultural activities, recording of land-uses in high-activity areas permitted to know the major crops cultivated, their productivity, and possible effects on the environment were discussed. Assessment of the capacity of the CFE to engage in aquaculture was mainly by looking at streams that do not dry off during the year.

3.5. Data analysis

In the first stage of the analysis, the relative importance index (RII) was adopted to rank practitioners' perception on capacity domains they think CFEs in Cameroon are poor in. The RII was chosen because of its applicational simplicity to Likert-scale studies and its wide use in the scholarly literature (Kazaz et al., 2012; Kaming et al., 1997; Opeyemi et al., 2015). Mean, standard deviation (SD), % of the variance, and factor loadings were used to capture the level of community capacity for each indicator and dimension; Table 3 below provides a summary of objectives and methods of analysis employed to attain the objectives.

Although community capacity varies from one dimension to another, these dimensions are related. To understand the reciprocal relationship between the dimensions, the Pearson correlation test was used. This permits us to know the strength of the relationship, the sign, and the level of significance; this is indicated by the coefficient of correlation which varies between -1 and $+1$, with values closer to $+1$ being strongly positively correlated and values closer to -1 being strongly negatively correlated (Mukaka, 2012).

4. Results

4.1. .1: Rating of community capacity gaps by development practitioners

To understand development practitioners' perceptions of capacity domains for which communities have the highest gaps in their ability to sustainably generate profits from forest resources for community development, they were asked to rank capacity domains based on development practitioners' perceptions of domains they think communities have low capacity, which, if enhanced, will improve socio-economic and environmental development of CFEs. The relative importance index and the rankings of community capacity by development practitioners are presented in Table 4. Resource mobilization capacity (0.910) is ranked first; thus, development practitioners perceive that communities seriously lack this capacity. This capacity domain captures the ability of communities to generate revenue from resources in their communities through trade. The ability of communities to create and maintain partnerships and social networks for enterprise development was ranked as the second community capacity domain with significant gaps; this is because their ability to partner with both public, and private sector firms, and civil society organizations determine the type of support they receive and thus their growth. These two findings also correlate with the findings of Duguma et al. (2018), who ranked benefit generation and partnerships as the first and second most important enablers of community forest success.

The shared vision was classified as the third domain where communities are lacking behind; an immediate outcome of this incoherence is low participation, which is ranked fourth. This, therefore, underscores the fact that aligning CFE's vision to community interests is key in enhancing participation. Proper leadership is required to have this in place; development practitioners think the leadership of most communities need proper support. Financial management capacity, skills, knowledge of community members, and natural resource availability were classified as sixth, seventh, and eighth positions, respectively. Development practitioners think the community capacity gap for a sense of community and infrastructure is not high and thus is ranked eighth and ninth, respectively. To adequately gauge how true these expert perceptions are, communities used the same indicators and domains to score their capacity. In the following section, empirical evidence of community capacity evaluation by communities is presented.

Table 3
Summary of analysis methods employed.

The key research objective of the analysis	Method of analysis	Source of data
Expert perception of key capacity gaps	Relative importance index (RII)	Expert ranking of community capacity domains that CFEs need significant support
Empirical evidence of community capacity gaps in Cameroon	Mean, standard deviation (SD), % of variance and factor loadings, KMO and Bartlett's test	Community scoring of capacity indicators and domains through FGDs
Establish a relationship between different community capacity domains	Correlation analysis	Dimension reduction through factor analysis of data from community scoring.

Table 4

Expert ranking of community capacity domains.

Community capacity domains	Relative importance index	Rank
Resource mobilisation capacity	0.911	1
Partnerships and social networks	0.819	2
Shared vision	0.778	3
Participation	0.736	4
Leadership	0.708	5
Financial management	0.681	6
Skills and knowledge	0.653	7
Sense of community	0.625	8
Natural resource availability	0.625	8
Infrastructure	0.542	9

4.2. Community evaluation of community capacity

Table 5 gives an overview of the different domains of community capacity. Results show that the factor loadings for all indicators are greater than 0.7. Scale percentage of variance above 70% and KMO and Bartlett's test values are all above 0.7; thus, the indicators adequately explain the domains and thus are adequate for factor analysis. The mean (+-SD) values show the scores for the different capacity domains; they reflect the mean for all indicators and in each domain, they equally indicate the empirical situation of CFEs for each domain (Appendix 1 shows details for indicators). The results suggest that CFEs scored higher on organisational capacity out of the six domains, except for the sense of community, which had a mean score of 2.84. The scores given for community asset mobilisation are generally low, except for natural resource availability.

4.2.1. Organizational capacity

Community perception of organisational capacity is captured by several key indicators; a sense of community reflects the transparency of the management team in making the books readily accessible to members is very low within the communities averaging 1.96, suggesting weaknesses in governance by the leadership. Community engagement indecision-making and regularity in holding community meetings come next with average scores of 2.9 and 3.64, respectively. Having a shared vision is captured through CFE's capacity to pass their dream and mission to community members and have their buy-in. In most cases, community members showed proof of a good understanding of the vision of the enterprise. This is reflected by the high scores of 4.22 and 4.3, respectively, attributed to the presence of clear rules and regulations coupled with a clear organisational chart.

The capacity of community members to participate in community activities had an average score of 4.07. Communities rated their participation in the election of the management team at 4.16 and rated the participation of women, youths, and minority groups in the leadership at 3.5 on a scale of 5, and community participation in decision-making at 4.48. The average score for resource mobilization in this sample is 2.51; in most cases, communities have spent years without any activity due to their incapacity to negotiate and subcontract timber exploitation to partners. Only 06 CFEs showed proof of constant sales records and business transactions with a good mastery of partners and funding sources; these CFEs have been in constant activity with income and expenditure statements. The average ratings for the availability of resources that could be developed into products for enterprise development were found to be high 4.08, and most of the NTFPs resources can be exploited sustainably without negative impact on the environment with easy access by women, youths, and minority groups.

4.2.2. Human capital (individual capacity of members)

Communities' rating of leadership averaged 3.94, with leaders scoring high on demonstrating some level of motivation to lead the group (4.16) and a low rating of the leadership team associated with not having the experience to meet targeted production and

Table 5

Results of community capacity evaluation.

Domain	Mean scale (+-SD)	items factor loading	scale % of the variance	KMO and Bartlett's test
Organisational capacity level				
Sense of community	2.84 (1.34)	0.7–.942	73.58	0.74
Shared vision	4.29 (1.15)	0.84	70.56	0.71
Participation	4.07 (1.21)	.75–.88	70.467	0.85
Resource mobilization	2.51 (1.34)	0.852	72.52	0.80
Natural resource availability	4.08 (1.16)	.74–.90	63.42	0.792
Human capital level (individual capacity of members)				
Skills and knowledge	1.58 (1.18)	.76–.82	80.425	0.82
Financial management	3.19 (1.59)	.72–.90	76.73	0.72
Leadership	3.94 (1.29)	.74–.849	78.157	0.87
Social network level				
Infrastructure	1.38 (.722)	.786–.948	78.98	0.86
Partnerships and social networks	1.33 (.55)	.75–.94	75.73	0.89

revenue objectives (3.64). This highlights that although leaders have the right motivation and reputation for meeting community vision, they do not have the required experience to produce goods and services and make profits for community development. Most of these leaders have been engaged in sub-contracting timber but lack the same experience in other community businesses such as self-production and marketing of timber, Non- Timber Forest products, agriculture, or other businesses.

The capacity of CFEs in managing finances requires a clear recording and filing of all transactions; the capacity to keep income and expenditure statements received the lowest score of 2.93. This is because communities do transactions; however, they do not keep records of the transactions such as the amount spent, the amount generated, and how income was spent, thus making it difficult for management to be accountable. Most of the communities did not have outstanding debts or loans, thus the score of 3.97; however, most of these communities did not have bank accounts with a standard bank; in most cases, they had accounts in micro-finance/cooperatives or did not have an account at all. To adequately generate profits for development from available resources, resource mobilization capacity is critical.

For community members to adequately develop CFEs as SEs, they need a basket of skills and knowledge. Table 4 illustrates that community members have skills in agriculture; however, these skills are for subsistence agriculture; when it comes to large-scale agriculture, community members still require additional training. Communities were especially poor in business management (1.15), marketing (1.29), and financial management (1.06); very few community members have skills in these topics.

4.2.3. Social networking capacity

The mean score for partnerships and social networking is low (1.48); this is reflected through CFE's capacity to collaborate with research and educational organisations (1.4), non-governmental organisations (NGOs) (1.48), and ministries (1.67). Research and educational institutions and NGOs have been working with communities to help them create the community forest and develop their simple management plans and annual exploitation permits. Other NGOs and partners have gone further to train communities on sustainable forest management practices. Ministries partnered with these communities to enforce the law and other regulations, including providing advice to communities. However, most of these partnerships did not enhance the entrepreneurial dimension of these communities. Partnerships with other community forests are often informal for information sharing.

Communities with a mix of different aspects of infrastructure set the basis for community capacity development in other aspects. The average rating for this domain is extremely low, averaging 1.38. This underscores the fact that these communities are in areas where there is a significant infrastructural gap. Most of the schools in these communities lack teachers, didactic materials, or even classrooms; this makes it difficult for students to learn, thus the high rate of rural-urban migration of youths. Most of these villages do not have hospitals; they have clinics with very few equipment, drugs, and health personnel. The road network within these communities are poor; most of them are not motorable during the rainy season.

Table 6
Correlation between domains of community capacity.

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
The individual capacity of members (Human capital)	(1) Financial management capacity	1.000									
	(2) strategic leadership capacity	0.363*	1.000								
		(0.045)									
	(3) Skills and knowledge	-0.194	-0.045	1.000							
		(0.295)	(0.811)								
Organizational Capacity	(4) Sense of community	0.779*	0.287	-0.076	1.000						
		(0.000)	(0.117)	(0.683)							
	(5) Participation	0.313	0.714*	0.023	0.196	1.000					
		(0.087)	(0.000)	(0.904)	(0.291)						
	(6) Shared vision	0.104	0.582*	0.000	0.066	0.533*	1.000				
		(0.578)	(0.001)	(0.999)	(0.722)	(0.002)					
	(7) Resource mobilization capacity	0.700*	0.452*	-0.207	0.524*	0.372*	0.201	1.000			
		(0.000)	(0.011)	(0.264)	(0.002)	(0.039)	(0.278)				
	(8) Natural resource availability	0.208	0.722*	-0.241	-0.003	0.751*	0.664*	0.399*	1.000		
		(0.261)	(0.000)	(0.192)	(0.988)	(0.000)	(0.000)	(0.026)			
Social networking capacity	(9) infrastructure capacity	0.023	-0.247	0.161	0.032	-0.249	-0.310	-0.097	-0.294	1.000	
		(0.904)	(0.181)	(0.386)	(0.865)	(0.178)	(0.090)	(0.602)	(0.108)		
	(10) Partnerships and social networking	0.064	-0.003	0.536*	0.083	0.161	0.297	0.023	0.076	-0.179	1.000
		(0.731)	(0.987)	(0.002)	(0.656)	(0.386)	(0.104)	(0.900)	(0.686)	(0.336)	
	* p<0.05, parenthesis represent the value of p										

4.3. Correlation between domains of community capacity

To strategically develop community capacity, it is important to know which community capacity domains can have positive spillover effects on others if developed. The correlation analysis (Table 6) shows a strong and positive correlation between skills and knowledge with partnerships; this relationship is statistically significant at a 5% level. The correlation analysis equally shows a positive but weak relationship between financial management and leadership; this is true because community members will trust leaders who keep good records of funds, manage funds for community interest and enhance achievements of the community vision. There is equally a statistically significant relationship between financial management and resource mobilization; this is because when the community keeps clear financial transactions and good management of funds, it is enough to prove to partners to engage with the community for income-generating activities.

The participation of community members also depends on the type of leadership; the correlation table shows a very strong positive correlation between participation and leadership, which is statistically significant at a 1% level. Thus, community members participate more when the leader is reputable, elected by community members and when the books are open to all community members. Community members equally participate more when they share the vision of the group, thus, the positive correlation between shared vision and participation, this relationship is statistically significant at 1% level. The participation of community members also enhances the management of natural resources; the correlation matrix shows a positive and strong correlation between participation and natural resources; this is statistically significant at a 1% level. When community members participate, they can better monitor the forest resources to prevent encroachment and work together for sustainable exploitation of resources.

The leadership of communities and associated enterprises have a significant effect on how people see the community. The correlation analysis shows a strong positive correlation between leadership and shared vision; a good leader should be able to make the vision of the group known and shared by all members. This will enhance community engagement and support for group activities. Leadership equally correlates with resource mobilisation, the ability of leaders to seek innovative ways of raising money to meet the social goals of the group is important in ensuring adequate resource mobilisation. The leadership of a group equally affects the natural resource; this study shows a positive and strong relationship between leadership and natural resources; this relationship is statistically significant at a 1% level. Thus, good leadership enhances sustainable management of the resources by engaging the group in sustainable management practices, ensuring partners respect sustainable forest management and monitoring of forest resources.

There is equally a positive correlation between a sense of community and resource mobilisation; when community members share the same vision, with a clear organisational structure, they can better attract investors and donors or organise themselves to undertake income-generating activities. There is equally a positive butweak correlation between resource mobilisation and availability of natural resources; this is because resource mobilisation from these communities comes from the resources they have in their forest; thus, for communities to continuously mobilize resources, they must sustainably manage their resources. Some communities are taking measures such as tree planting to reconstitute their forest with high timber tree species. The correlation analysis equally underscores a strong correlation between infrastructure and the level of education of community members, communities with many schools, and teachers benefit from educational facilities. There is equally a weak positive and significant relationship between infrastructure and partnerships; this is because these communities are not very accessible and lack basic infrastructure, thus making it difficult for the community to engage with partners and other social networks.

4.4. Discussion

One of the key contributions of this paper is the analysis of community capacity from the perspective of practitioners and community members. Studies to date have dwelled on practitioners' perspectives of community capacity. Expert opinion of the most important community capacity domains for CFE development ranked resource mobilisation capacity, capacity for partnerships and networking, shared vision, participation, and leadership as the main capacity domains communities lack most. In contrast, the evaluation by communities ranked infrastructure, social networking, skills and knowledge of members, and resource mobilisation capacity as the capacity domains with the largest gaps. These results underscore the fact that the technical support CFEs received reflects expert perceptions of community capacity gaps and not the community's perceptions. However, communities and development practitioners both agree that communities need significant support in partnerships, networking, and resource mobilisation. This finding corroborates Hall et al. (2003), who highlight that the lack of partnerships that develop and attract qualified staff with skills to help organisations meet their mission is a major challenge. The low scores by community members for asset mobilisation capacity are also related to the low skills and knowledge of community members., highlighting that community entrepreneurship capacity depends on the individual attributes of community members (Stam, 2010; Tamásy, 2006). CFE initiatives in the USA and Europe are succeeding because they are situated in communities where education, years in the labour force, work record, and occupation of employees and community members contribute to the success (Oliver and Shapiro 1995).

The asset endowment of a community in terms of human resources, physical resources, and social capital are key elements of community capacity that have not been focused upon in CFE literature in Sub-Saharan Africa. Some communities have seen community engagement drop due to community perceptions of poor management and being side-lined from management activities, leading to a loss of a sense of community, and the community forest is seen as the "business" of a small group of individuals. The low participation of women, youths, and minority groups in leadership is explained by both context-specific, traditional and cultural factors, which CFEs have to overcome in order to be effective in engaging different members of their community.

One of the major challenges identified by Foster and Mathie (2001) is a community culture that does not favour entrepreneurship; the culture of the community should value innovation, allow change and risk-taking. Distance from markets and services emerged as a

major challenge faced by rural communities, which are remote with poor road networks and thus cannot attract a significant supply of services such as high-speed internet, industry, and processing companies, making them unattractive for investors. Minang et al. (2019) underscore that although community partnerships are generally low, partnerships aimed at enhancing knowledge generation and sharing can catalyze innovation. To unlock innovations and promote local asset mobilisation by CFEs, Minang et al. (2019) propose inter-CFE and private sector partnerships and collaboration, increased capacity building, capital investment, and incentive mechanisms (financial and non-financial).

A key contribution of this paper is the employment of three levels of analysis, building on existing literature that uses one level, organisational capacity (Foundjem-tita et al., 2018; Duguma et al. (2018). This paper defines the community as a system with individuals whose capacities are harnessed within an organization for a common good while leveraging social networks. Whilst organisational capacity gaps highlighted in this paper corroborate with existing research; by showing that to improve community capacity, individual capacity and networking capacity of a community should also be considered and prioritised. This finding is supported by the significant relationship found between individual capacity domains, such as financial management, leadership capacity, and organisational capacity domains, such as sense of community, participation, and natural resource abundance. Social networking also correlates with the skills and knowledge of community members. A large part of the discussions in this paper are based on community evaluation of their capacity; this is to tie with the observation of Lovell et al. (2015), who underscored that community evaluation is always better.

5. Conclusion and policy implications

Over the past two decades, governments, development partners, and NGOs have invested a significant amount of money as part of processes of improving forest sustainability, decentralisation, and empowerment process of forest-dependent communities. However, capacity gaps have been reported in the literature as one of the major setbacks to these efforts. Contrary to papers that have reported capacity gaps on specific domains, this paper uses a broader systems approach to conceptualise community capacity on three levels; individual community members, organizational (i.e., community forest enterprises (CFE), and social networks. This permits a better view of community capacity gaps at different levels and goes further to capture gaps perceived by development actors and practitioners in CFE development and the communities themselves. This approach permits a holistic evaluation of community capacity from different perspectives and paints a better picture of the real situation. The findings of this paper thus provide directions for civil society organizations, NGOs, and individuals active in CFE development by highlighting the key domains of community capacity required to improve the socio-economic and environmental aspects of CFEs; underlines the capacity domains where CFEs are generally weak and identifies the domains of community capacity which, when improved can have a positive effect on other domains.

The results indicate that both development practitioners and communities agree that communities are weak in resource mobilisation, partnerships, and networks. However, the community evaluation indicates major gaps in infrastructure, skills, knowledge of members, and a sense of community. Communities rated natural resource availability, shared vision, and sense of community highly. The leadership capacity of community leaders was judged by both development practitioners and communities to be lacking. Both perspectives indicate that capacity gaps were higher at individual and social network levels, except for the domains of sense of community and resource mobilisation, where organizational capacity was scored higher.

The implications of this study are multiple (i) the conceptualisation of community capacity should not be limited to the level of the organisation (i.e., the CFE level) but should be seen as a system of 3 levels and different domains that are interrelated; thus, a systems perspective is required. With capacity gaps found at all the different levels, any process of capacity development should include multiple stakeholders. For example, infrastructure development, especially roads, hospitals, and schools, are key activities undertaken by the government, which require lobbying and networking by communities. Individual capacities were strongly positively correlated with different organisational capacity domains. Thus, a key option for enhancing organisational and community capacity is to enhance the individual capacities of members of the community as a starting point and then enhance networking and partnerships, which can lead further improve the skills and knowledge of the community. By doing so, this solves the problem currently prevailing in most communities where only a few community members have sufficient capacities to run community affairs. The implications for CFEs in Cameroon are to prioritise developing individual capacities and leveraging these capacities to further develop organisational capacity and networking capacities. These processes take time; evidence indicates that desired outcomes are not achieved after a few training sessions; but are the result of a process supported by the government, civil society organizations, international organisations, and the communities themselves.

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Author statement

Declaration of competing interest

The authors declare that they have no competing interests.

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Appendix 1

Domains and indicators	Comment
Resource mobilization	
CFE shows evidence of previous management activities for the past five years	This captures the ability of the community to mobilize natural resources from the community and trade for revenue generation. CFEs with proof of revenue generation from CF resources have higher resource mobilization capacity
CF shows prove of business transactions and ongoing ones, sales records	
Sense of community	
CFE shows signs of holding meetings as specified in internal rules and regulations	This captures how the CFE engages with community members and how they engage in CFE activities, how individual views are captured in CFE activities
Leadership declare books are open to anyone all the time (transparency)	
Community engagement in decision making	
Shared vision	
CFE has well written article of associations, internal rules and organization, specification of functions	Having a shared vision between the CFEs, stakeholders and community members with clear setup to meet this vision is captured
CFE has an organizational chart/structure (different position e.g. president, Secretary, treasurer etc)	
Leadership	
Leadership demonstrates some level of motivation to be part of the process and to lead the group	It captures the motivation, experience and reputation of leadership team in meeting objectives
Leadership team has the right experience to meet targeted production and revenue objectives specified	
Reputation of the leadership team is ok i.e. leadership team does not show any claims of corruption	
Participation	
CFE leaders have been elected as by community members as specified in the internal rules and regulations of the CFE	Captures the Capacity of the CFEs to enhance participation of different social groups in leadership, CFE activities and decision making
The leadership team is made up of men, women, minority groups youths	
CFE demonstrates decision making is open and transparent	
Financial management	
CFE shows income and expenditure statements	These indicators capture the ability of the CFE to record and keep clear financial statements and ability to manage funds correctly
CFE has no debts or outstanding loans, money owed to members or any other partner.	
CFE has a bank account, and the bank is a credible institution based on assessment of different banking and micro financial institutions	
CFE shows prove of banks statements and cash flow, (this may also be payment receipts, deposits or withdrawals slips etc)	
CFE shows prove of available cash resources no matter how small	
Skills and knowledge	
Forest management	These indicators capture the proportion of trained individuals within the community across a number of fields relevant to CFE development.
Marketing	
Business planning and management	
Financial management	
Agriculture	
Health (number of health workers)	
Education (number of teachers)	
Partnerships and social networks	
Research and Educational organizations	These indicators capture the different partners CFEs are working with, the type of partnerships
Donor agencies	
Non-Governmental organizations (NGOs)	
Ministries	
Other Community Forests neighbouring the CF	
Community development groups	
Infrastructure	

(*continued*)

Domains and indicators	Comment
Offices	These indicators look at the basic infrastructure within the community that the CFE
Storage rooms	can leverage on to improve and develop
Roads (km)	
Health facilities – Clinics	
Health facilities – Hospitals	
Schools	
Kindergarten	
Guesthouses	
Tents and camps	
Restaurants/hotels	
Shops	
Natural resource availability	
Transect walk shows evidence of resource	These indicators capture the natural resources in the community forest. The choice of
Trend analysis reveal that production from one year to another is	the resource to develop was based on the enterprise type the CFE is interested in.
Trend analysis demonstrates resource is	
Resource exploitation check shows women youths and minority have large, moderate or limited access to the resource	
Resource check demonstrates that resources can be harvested with positive, neutral, or negative impact to the environment,	

Appendix 2

Domain and indicators	Mean scale (+-SD)	indicators factor loading	scale % of variance	Cronbach's alpha	KMO and Bartlett's test
Resource mobilization	**2.51(1.34)**	0.852	72.52	0.695	0.6
CFE shows evidence of previous management activities for the past five years	2.64 (1.19)				
CFE shows prove of business transactions and ongoing ones, sales records	2.38 (1.4)				
Sense of community	**2.84(1.34)**	0.5–.942	73.58	0.752	0.74
CFE shows signs of holding meetings as specified in internal rules and regulations	3.64 (1.3)				
Leadership declare books are open to anyone all the time (transparency)	1.96 (.91)				
community engagement in decision making	2.9 (1.8)				
Shared vision	4.29 (1.15)	0.84	70.56	0.689	0.6
CFE has well written article of associations, internal rules and organization, specification of functions	4.22 (1.11)				
CFE has an organizational chart/structure (different position e.g. president, Secretary, treasurer etc)	4.3 (1.19)				
Leadership	3.94 (1.29)	.64–.749	68.157	0.737	0.671
Leadership demonstrates some level of motivation to be part of the process and to lead the group	4.16 (1.2)				
Leadership team has the right experience to meet targeted production and revenue objectives specified	3.64 (1.4)				
Reputation of the leadership team is ok i.e. leadership team does not show any claims of corruption	4.03 (1.25)				
Participation	4.07 (1.21)	.75–.88	60.467	0.623	0.65
CFE leaders have been elected as by community members as specified in the internal rules and regulations of the CFE	4.16 (1.12)				
The leadership team is made up of men, women, minority groups youths	3.5 (1.4)				
CFE demonstrates decision making is open and transparent	4.48 (1.02)				
Financial management	**3.19(1.59)**	**.72–.90**	**76.73**	**0.742**	**0.727**
CFE shows income and expenditure statements	2.93 (1.5)				
CFE has no debts or outstanding loans, money owed to members or any other partner.	3.97 (1.44)				
CFE has a bank account and the bank is a credible institution based on ICRAF assessment of different banking and micro financial institutions	3.25 (1.69)				
CFE shows prove of banks statements and cash flow, (this may also be payment receipts, deposits or withdrawals slips etc)	2.67 (1.64)				
CFE shows prove of available cash resources no matter how small	3.12 (1.70)				
Skills and knowledge	**1.58(1.18)**	**.76–.82**	**80.425**	**0.642**	**0.686**
Forest management	1.61 (1.3)				
Marketing	1.29 (1)				

(*continued*)

Domain and indicators	Mean scale (+-SD)	indicators factor loading	scale % of variance	Cronbach's alpha	KMO and Bartlett's test
Business planning and management	1.15 (1.2)				
Financial management	1.06 (.35)				
Agriculture	2.45 (1.74)				
Health (number of health workers)	1.4 (1.2)				
Education (number of teachers)	1.77)1.4)				
Partnerships and social networks	**1.33(.55)**	**.65–.94**	**75.73**	**0.644**	**0.69**
Research and Educational organizations	1.4 (.62)				
Donor agencies	1.09 (.39)				
Non-Governmental organizations (NGOs)	1.48 (.56)				
Ministries	1.67 (.79)				
Other Community Forests neighbouring the CF	1.16 (.45)				
Community development groups	1.16 (.52)				
Infrastructure	**1.38(.722)**	**.686–.948**	**78.98**	**0.625**	**0.56**
Offices	1.41 (0.62)				
Storage rooms	1.09 (.39)				
Roads (km)	1.48 (.56)				
Health facilities – Clinics	1.67 (.76)				
Health facilities – Hospitals	1.16 (.45)				
Schools	1.16 (.52)				
Kindergarten	1.25 (.77)				
Guesthouses	1.22 (.08)				
Tents and camps	2.41 (1.5)				
Restaurants/hotels	1.16 (.73)				
Shops	1.12 (.71)				
Natural resource availability	**4.08(1.16)**	**.64–.90**	**63.42**	**0.816**	**0.792**
Transect walk shows evidence of resource	4.48 (1.0)				
Trend analysis reveal that production from one year to another is	4.22 (1.11)				
Trend analysis demonstrates resource is	3.90 (1.13)				
Resource exploitation check shows women youths and minority have: large, moderate or limited access to the resource	4.41 (1.05)				
Resource check demonstrates that resources can be harvested with: positive, neutral, or negative impact to the environment,	3.38 (1.4)				

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