



An Assessment of Institutional Capacity for Integrated Landscape Management in Eastern Cameroon

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Abstract

Landscape approaches have become prominent in efforts to address issues of conservation and development through bringing together different actors and sectors, to reconcile diverse land uses, and promote synergies. Some have suggested that integrated landscape management approaches are consistent with the goals of REDD+ and offer a strategy to address multiple goals of climate change mitigation, biodiversity conservation, maintenance of ecosystem services, and socio-economic development. Institutional or governance arrangements have been shown to be a critical component in influencing outcomes in landscapes. Using diverse methodologies, this study investigated the capacity of institutions to support the planning, implementation, and resource mobilization needed to integrate climate change mitigation, conservation, and livelihood goals in a forest mosaic landscape in East Cameroon. Results showed that diverse institutions are present in the landscape, including institutions of relevant government agencies, local government, local non-government, the private sector, and hybrid institutions of conservation, development and research institutions. However, the overall institutional capacity for integrated landscape planning and management in the study area is limited, although some institutions exhibit increased capacity in some areas over others. Multiple strategies can be employed to build the necessary human, financial, and leadership capacity, and facilitate the institutional planning and coordination that is foundational to multi-stakeholder landscape governance. Given the complexity of integrating climate change mitigation, conservation and livelihood goals in a landscape, building such institutional capacity is a long term endeavour that requires sustained effort and ongoing financial, technical and human resource support.

Keywords Africa · Cameroon · Landscape approach · Institutions · Climate change · REDD+

Introduction

Landscape approaches have become prominent in the attempt to address issues of conservation and development in complex social-ecological systems (Kusters et al. 2018, this issue; Sayer et al. 2013). Landscapes are defined by the natural features and ecology of an area, as well as the local context, including cultural and historical land use patterns (Bailey and Buck 2016; Minang et al. 2015). They therefore consist of multiple functions and dynamic physical, biological and social rules (Sayer et al. 2013). Bastos Lima et al. (2017) summarize landscape approaches as attempts to

bring together distinct and often conflictive actors, sectors, and objectives, to reconcile diverse land uses, to replace “silo” thinking with a more integrated perspective, to address institutional conflict and promote synergies, and to negotiate trade offs between conservation and development. With a landscape approach, efforts are made to seek to integrate policy and practice for multiple competing land uses through the implementation of adaptive and integrated management systems (Reed et al. 2016). They are increasingly being used to address global challenges, such as biodiversity loss, poverty alleviation and climate change. Some have suggested that such integrated landscape management approaches offer a strategy to create synergies for agricultural production, climate adaptation and mitigation (Scherr et al. 2012).

It has been suggested that the growing emphasis on integrated landscape approaches has had an influence on REDD+ (Nielsen 2016; Rodriguez-Ward et al. 2018, this issue). Reducing Emissions from Deforestation and Forest

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Degradation (REDD+) is an effort to implement policies and measures and assign a financial value to the carbon stored in forests, offering incentives and building capacity for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development (UN-REDD Programme 2017; United Nations Development Program (UNDP) 2016; United Nations Framework Convention on Climate Change (UNFCCC) 2015). Some see REDD+ as presenting opportunities to achieve multiple goals, including climate change mitigation, biodiversity conservation, maintenance of ecosystem services, and socio-economic development (Gardner et al. 2012; Gizachew et al. 2017; Thompson et al. 2011). Such REDD+ goals appear consistent with the landscape discourse which suggests that when agriculture and forest development are linked together as part of an integrated landscape livelihood strategy, overall deforestation and greenhouse gas emissions can be reduced more effectively and sustainably (Scherr et al. 2012). Such an approach would also address food security, adaptation, livelihood, and other environmental objectives.

While the integrated landscape approach discourse has received a large degree of recognition in global discussions, it has not been institutionalized into the negotiation texts of the UNFCCC related to REDD+ (Nielsen 2016). Furthermore, while a landscape approach to REDD+ has the potential to contribute to multiple goals, accomplishing such goals is not without its challenges (Bastos Lima et al. 2017; Gizachew et al. 2017; Rodriguez-Ward et al. 2018; Turnhout et al. 2017). Some suggest that achieving the dual objectives of climate adaptation and mitigation in a way that also improves livelihoods and conserves biodiversity will require transformative changes in current policies, institutional arrangements, and funding mechanisms to foster broad-scale adoption of climate-smart approaches in forest mosaic landscapes (Harvey et al. 2014). McCall (2016) cautions that while a landscape approach to REDD+ may be important for ecological and social analysis, it marginalizes legitimate land users' rights. Furthermore, REDD+ governance that contributes to effective holistic management should shift the power and decision-making away from global and national policy planners to local actors.

In Central Africa, the rural landscape mosaic is created by smallholders' agricultural practices based on the practice of shifting cultivation, sometimes facilitated by wood extraction (Jalloh et al. 2012). Ranging from subsistence to fully market-oriented production, shifting cultivation consists of the periodic spatial shift of cultivation to newly cleared forest, or fallow land that is sufficiently fertile to support crop production. This creates a mosaic of land use units among which are farms, fallows of various ages, and secondary and old growth forest (Robiglio et al. 2013). These forest mosaic landscapes are tightly linked social-

ecological systems intimately connected with the lives and livelihoods of local people, providing food, fuel, fiber and a range of ecosystem services (Norris et al. 2010). Since they are also rich in biodiversity, a landscape approach in such areas could provide a framework for allocating and managing land to achieve social, economic, and environmental objectives, recognizing that landscapes are characterized by a diversity of interest groups and multiple drivers of change (Endamana et al. 2010; Sayer et al. 2016; Sayer et al. 2013). Since such multi-functional landscapes also represent the areas of highest population growth and projected agricultural land increases in developing countries, single interest land-use planning is no longer possible. It needs to involve all interested parties (Minang et al. 2015).

Sayer et al. (2013) outline ten principles for a landscape approach which emphasize stakeholder involvement, multiple objectives, and adaptive management. Institutional or governance arrangements have been shown to be a critical component in influencing outcomes in landscapes (Estrada-Carmona et al. 2014; Reed et al. 2016; Sayer et al. 2015, 2017). Depending on the context, there is a continuum of weak-to-strong combinations of institutions, knowledge and enforcement capacity (Minang et al. 2015). It has been suggested that through the use of a multi-stakeholder platform that enables discussion, negotiation and joint planning among institutions, the governance of a landscape can be strengthened (Kusters et al. 2018, this issue). However, comprehensive studies on the implementation of landscape approaches and outcomes are limited (Reed et al. 2017). Apart from a landscape approach, the role of local institutions in governance of natural resources has been well documented (Agrawal 2001; Agrawal et al. 2008; Ostrom 1990, 1997; Ribot 2002). This importance has been demonstrated in the Congo Basin forest of Cameroon, where research on community forests has shown that the nature and capacity of institutional arrangements has been crucial in influencing environmental and socio-economic outcomes (Brown and Lassoie 2010; Oyono 2004a, b; Oyono and Efova 2006).

Given the synergies between the discourse on the potential positive outcomes of landscape approaches and REDD+, this research sought to investigate a component critical to success, namely institutional arrangements. Using diverse methodologies, the capacity of institutions to achieve multiple goals related to climate change mitigation, conservation and livelihood, was evaluated in a forest mosaic landscape in East Cameroon. The aim of the study was to understand if there are institutions present in this landscape that could support the planning, implementation, and resource mobilization needed to integrate climate change mitigation, conservation and livelihood goals. This aligns with other papers in this issue that emphasize the need to identify locally embedded entry points for the

implementation of integrated landscape approaches (Deans et al. 2018; Foli et al. 2018, this issue). After explaining the results from the assessment of institutional capacity, the paper discusses areas for capacity-building that could lead to improved overall outcomes in integrated landscape management.

Methods

Research Site

Research was carried out in the Boumba and Ngoko Division of East Province in the Republic of Cameroon, which has its administrative center at Yokadouma. Data was collected in the three districts of Yokadouma, Salapoumbé and Meloundou which are part of the Sangha Tri-National landscape. The Sangha Tri-National landscape (TNS), (Clay 2016; Usongo and Nzoo 2009), is one of 13 landscapes in the Congo Basin being supported by international donors, which seeks to reconcile conservation and development concerns (Endamana et al. 2010; Sayer et al. 2016; United Nations Educational Scientific and Cultural Organization (UNESCO) 2017). The TNS has been a focus of REDD+ and in Cameroon the implementation of country-level REDD+ initiatives also envisage the districts that are part of the TNS (The REDD Desk 2018). Located in the north-western Congo Basin, the TNS covers 43,936 km² and spans parts of three countries: Cameroon, Central African Republic and the Republic of Congo. The landscape includes three contiguous national parks containing diverse habitats of tropical forests, rich in biodiversity and harboring diverse populations of flora and fauna, including top predators and rare and endangered species (Endamana et al. 2010; Sayer et al. 2016; United Nations Educational Scientific and Cultural Organization (UNESCO) 2017). Outside of the national parks, the rest of the landscape in all three countries is made up of forest concessions, community hunting zones, commercial hunting concessions, mineral concessions, and agroforestry zones (Endamana et al. 2010). At the time of the research, there were eight officially established Community Forests (CF) in the Cameroon part of the TNS landscape (Devisscher et al. 2013). A CF in Cameroon is defined as a forest of approximately 5000 hectares in the non-permanent forest domain, which is managed by an agreement between a village community and the forest administration (Djeumo 2001).

The population of the entire Boumba and Ngoko Division where the research was conducted was estimated at approximately 115,000 in 2005 (Institut National de la Statistique du Cameroun 2017). The total population of the entire TNS landscape has been estimated at about 200,000, with a density of only five individuals per km² (Devisscher

et al. 2013). The economy of the entire landscape is based on the exploitation of forest resources, including the formal timber sector and the informal sectors of extraction of diamonds, bushmeat, palm wine, fish and other non-timber forest products (NTFPs). In Cameroon, agriculture production is important particularly for small-holder cocoa and subsistence crops (Usongo and Nzoo 2009). For the most part, people across the landscape live in poverty (Endamana et al. 2010; Usongo and Nzoo 2009).

Assessment of Institutional Capacity

The institutional capacity in the research site was investigated using a variety of methods. Key informants and stakeholders who were knowledgeable about the institutions present in the research site were asked to complete an Institutional Performance Scorecard (IPS) (Ecoagriculture Partners 2017; Milder et al. 2012). The IPS is designed to aid in assessing the potential of the institutional environment to foster an integrative approach to landscape planning and management. It is based on the premise that how the institutional environment for planning and management performs will be an important predictor of how the landscape performs in delivering conservation, production and livelihood benefits in the context of climate change. The IPS is one aspect of the Landscape Performance Scorecard developed by Ecoagriculture Partners (Ecoagriculture Partners 2017; Milder et al. 2012). In using this methodology, typically a list of the institutions to include in the IPS would be developed with relevant stakeholders in a workshop format. Following the individual completion of the scorecard, the data would be analyzed directly and the summary results discussed immediately by the whole group as part of the workshop (Milder et al. 2012). However, due to logistical considerations it was not possible in this research study to convene a workshop with all the stakeholders to complete and discuss the IPS results. Therefore, the approach was modified slightly for the purposes of this study as described below.

A Cameroonian research assistant, who was knowledgeable of the research area, invited key informants and stakeholders individually to identify the specific institutions that were present in the research site or known to have an influence on it. The key informants and stakeholders were invited to participate based on three criteria—their knowledge of and longevity in the landscape, and involvement in management of natural resources. These individual meetings with the research assistant continued until the identification of institutions became repetitious. The resulting list of 26 institutions was put on printed copies of the IPS, categorized into five different institutional sectors. Please note that the description of institutions in each sector was modified from that of the Landscape Performance Scorecard

developed by Ecoagriculture Partners (Ecoagriculture Partners 2017; Milder et al. 2012) to better reflect the local context. The institutional sectors were defined as:

- Public—Local branch offices of national government ministries
- Local—Local government; Districts
- Private—Private companies; forestry, mining, other
- Non-government—Civil society, local non-governmental organizations (NGOs) related to conservation or development
- Hybrid organizations—Research institutions, international conservation organizations, international development organizations, other

Each key informant was given five copies of the scorecard, one for each institutional sector and asked to score each listed institution on each of six criteria, on a scale of 1–5 (Table 1). A score of 1 represents the lowest performance (highly ineffective) and a score of 5 indicates excellent performance. Participants were asked to complete the scorecard independently and anonymously. Among the key informants who completed the IPS were representatives of government and civil society, NGOs, researchers, and community leaders. In total 29 key informants completed the IPS. The breakdown of these 29 key informants according to the different institutional categories was as follows: public (2), local (5), private (2), NGO (10), and hybrid (10). Not every participant was able to score every institution due to a perceived lack of knowledge. Also some key informants worked for or were involved with some of the institutions that were included on the scorecard and so were not able to comment objectively. Please note that this research was conducted in French.

The data from the scorecards was supplemented by insights from semi-structured qualitative interviews conducted during a different field research site visit with representatives of some of the institutions included in the IPS assessment. Due to the timing of field research and

logistical concerns, it was unfortunately not possible to conduct interviews with representatives of all institutions. Therefore, interviews were conducted mainly with the public, non-government and hybrid institutional sectors. The interviews were conducted in French and transcribed verbatim and analysed using NVivo 10 qualitative data analysis software. Similar to the six evaluation criteria in the IPS, the themes explored related to capacity for integrated landscape planning and management that could be applied to climate change mitigation initiatives. Respondents were also asked specifically about any activities related to climate change or REDD+ that they were involved in. The interview data were supplemented by a review of available institutional documents and relevant web sites in October 2017.

Results

Description of Institutions in Landscape

Institutions identified in the landscape fit all of the categories identified in the IPS (Table 2). There were four public institutions, specifically local branch offices of national government ministries, related to forests, agriculture, environment and conservation. Local government at

Table 2 Summary of institutional performance scores by institutional type

Institutional type	Mean institutional performance score	<i>N</i>
Public	2.63	4
Private	3.09	8
Local	3.67	1
Non-government	2.56	5
Hybrid organizations	2.77	8
All institutional types	2.82	26

Table 1 Description of evaluation criteria used in the Institutional Performance Scorecard

Criterion	Description
Longevity in the landscape	History of activity in the research site
Financial capacity	Reliable flow of resources available for integrated landscape planning and management
Human capacity	Technical and managerial resources available for integrated landscape planning and management
Demonstrated leadership	Capacity of organization and individuals within it to provide leadership necessary to coordinate diverse actors in pursuing landscape goals
Coordination with other organizations	The frequency and quality (effectiveness) of planning, learning, resource sharing, and managing activity with other organizations
Effectiveness/Influence	How well they combine and apply the four previous criteria (capacities, leadership, coordination) to have a positive impact on the landscape

Reference—(Ecoagriculture Partners 2017)

the District level was placed in the Local category as its mandate differs from that of the public institutions described previously. Eight national and international private natural resource companies, forestry and mining, were conducting business in the research site. Five local non-governmental organizations that were mainly concerned with issues of conservation and sustainable development were identified. Eight hybrid institutions were identified in the landscape including research institutions, conservation organizations and development organizations. These institutions did not necessarily have an office in the research site but were still intervening in various ways.

Institutional Capacity for Landscape Planning and Management

Scoring institutions on the basis of the six criteria provides an aid in assessing the potential of the institutional environment to foster an integrative approach to landscape planning and management. Overall the average score of institutional performance among the 26 identified institutions intervening in this landscape was quite low at only 2.82 (Table 2). This indicates that overall institutional capacity for integrated landscape planning and management in the study area is limited. Based on a one-way analysis of variance, a significant difference was found among the rankings of the various institutional types ($p = 0.000$). Local government (3.67) and private institutions (3.09) on average were ranked significantly higher than that of others. The institution with the highest ranking was the World Wide Fund for Nature (WWF), a hybrid institution, at 4.33. However, overall the institutional performance score for hybrid institutions is low at 2.77. It is important to note that the two hybrid institutions specifically focused on the TNS landscape were not ranked very highly; Programme d'Appui à la Conservation des Écosystèmes du Bassin du Congo (PACEBCo) (Programme d'Appui à la Conservation des Écosystèmes du Bassin du Congo 2017) at 2.40, and La Fondation pour le Tri-National de la Sangha (FTNS) (La Fondation Tri-National de la Sangha 2017) at 3.15. While the average performance score for public institutions is relatively low at 2.63, it is noteworthy that the government department that was ranked highest was Ministry of Forests and Wildlife (MINFOF) at 3.63. While NGOs play an important role in the landscape, they were ranked the lowest in terms of overall institutional performance (2.56).

Results of analysis of interviews with, and documents from, some of the institutions ranked in the IPS, provide further insight into the institutional capacity for landscape management. In the research site there appears to be a considerable attempt at coordination of activities with other organizations, particularly across the public, local, non-government and some hybrid institutions. Due to their

overarching administrative responsibility, the public institutions and local government are implicated in any activities carried out by other institutions in this area. This may simply involve providing information or administrative approval for an activity. For example, the MINFOF is directly involved in working with NGOs and local communities in getting approval for a community forest. Also, the Center for International Forestry Research (CIFOR) typically contacts local authorities to make them aware that they are going to be conducting research in a particular area.

NGOs in the area that are focused on conservation and development issues often coordinate their activities. This coordination is facilitated by having one large NGO, (ROSE, Réseau des ONGs locales du Sud-Est), which acts as an umbrella organization for a number of small NGOs who cooperate on local conservation and sustainable development issues. ROSE seems to play a key leadership role which facilitates their collaboration with hybrid institutions. Hybrid institutions often provide financial capacity to NGOs to carry out their various activities related to biodiversity conservation and sustainable development. In some cases they originally helped to establish local NGOs. They also build the capacity of all institutions related to conservation and sustainable development through convening workshops on various topics or working directly with specific institutions. For example, WWF was working with private forestry companies in the process of becoming certified in sustainable forest management (WWF Cameroon 2016). For the most part, it seems that, the various institutions work together in specific projects on an as needed basis. For example, when CIFOR was conducting research in the area they consulted with WWF and local NGOs in order to decide which communities to focus on for data collection.

A hybrid institution, like WWF, which has existed in the research site for several decades, played a key role in the establishment of the TNS landscape. In 1999, WWF helped to convene the Yaoundé summit where six heads of state from Central Africa signed the Yaoundé Declaration, a vision for conservation in the Congo Basin (Commission des Forêts d'Afrique Centrale (COMIFAC) 2017; World Wide Fund for Nature WWF 2017). This led to the development of a network of priority landscapes and the establishment of the Commission of Central African Forests (COMIFAC) which oversees the conservation and sustainable management of forests in Central Africa (Commission des Forêts d'Afrique Centrale (COMIFAC) 2017). In the research site, WWF had a leadership role in terms of facilitating activities through funding and capacity building. At the time of the research, they were hosting several workshops related to climate change and REDD+ for all the institutions in the area, including government.

Table 3 Summary of average institutional characteristic scores for each institutional type

Characteristic	Public	Private	Local	Non-government	Hybrid	Overall average
Longevity in the landscape	3.97	4.16	4.88	3.83	3.32	3.83
Financial capacity	2.51	4.09	4.20	1.74	3.21	3.06
Human capacity	1.90	4.03	3.48	2.09	2.69	2.82
Demonstrated leadership	2.48	2.37	2.96	2.38	2.30	2.40
Coordination with other organizations	2.39	1.67	2.80	2.62	2.52	2.30
Effectiveness/influence	2.54	2.20	3.72	2.66	2.55	2.53

Institutional Characteristics

An examination of the characteristic scores for each institution provides insight into the determinants of their institutional performance score (Table 3). Overall the 26 institutions identified as intervening in the landscape have been there a long time, based on the average longevity score of 3.83 out of 5. However, there is a significant difference ($p = 0.000$) in the scores for longevity in the landscape, with the hybrid institutions being there, on average, the shortest time (3.32) and the local being there the longest (4.88).

The financial capacity to be involved in integrated landscape planning and management varied among the different institutions with the local government having the highest score (4.20) and the non-government institutions being ranked lowest at 1.74. The differences among the institutional types was statistically significant ($p = 0.000$), with the exception of the local and private types. Results of the document review indicated that the effectiveness of the various NGOs is often limited by the lack of financial capacity, which has an impact on their human capacity (Tadjuidje 2010). Funding from external institutions is given for specific projects and so activities are limited by the timeline and terms of a particular donor. Without long-term funding the impact in terms of sustainable development is often limited. PACEBCo and FTNS are key financial partners in the management of the landscape (Tadjuidje et al. 2012). However, a report on the state of conservation in the TNS indicated that PACEBCo funds were sometimes not forthcoming in a timely manner (Tri-National de la Sangha 2015). The effectiveness of local agencies of government is also often limited in terms of well-trained personnel, transport and operating budgets.

Demonstrated leadership capacity was not significantly different among the different types of institutions. However, all were ranked quite low (2.4). This is likely influenced by the lack of human capacity in many of these institutions, as indicated by the low ranking. There are statistically significant differences ($p = 0.000$) among the institutional types with the exception that non-government (2.09) and

public (1.90) institutional types are not statistically different. They both have a low level of human capacity. Local government (3.48) and private (4.03) institutions have a statistically similar higher level of human capacity.

One way analysis of variance indicated that the rankings related to the characteristic of “Coordination with other Organizations” were statistically significantly different. The private institutions were ranked significantly lower than the rest (1.67 compared to the mean of 2.3). The criterion of “Effectiveness or Influence” seeks to measure how well an institution combines and applies the four previous criteria (capacities, leadership, and coordination) to have a positive impact in the landscape. In general, overall influence or effectiveness of all institutional types was low. This could reflect limitations in numbers of people who work in the various institutions, which is influenced by financial capacity, but also a lack of technical resources, experience or knowledge in this area. However, there was a significant difference among the institutional types, with the local government being ranked significantly higher than others (3.72 compared to the mean of 2.53). While the local government was ranked the highest in terms of having an influence in the landscape, still its overall score on effectiveness and influence was not that high at 3.72. The two institutions specifically responsible for the TNS landscape were not ranked very highly; PACEBCo at 2.24 and FTNS at 2.96.

Discussion

Based on the results from the assessment of institutional capacity in the research site, there are diverse institutions present in the landscape. These include institutions of relevant government agencies and local government, local NGOs, the private sector and hybrid institutions of conservation, development and research institutions. However, based on the results, it appears that in reality the overall institutional capacity for integrated land-use planning and management to accomplish multiple goals in the study area is limited. This means that, although key institutions are

present, overall they lack the capacity to support the planning, implementation, and resource mobilization needed to integrate climate change mitigation, conservation and livelihood goals. This result is not really surprising as the challenges presented by weak institutions and governance has been highlighted in the broader TNS landscape, of which the research site is part (Clay 2016; Endamana et al. 2010; Sayer et al. 2016). Additionally, interventions by hybrid institutions such as aid agencies and conservation organizations in the TNS have had little impact on improving the livelihoods of local people (Endamana et al. 2010; Sayer et al. 2016). Weak governance and institutional processes were also cited as contributing to the poor outcomes of forest revenue redistribution mechanisms in the research area (Assembe-Mvondo et al. 2015).

While the average institutional performance scores are quite low and fairly similar numerically, there are differences that are statistically significant. More importantly the underlying characteristics that the average represents also differ statistically across institutional sectors. This variation across institutional sectors provides more insight into their differing capacities. While overall institutional capacity is limited, this does not mean that all individual institutions lack the capacity or the potential to support the planning, implementation, and resource mobilization needed to integrate climate change mitigation, conservation, and livelihood goals. Clearly some institutions were considered to be stronger than others in terms of their knowledge and resources and interest in addressing multiple objectives in the landscape. Other institutions scored low on some dimensions of capacity and higher on others. For example, local institutions scored highest in terms of overall effectiveness or influence in the landscape, although they were ranked fairly low on aspects of leadership and coordination with other organizations. Not surprisingly, public institutions or local agencies of government were also ranked quite highly on longevity in the landscape. However, they seemed to be lacking in other aspects, which then led to an assessment of having limited effectiveness or influence in the landscape. Dkamela (2011) highlights the weak capacity, among other challenges, of such local branch offices of government related to forestry and environment in Cameroon. While hybrid institutions were not ranked very high on the various institutional characteristics on the IPS scorecard, WWF did have the highest overall IPS ranking. Their influence in the region and coordination with other institutions was also noted in the interviews and documents. The important leadership and coordination role of such international conservation and development institutions has also been noted in Cameroon (Dkamela 2011) and the broader TNS landscape (Sayer et al. 2016).

Private companies were ranked quite high in terms of financial capacity, human capacity and longevity in the

landscape. However, they were ranked quite low on their coordination with other organizations and hence overall effectiveness in the landscape. Some forestry companies have worked with WWF to become certified in sustainable forest management, an approach which can contribute to addressing multiple landscape goals (Deans et al. 2018, this issue). However, not all companies have chosen to become certified. Furthermore, the extraction of minerals typically has had a negative effect on the ecological functioning of a landscape and potentially the health and livelihoods of local people (Ingram et al. 2011; Mwitwa et al. 2012; Schure et al. 2011). Given the influence of private sector natural resource companies on the outcomes in landscapes it is important that they not be ignored, but be brought into discussions on integrated resource management (Schure et al. 2011). Clearly in this study they were perceived as having the financial and human capacity to be engaged.

Research on REDD+ and its outcomes in Cameroon have highlighted complex challenges and limited benefits for local people (Dkamela 2011; Sunderlin et al. 2017). Seeking to implement such integrated landscape approaches within regions of a country is difficult, but it becomes even more complex when reaching across national boundaries. Therefore, it is not surprising that other research has documented some of the challenges and limited outcomes in the overall TNS landscape (Clay 2016; Endamana et al. 2010; Sayer et al. 2016). Those research results together with the results of this study provokes the question of how it might change—how can the capacity of institutions be improved to support the planning, implementation, and resource mobilization needed to integrate climate change mitigation, conservation and livelihood goals? Such questions are very relevant to the current discourse on landscapes in Cameroon (Chia and Sufo 2016). One potential place to start is with environmental education. This would help to counteract the lack of information, knowledge and common understanding of stakeholders that seems to be prevalent in Central Africa (Tiani et al. 2015). Tadjuidje (2010) recommended the reinforcement of technical and managerial capacity in all institutions involved in a landscape, particularly through targeted and practical training. The lack of financial capacity for REDD+ raised by Sunderlin et al. (2017) and the issue of slowness in dispersal of funds in the overall TNS landscape (Tri-National de la Sangha 2015) point to the need for long-term stable funding for landscape approaches. This resonates with studies carried out elsewhere that emphasize the importance of long-term funding in landscape governance and co-management approaches (Cundill and Fabricius 2010; Ros-Tonen et al. 2014). It is possible that improved financing may be facilitated by the current international climate change context and interest in landscape approaches (Minang et al. 2015).

It is also critical to build capacity in the area of institutional planning and coordination which is foundational to multi-stakeholder landscape governance (Estrada-Carmona et al. 2014). Minang et al. (2015) advocate for a collaborative approach which enables the joint generation of knowledge, learning and renewal as necessary for analysis, planning, negotiation, decision-making, and action. Such an approach cannot function and be effective without the sustained support of a multi-stakeholder body that will monitor, share learning and continuously adapt to changing circumstances (Sayer et al. 2016). Trust must also be built among stakeholders who have sometimes felt skepticism towards each other in the past (Scherr et al. 2012). It is particularly important to recognize and address the issues of differences in power and access across various groups within a landscape (Clay 2016). Use of a participatory planning, monitoring, and evaluation workshop which brings together all stakeholders can be a first step in building institutional planning and coordination capacity (Kusters et al. 2018, this issue). If it had been possible in this study to bring the various institutional stakeholders together in such a workshop format, it would not only have improved the assessment of institutional capacity but also provided a platform where those concerned could begin to envision the future (Ecoagriculture Partners 2017). Such a participatory action research approach that involves stakeholders from the beginning has been shown to be helpful in building institutional capacity for integrated landscape management in other parts of Africa (Shames et al. 2016). In eastern Cameroon, given the complexity of integrating climate change mitigation, conservation, and livelihood goals in a landscape there are no easy fixes. Building institutional capacity is a long-term endeavour that requires ongoing financial, technical and human resource support.

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Compliance with Ethical Standards

Conflict of Interest The author declares that they have no conflict of interest.

Ethics Approval All data collection involving human participants was in accordance with the ethical standards of the Research Ethics Board at the University of Prince Edward Island and the Social Sciences and Humanities Research Council of Canada.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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