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Institutional Barriers to Multi-sectorial Climate Change Adaptation Strategies in Cameroon

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Abstract

There are dimensions to social and cultural systems, including different institutions that are important components that facilitate policies into more collective actions. The institutions relate to different processes that shape the cultural, social, political and economic relationships in the society to permit Cameroon to realize her climate change agenda. National and local institutions in Cameroon are especially very important as they are the particular system of resource governance in the country, which gives the ability for these institutions to formulate, vote and plan for actions according to the global text. Local institutions are also facilitators in the chain of command between central governments and local farming communities who are extremely vulnerable to the effects of climate change given their subsistence nature of agricultural production coupled with low economic status. Literature from previous works brings to attention that the obstacles or challenges, termed barriers, can impede, delay or divert the adaptation process. The different dimensions of these barriers can be identified including amongst others institutional barriers that are factors which impede the different institutions from facilitating society's ability to adapt to climate change. This can be seen to be the factors of information, communication, technology and or leadership. For instance, at national levels, policies and programs on climate change are yet to be fully mainstreamed throughout the planning networks, municipal councils, ministries, NGOs and traditional settings. This missing strength in the programs and policies to strengthen climate change advocacy is a call for concern. There are missing roles and responsibilities to enforce effective climate change policies in the planning and implementation stages due to the structure of the governing bodies in charge of climate change in the country. There is need for improved actions and effectiveness to facilitate adaptation to adverse effects of climate change.

Keywords: challenges, vulnerability, policy, sustainable development

1.1. Introduction

Sub-Saharan Africa (SSA) is one of the regions where climate change is expected to push over 40 million people into poverty if no concrete climate and development action takes place by 2050 (Jafino *et al.*, 2020). The impacts of climate change could be felt most immensely by those living in fragile and conflict-affected

settings in SSA. The vulnerability of the Central African sub-region to climate change and natural disasters is much higher than in other countries (Mason *et al.*, 2015). The central African sub-region is plagued with high exposure to climate risks facing multi-faceted Challenges, including physical and livelihood risks for the

population. The heavy reliance on agriculture and other forest resources has resulted to unsustainable management, leading to vulnerability to climate-triggered environmental problems. Weak governance and conflicts also exert a significant toll on the central African states, thus amplifying their vulnerability to climate change. Burke *et al.*, (2009) found that, in Africa, higher temperatures lead to higher conflict incidence a 1°C increase in temperatures leading to a surge in civil conflicts by 4.5%. Conflict over land and natural resources, access to basic social services and other measures of fragility have growingly been associated with the effects of climate change (Navone, 2021). Rising temperatures affect agricultural output and determine lower industrial output. Along with higher temperatures, meteorologists and scientists observe in some areas an increase in the intensity of extreme precipitation and lower precipitation trends in others. Temperature and precipitation are considered in this study as proxies for climate change on the understanding that augmented heating conditions result in greater evaporation, thus increasing the intensity of droughts, the lack of irrigation, and the negative effect on the sub-regional economic growth.

Climate change is widely viewed as a development issue because its impacts are multidimensional affecting various socio-economic sectors and in turn have consequences on lives and livelihoods. This requires multi-sectorial approaches that are due to policy inadaptability in combating the consequences of climate change and aim at improving adaptation strategies. Literature concurs that climate change will impact social and economic development goals, including poverty reduction, food and nutrition security, economic growth, gender equality, social equity, and health (FAO, 2016). This multidimensionality calls for multi-stakeholder approaches and institutional frameworks that can be applied across regions, governments and sectors (Lesnikowski *et al.*, 2017). Several studies (largely qualitative) on multi-sectorial institutions report that ECIs continually countervail exogenous ones (Yami *et al.*, 2009; Ribot 2005); this represents a yet-to-be-resolved conundrum in agriculture and natural resource management in the central African sub-region (Ntuli *et al.*, 2022). Complementary quantitative evidence provides a good opportunity to enhance generalizations in the spectrum of climate and institutions. Even recent studies on climate adaptation in Cameroon draw more from qualitative evidence (Azong 2021; Chia *et al.*, 2019).

Across Cameroon, endogenous, exogenous, formal and informal institutions are struggling to address the issues related to climate change. Despite all these efforts, institutional capacity is seen to be weak in addressing the policies that are aimed at addressing these challenges. The endogenously fashioned adaptation structures are of particular relevance for Cameroon due to her diversity within the continent's agroecological systems, which are spectacularly context-specific to the local adaptation practices. Cameroon is one of the most culturally diverse country in the world, which inherently hosts an abundance of endogenous cultural institutions (ECIs) despite their potential role in shaping local adaptation practices of farmers, which is still to be sufficiently uncovered. The country is undergoing the implementation phase of many key programs, strategies and policies on climate change and environmental sustainability. The effective implementation of these essential policies is vital for the most vulnerable of the country's population who are mostly peasant farmers. An improvement in these policies, programs and strategies will strengthen the resilience of peasant farmers against the adverse effects on their agricultural system. This is so far going to depend

on the interconnected factors linked to the management of climate change such as institutional factors which are key aspects in the resources, communication and information that support farming communities and facilitate the policy practice process. This study will therefore add to the existing literature on the multi-sectorial strategies to combat climate change and improve policies that address the smooth functioning of the system.

Although concurrently several climate adaptation interventions are applied in diverse settings in SSA, they have been criticized for shifting the burden of responsibility and the costs to the poor a majority of whom are farmers (Ribot 2014). For instance, interventions to promote sustainable agriculture place the burden on farmers to implement and produce results, despite their limited resources and capacities (Kimengsi *et al.*, 2019). This mainly results from the fact that most climate adaptation practices (CAPs) are exogenously rooted. Although some of them strive to align with endogenously shaped adaptation systems, a significant proportion of these interventions are still in contrast with Endogenous Cultural Institutions (ECIs) (Whitfield, 2015; Kimengsi and Balgah 2015). For instance, in recent attempts to shape adaptation practices in the agricultural sector, the climate-smart agriculture (CSA) framework of the World Bank (exogenously rooted), has been used in several contexts (World Bank 2005; Collins 2018). However, these interventions significantly give rise to maladaptive practices by inadvertently reinforcing, redistributing or creating new sources of vulnerability. For instance, the adoption of crop substitution techniques for places resistant to pests and hazards proved unsuccessful in many instances (Eriksen *et al.*, 2021). This suggests the need for adaptation to draw endogenous capacities and aspirations for self-determination and cultural continuity (Johnson and Parsons, 2021).

A multi-sectorial approach, institutional and cross-sectorial collaboration, and policy coherence, when based on human rights, due diligence, and good governance, can foster preventive and long-term adaptive and/or transformational interventions to address the impacts of climate change (Horne and Boland, 2020). Several studies have been carried out and the findings revealed that there are capacity gaps which need strengthening throughout the different sectorial systems and other stakeholders within the country should address the effective implementation of projects and programs that will foster adaptation to climate change. For instance, in Cameroon, policies and programs on climate change are yet to be fully mainstreamed throughout the planning networks, municipal councils, ministries, and NGOs. This missing strength in the programs and policies to strengthen climate change advocacy is a call for concern in the entire country. There are missing roles and responsibilities to enforce effective climate change policies in the planning implementation stages due to the structure of the governing bodies in charge of climate change in Cameroon. In effect, there is a need for more effective, coordinated, information, knowledge knowledge-sharing efforts between the different sectors responsible for managing climate change programs and policies in the country. Such sectors include the Ministry of Environment, Protection of Nature and Sustainable Development, Ministry of Agriculture and Rural Development, Ministry of Forestry and Wildlife, the parliaments, councils, and NGOs which means there is a need for coordinated efforts to put the risk of climate change under control and foster resource management to minimize waste and ensure environmental sustainability.

At the national level, there is a gap in scientific research conducted at the different national and local levels, particularly in the fields of water resources, agriculture, forestry and aquaculture that would support national strategic planning and sectorial mainstreaming. Furthermore, there is a need for capacity building in skills, knowledge and measures to support vulnerable communities, especially for government agencies at the national level owing to the national system of decentralization. Another gap in planning and development arises through the fact that there is no national climate change budget for action and activities at the national, municipal and local levels or below. This puts strain on national budgets and results in spending cuts in other important areas. Within the national and local areas in the country, policies surrounding water resource management in off seasons such as the dry season and the capacity of local stakeholders is ineffective especially that of farming communities as compared to infrastructural development, disaster, relief and recovery, and maintenance and flood control policies which have some direct impact on local level practices.

Actions taken at the national level are part of the target program which is contained in the level of expertise of local governments' workers to integrate vulnerable communities into planning. There is a need for an increase in resources and capacity development required for stakeholders to facilitate appropriate actions at the national level and the implementation of these actions. The processes at the national level are further hindered by inadequate financing mechanisms for climate change actions and ineffective distribution mechanisms for national actions. There are no clear responsibilities for all stakeholders especially government ministers about climate change to help resolve some major issues. However, there exist hindrances throughout the instructional system in the country which hinder the practising policy process and the challenges in the adaptation process for the country. In this light, this study seeks to outline the key policies related to climate change adaptation in the agricultural, environmental, water and disaster risk management in Cameroon and again it aims to confirm the level of implementation of the processes of these policies and programs using information collected from the field.

1.2. Methodology

The country has a surface area of about 475,000 km² and stretches from 2° to 13° north of the Equator and from 9° to 16° east of the Greenwich Meridian (Figure 1). This paper employs a mixed methodological approach, which will employ content analysis, in-depth interviews, and focus group discussions.

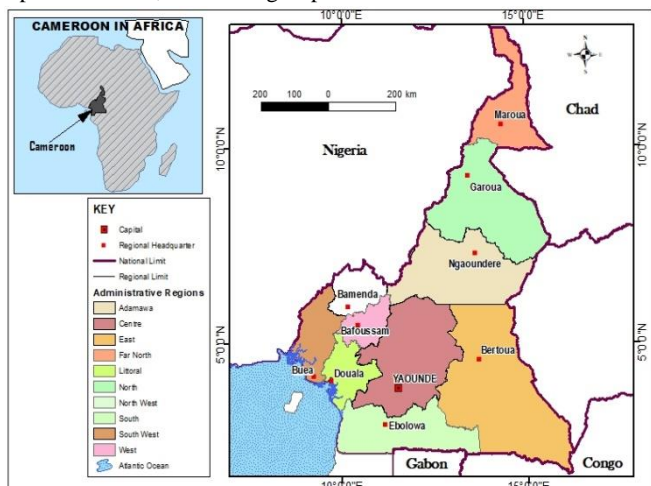


Figure 1: Location of Cameroon

Information about national and local institutional action plans such as target goals for the implementation of climate change adaptation strategies and progress are contained in the national policy documents of Cameroon as well as press reports and websites. Therefore content analysis will be vital to this research. The institutions and Climate change adaptation is a continuous process hence content analysis affords the ability to examine such efforts over time. In the course of evaluating multi-sectorial climate action plans, document analysis pulls out how they have coped over time regarding the set goals put in place. Again the content analysis will give meaningful insights to the various texts which will bring out hidden motivations embedded within the text. This will be by revealing information that would otherwise not have been uncovered using different methods such as interviews.

Another significant part of the research depended on in-depth interviews and focus group discussions with climate change actors and stakeholders in the country who were selected for in-depth interviews and focus group discussions. The objective of the in-depth interviews and focus group discussions was to gain full insights into the unique intricacies of the various national and local institutions charged with climate change adaptation and success in the implementation of these adaptations as well as generate reliable, qualitative data for the research. Hence a semi-structured interview guide was used to obtain these insights, which used open-ended questions that prevent digression while generating conversational responses. This approach allowed climate change actors to express their unique and individual experiences in the national, local, spatial and temporal conditions which has either enabled them or hamper the implementation of their climate change adaptation strategies within the country. A detailed examination of the international, national and local documents for the country led to the development of relevant and meaningful semi-structured interview questions for this research.

1.3. Data Collection

The country was divided into four quadrants; that is, the North, South, East, and West which correspond to the four different ecological zones with different environmental and socio-economic conditions and different characteristics (Figure 2).

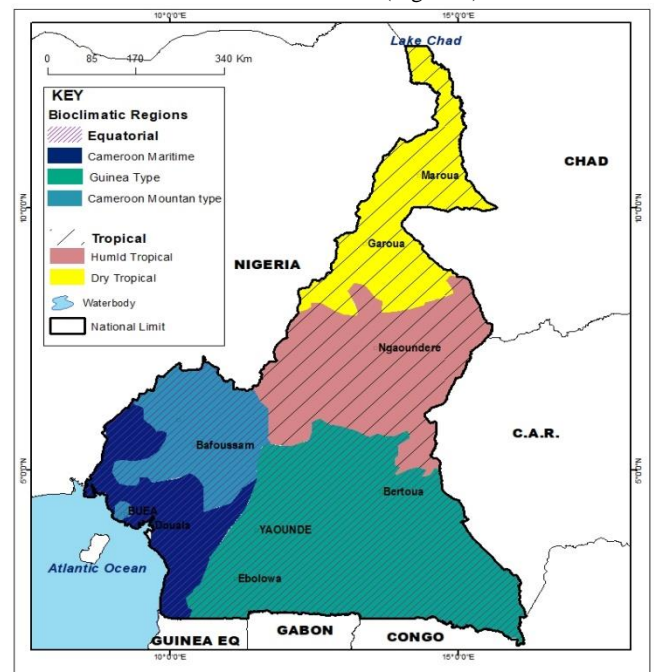


Figure 2: Distribution of agro-ecological zones of Cameroon

Within these same ecological zones, the impact of climate change and the institutions for the fight against climate change is not the same, so this enabled the study to collect data from the quadrants and analyze to correlate how the different institutions are structured (in terms of finance, human resources, capacity), their action plans, and how this has affected the implementation of climate change adaptation differently within the same country and to understand how the different ecological zones of the country are adapting to climate change either using national or indigenous adaptation methods.

1.4. Documentary Data

The importance of documentary data sources for this research such as climate change policies, feasibility study reports, webpages and progress reports cannot be over-emphasized. This is because one of the most important parts of this research evaluates the level of success in the implementation of climate adaptation strategies by different institutions across the country. To arrive at the set objective of the study, the study examined the actions toward climate change adaptation. For a consensus to be arrived at, this research started by examining the various institutions, and their policy documents for all climate change adaptation strategies in Cameroon, which focused on their set targets toward climate change adaptation, the timeline set to achieve the targets and the various sectors of the economy targeted as the areas of action. With this, identifying the different institutions and the policy documents from the different websites and offices was one of the criteria to know which documents are available and where they are available.

1.5. Focus group discussions

In the 4 ecological zones under study, 3 focus group discussions were held with women and men who reside in these communities. One of the discussions was exclusively with men and another with women whereas the third was with women and men. This was to identify the level to which gender is mainstreamed into climate change governance in the study areas. Each focus group was made up of between 10 to 12 participants drawn from different institutions of the communities made up of different socio-economic and political classes. In a safe space, the participants were welcomed, and their consent was taken as to what the discussion was about. Only those who approved to participate took part in the discussion. Each focus group discussion lasted between 30min to 2 hours with open-ended questions. Questions were asked in French, English and Pidgin and all participants were allowed to answer in any language of their choice (French, English and or Pidgin) based on their level of understanding of the language. This exercise was conducted on Sundays which is a resting day for most persons in the communities.

1.6. In-depth Interviews

Data for this research was generated through in-depth interviews of key informants working in different institutions on climate change adaptation and mitigation in Cameroon such as the coordinators of national climate change initiative programs, among others, of the Republic of Cameroon were interviewed. An interview guide was used to conduct interviews and collect appropriate information. Each time a key informant was identified, the key informant was briefed on the study objectives and the type of data needed. Participants selected as key informants were among others those who have great insights into their status, function and duties concerning climate change adaptation and the policies governing adaptation. Also, farmers who have been carrying out agriculture

for two to three decades in the different ecological zones were interviewed to understand the changes over time and how this has affected their output. The study focused on staff from; the ministry environment, forestry and wildlife, agriculture and rural development, NGOs, metrological staff, city mayors, and national institutes of statistics. This was done at the national, regional, subdivision, municipal and local levels.

1.7. Results and Discussion

Barriers to climate change adaptation

Biesbroek *et al.*, (2013) propose that the term 'barrier to adaptation' is a metaphor to make sense of complicated situations, 'to point to the climate and non-climate-specific events, factors, and conditions that negatively influence the process of successful adaptation to climate change'. There is an emerging body of literature related to multi-sectorial institutional barriers to adaptation to climate change adaptation. Two useful guiding questions that emerge from Moser and Ekstom's (2010) framework that summarize the general intent of the domain ask 'What can stop, delay, or divert the adaptation decision-making process?' and 'What causes the impediments' ... 'How do the actors, context, and the system of concern contribute to the barriers?'. These central questions have been unified into the approach of the study in analyzing the institutional challenges to climate change adaptation at the local level as well as the local level. To examine the relevance of these questions, it is important to start with the illustration of what could be considered institutional barriers to climate change adaptation.

Multi-sectorial barriers in the governance system

Field findings revealed that at the national level, there exists the national REDD steering committee which is co-chaired by the Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED) and the Ministry of Forestry (MINFOF) that are currently in existence chairing all national programs on climate change in Cameroon. These ministries have regional and divisional delegations that follow up on the implementation of national climate change adaptation strategies within the country taking instructions from the ministry. MINEPDED and MIFOF are therefore responsible for climate change adaptation in the country with limited coordination and support from other relevant ministries that could mainstream climate change across other sector programs. The responsibility of knowledge and capacity has been narrowed to a smaller number of actors within MINEPDED and MINEFOF. With limited personnel charged with the enforcement of the national strategy on climate change adaptation, it will be more difficult and require more time for other sectorial ministries to incorporate climate change into their strategies and development plans. However, climate change project implementation and designs, planning and reporting of environmental programs, national communication on climate change, IPCC implementation guidelines and the monitoring of REDD+ monitoring in the country were all identified by respondents to be the guiding principles used by MINEPDED and MINFOF to implement climate change adaptation strategies in Cameroon.

Many respondents equally noted that they have a key participatory role at the national level in addressing climate change mitigation and adaptation. They highlighted some of their roles amongst which we have; the provision of technical support to the national team, support for focal points on issues related to climate change, serving as chairperson or the president on climate change issues, shaping the REDD+ action plans and strategic coordination. It is

worthy of note here that despite all these roles played at the national level, there is limited communication among members of the national-level committee addressing climate change. This has made climate change responses to face lapses and weak information dissemination and support between national actors' especially state actors and the weak institutional link between state actors and non-state actors. Several respondents equally mentioned that the government through MINEPDED is the only influential sector in integrating climate change policy implementation in Cameroon. Other respondents still believe that influential political debates and the support for programs related to climate change, with lobbying and funds mobilization, institutional mandate and expertise and official authority responsible for REDD+ implementation as criteria that were used for this selection. Despite MINEPDED being the main institution that defines the implementation of all climate change responses, policies and actions at the international and national level, the role of MINFOF has become most relevant as the forest is currently taking a central stage in the present and future climate change regime. Irrespective of the relevance of these ministries in combating climate change in Cameroon, how the two ministries operate to ensure a better response to climate change adaptation and mitigation in the forest sector is still a major challenge. Other non-state actors such as the World Bank and the United Nations were also identified as key international actors promoting National, Appropriate Mitigation Action (NAPA), REDD+ and the national climate change policy.

Most of the respondents (94%) asserted that institutional collaboration and joint coordination approaches to climate change adaptation and governance are the most appropriate way of solving the daunting problem than a more separated and segregated effort. Owing to this, the respondents believe that climate change is a real and growing problem which needs collective efforts thus the role of all stakeholders is important and there is a need for inclusion in decision-making and implementation of action plans to combat climate change through mitigation and adaptation. There is a need to mitigate and adapt to its impacts simultaneously. Furthermore, collective efforts toward climate change adaptation will embrace actions such as agroforestry which is a mitigation and adaptation strategy at the same time and for this to be effective, it requires a multi-sectorial collaboration for effective and efficient implementation since this is more of a bottom-top approach of solving the problem whereby the agro-foresters are considered to be the local population. Again despite the benefits of this multi-sectorial approach to climate change adaptation and mitigation, the collaboration will bring coherence and sustainability in the adaptation and mitigation of climate change impact by adopting synergetic approaches which at the same time will minimize the occurrence of function duplication and a waste of resources and also duplication of activities which will now enhance the possibility of mainstreaming climate change adaptation into many other development action plans.

From field investigations, most respondents believe that if the national government provide financial incentives to local and national stakeholders, it will make the inclusion of multi-sectorial synergy effective in climate change adaptation strategies as the effects of inadequate financing have also made collaboration difficult for the different stakeholders since financial resources are limited and no partner is willing to take action considering the centralized program from MINEPDED which has given them the whole responsibility and so all stakeholders hope on them for actions. Moreover, research participants viewed inadequate

coordination, insufficient sensitization and capacity building, ineffective implementation, inadequate compliance, lack of proper transparency and inadequate public participation, to be factors that have also hindered multi-sectorial coordination in climate change adaptation strategies in Cameroon. This therefore brought respondents to believe that if there is effective and efficient sensitization, together with education and training of stakeholders, to promote the financing of pilot projects on climate change that will contribute to generating knowledge for effective implementation of relevant policies and the sharing of data on climate change adaptation plans and action across different sectors of the economy. This will bring joint administration in climate change adaptation and stakeholders, as well as source funding to support the private sector with abilities to undertake proper actions to address climate change adaptation in Cameroon which will be effective and efficient given their closeness with the population and local climate change stakeholders in the country.

1.8. Conclusion and Policy Recommendations

There is increasing recognition of the need to address climate change governance, but municipalities lack the political leadership, financial and human resources, inter-sectoral collaboration, coordination and technical capacity to address these challenges. Climate action has been elaborated in Cameroon's National Development Strategy, where the government has to take adequate measures to adapt to and mitigate the effects of climate change. This aligns with the UN Sustainable Goals (SDG-13: climate action), with implications for SDG-2 (zero hunger), SDG-6 (clean water and sanitation), SDG-7 (affordable and clean energy), SDG-11 (sustainable cities and communities) as well as SDG-15 (life on land and biodiversity conservation). The National Climate Change Adaptation Plan of 2015 was a key document for adaptation which integrates some key sectors like agriculture and forestry for achieving wider adaptation goals. These policies have been translated into Vision 2035 and the National Development Strategy for 2020–2030. Local Climate Change Action Plans (CCAP) should be integrated in regional and municipal councils. There is a need for an independent climate change law for Cameroon to adequately address the climate problem

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