



# **Stakeholders' Interactions and Land Management Options in Bui Division, North West Region of Cameroon By**

**Bailack Kevin Mbuh <sup>a\*</sup> and Mbanga Lawrence Akei <sup>a</sup>**

<sup>a</sup> *Department of Geography and Planning, Faculty of Arts, The University of Bamenda, Cameroon.*

## **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

## **Article Information**

DOI: 10.9734/JGEESI/2021/v25i1030317

### Editor(s):

(1) Dr. Teresa Lopez-Lara, Autonomous University of Queretaro, Mexico.

### Reviewers:

(1) Habtamu Admas Desta, Injibara University, Ethiopia.

(2) Wilfrid Hinnoutondji Kpetehoto, University of Abomey-Calavi (UAC), Benin.

(3) Williams A. Ahmed-Gangum, Taraba State Polytechnic, Nigeria.

Complete Peer review History, details of the editor(s), Reviewers and additional Reviewers are available here:  
<https://www.sdiarticle5.com/review-history/78195>

**Original Research Article**

**Received 17 September 2021**

**Accepted 25 November 2021**

**Published 26 November 2021**

## **ABSTRACT**

The lucid engagements of stakeholders in land management is an essential strategy in circumventing the stakes of land utilisation. This is symptomatic in ecumenes of intricate ecological traits with diverse stakeholders' management interests. Bui Division of the North West Region of Cameroon, a citadel of stakeholders enmeshed and is manning their respective lands with signatures of rare plausible interaction options in a decentralisation framework. As such, the study sought to assess the stakeholders' interaction options for land management in Bui Division. A historical and comparative research designs were used to obtain primary and secondary data from 1971-2021. This was through questionnaires, formal and informal interviews from 16.9% of population in 505 households and direct observations with consultation of published and unpublished documents. Data was analysed using inferential statistics with the Anova Test at 0.05 at a critical level and a df of 7 to determine the significant differences in stakeholders' interaction options for land management. The results reveal the calculated values of 0.9, 8, 3.9, 3.6 and 8.3 higher than the tabulated ratios of 0.65, 0.000, 0.001, 0.002 and 0.000 respectively. This indicates that there were significant differences in stakeholders' interaction options in land management based on stakeholders' activities and interests. Multiple stakeholders' collaborative and participatory interaction options were positively apt in diverse sectors of land management. The

\*Corresponding author: E-mail: [mbuhbailack@gmail.com](mailto:mbuhbailack@gmail.com);

study posits that participatory interaction through multi-stakeholders' involvements and collaborations are the best options to minimise the deprived perceptions of under representation of some stakeholders in land management platforms in Bui Division.

*Keywords: Land acquisition; communities; interest; interaction options; land tenure.*

## 1. INTRODUCTION

Land is a symptomatic living space and constitute one of the most indispensable resources. It is the ultimate prerequisites for the survival and prosperity of humankind on the earth surface. It encompasses all attributes of the biosphere [1]. Salient land management (LM) portrays utmost stakeholders' interaction options and constituents as fundamental bases for human development in ecumenes of difficult ecological traits [2]. The management of land throughout the history of planning have offered rare satisfaction to rural livelihoods based on agriculture as argued by [3]. This is established on the main perception of land as the basis of wealth and power [4]. Such human perceptions anchored on geopolitical consternations, societal civilizations and technologies are hardly unidirectional and so in many cases breeds LM inconsistencies in varied parts of the world [5].

The stakeholders' options for LM in the developed world are inherent in interaction practices and options that coerces knowledge-based procedures in sustaining ecosystem services [6]. In Sub-Saharan Africa, the management stakes are fortified in reversing the trends of inappropriate LM practices. As pointed by [7], this is replicated in severe soil erosion, soil fertility depletion, water shortage, food insecurity and land degradation. Land management interventions options in this region are based on incompatible interests [8]. Management options are also predominantly regulatory and top-down conferring limited options in focus to sustainable technology adoption and stakeholder participation. This incorporates the input of stakeholders in the process of sustainable management plans [9].

Land management in Cameroon is driven by local and government stakeholders' as well as development agencies. Increased management emphasis is rooted on achieving the country's Strategic Development Plan, Rural-Agricultural Development and Sustainable Development Goals (SDGs). This is moored on development of policies, laws, institutional and legislative reforms established in the 1974 Land Ordinance

(Law No 74/1 of July 1974) on land acquisition and the Decentralisation Framework of 2019 (Law N° 2019/024 of 24 December 2019) on local development. These trail top-bottom approaches with legacies replicating multidimensional patterns and ramifications of LM conflicts in the Northwest Region and Bui Division [10,11].

Such dire signatures are indicative of the necessity for a robust blend of multi-stakeholder/multi-sectorial and sustainable interactive options as primordial for incorporating the needs, interests and aspirations of stakeholders [11]. These interests are seen in the quest for livelihoods sustenance, good governance, transparency, environmental protection, village development, employment, protection of customs and traditions and the implementation of state laws. This can be achieved through increased stakeholder participation in decision making, planning, implementing and evaluating stakeholders' activities as resonated by [12]. Land management practices are grounded on stakes [13], interaction options [9], differed interests and inequalities in the distribution land-based resources. These patent indicators involve multiple stakeholders' interaction options, approaches, institutions, laws, interests and management outcomes [14].

This article considers stakeholders in Bui Division as any individual, groups or institutions that can affect or be affected by land in its natural or exploitative forms [15]. In this case, they include private individuals, government, civil society groups (NGOs, CIG and Village Development Associations), International Development Agencies, local leaders, and investors [16,17]. These stakeholders form interactive broad-based coalitions that affect land and the resources therein through acquisition and utilisation (manage) for various purposes. This is founded in the stakeholder theory in the dimension of knowledge-based experiences in land development options, and participation in land use planning as long-term stakeholders' options for sustainable LM [18]. Options are entrenched in LM assessment using the

normative, descriptive and instrumental dimensions of the stakeholder theory (Freeman, 1984) cited in [14].

The rationale of this study is therefore to curb the stakes and challenges impacting the management of land and the resource therein in Bui Division. This is founded in the context multiple management stakeholders, under representation of indigenous stakeholders and no uniformity in management activities, interests and tools [19]. Studies on natural resource management in Bui Division show that nothing has been done with regards to stakeholders' dynamics on LM in the context of intercommunity settings. This is therefore an existing research gap on the subject of LM and stakeholders' dynamics in Bui Division. These form the originality of this study. The period between 1971 and 1986 coincides with the dominance of indigenous stakeholders in LM. From 1987 to 2004 saw the upsurge of state participation and reduce influence of indigenous people. Between 2005 to 2021 was the period of more involvement of Civil Society Organisations (CSOs), thereby ushering multiple stakeholders' typologies and dynamics in the LM process. As such, the study sought to assess the stakeholders' interaction options for LM. This is

supported by two specific objectives: to characterise the stakeholders and examine the LM activities, interests as well as tools. These are anchored on the premise that there are significant differences in stakeholders' interaction options for LM in Bui Division.

## 2. METHODOLOGY

### 2.1 Study Area

Amid multi-sectorial, multi-stakeholder and diverse spatial premises for LM, the study was carried in Bui Division, situated in the North West Region of Cameroon (Fig. 1). It is located between Latitudes 6°00"-6°20" North of the Equator and Longitudes 10°30"-11°00" East of the Greenwich Meridian. The area has a surface of about 2160.88km<sup>2</sup> with population of 598.222 inhabitants as projected to 2021 from the 2005 BUCREP Statistics with an average growth rate of 2.7% per annum.

Geographically and administratively, Bui Division covers six Sub-Divisions with three tribal communities having varying locations and land sizes (Table 1).

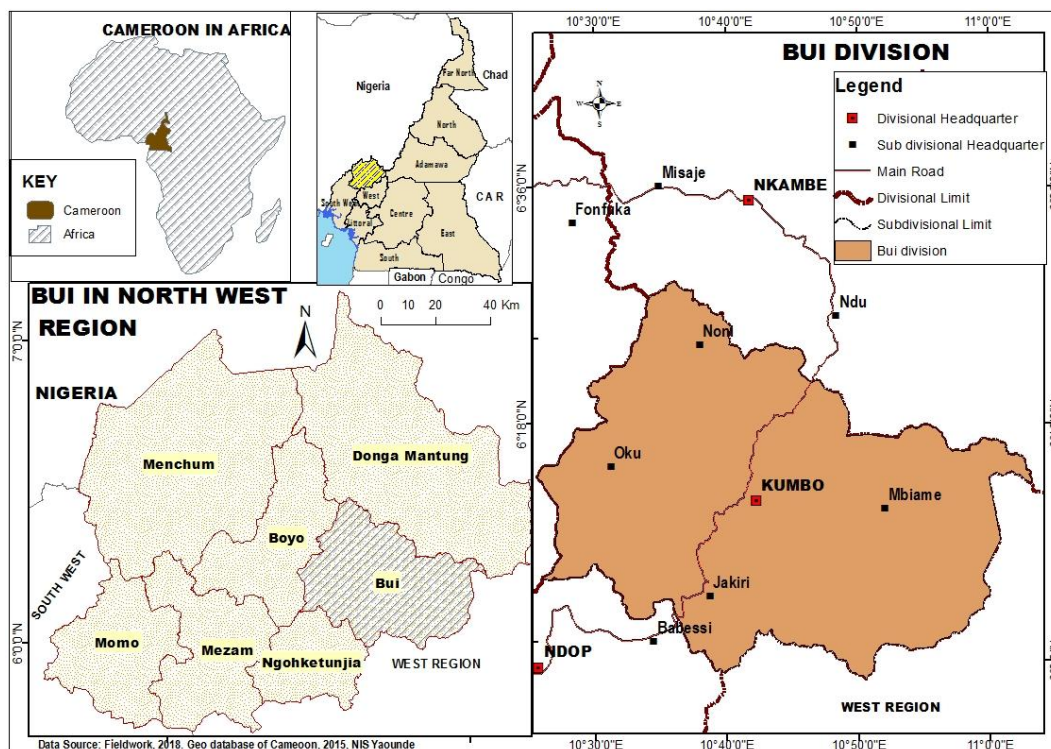


Fig. 1. Location of Bui-Division in the Northwest Region of Cameroon

**Table 1. Sub-Divisions and Tribal land communities in Bui Division**

Tribes	Sub-Divisions	Geographical locations (XY)		Land surface areas (km <sup>2</sup> )
		Longitude (X)	Latitude (Y)	
Nso	Jakiri	10°30"-11°00" E	6°00"-6°30"N	407.57
	Kumbo	10°00"-10°40" E	6°00"-6°10"N	334.64
	Mbiame	10°45"-11°00" E	6°00"-6°15"N	519.19
	Nkum	10°40"-10°50" E	6°10"-6°20"N	386.48
Noni	Noni	10°30"-11°00" E	6°00"-6°30"N	234.05
Oku	Oku	10°24"-10°36" E	6°00"-6°30"N	278.97
Bui		10°30"-11°00" E	6°00"-6°20" N	2160.88

Source: Field Survey (2020); [18]

It has diversified geographical characteristics which constitute components of land and management interaction options. It is a mountainous highland area characterised by an orographic plateau within the Cameroon Volcanic Line (CVL). The highland ranges from 710 metres above sea level (masl) from the Mbaw–Tikar Plains to 3,011masl in Mount Oku. The area experiences the highland tropical climate of the Cameroon highland interior type with rainfall ranging from 2200mm to 3000mm. Bui Division has a growing population with 90% of the economic activities linked to LM (exploitation of cropland, built-upland, grazing land and forest land) as a means of livelihood.

## 2.2 Research Methods

A historical and comparative research designs were used from 1971-2021 to determine the stakeholders LM options. The period between 1971 and 1986 coincides with the dominance of indigenous stakeholders in LM. From 1987 to 2004 saw the upsurge of state participation. Between 2005 to 2021 was the period of more involvement of Civil Society Organisations. The study was conducted in six Sub-Divisions and three tribes selected based stakeholders' management options with each ward contributing a representative sample through the use of a purposive random sampling procedure. A sample size was selected from the target population of the study. This was done using Taro [20] formula for determining the sample size as follows:  $n = \frac{N}{1 + N(e)^2}$  where  $n$ =Sample size;  $N$ =Population size;  $e$ =Acceptance error. Considering the population, the acceptance error chosen for this study was 0.05. Therefore, the sample size was given as  $\frac{598222}{1 + 598222(0.05)^2} = 2991$ . This means that the target population considered was 2991 inhabitants. The study considered 16.9% [21] of the target population as the sample size. Primary data was collected from the field through three complementary techniques involving

questionnaires, formal and informal interviews and direct observation of LM sites, land specificities and stakeholders' activities. Some 505 questionnaires were administered to the target population (16.9%). and focus group discussions were also used to obtain first-hand information. The target population was considered to be those living and practicing land-based management and exploitation activities (indigenous people, Civil Society Groups and organisations as well state institutions). This was complemented by secondary data obtained from published and unpublished sources in text books, websites, dissertations and thesis, journals, periodicals, magazines, law and administrative texts. Institutions like Palaces, Councils, Civil Society Organisations, Sub-Divisional, Divisional and Regional Delegations linked to LM were consulted. Data was analysed using inferential statistics with the Anova Test at 0.05 critical level and a df of 7 used to obtain the findings of the study. Software packages like SPSS Version 20, ArcGIS Version 10.3 and Microsoft Excel 2010 were used for analysis. The spatial picture was based on Sub-Divisional and intercommunity stakeholders' interaction specificities.

## 3. RESULTS

### 3.1 Major Stakeholders' Interaction Options for Land Management

Based on the methodology used for the study, data was collected that fostered the validity of the findings as regards to stakeholders' interactions and LM options. Findings reveal that stakeholders involved in LM in Bui Division have evolved and changed in historical times from 1971 to 2021. Field surveys indicate that the stakeholders include indigenous stakeholders (indigenous people, indigenous institutions), state and local development institutions have been manning their respective land with management signatures at spatio-temporal scales.

### 3.1.1 Spatio-temporal evolution of stakeholders in land management

There are multiple stakeholders involved in LM in Bui Division. These stakeholders have multiple socio-ecological management stakes and challenges influencing the LM process. The stakes are hinge on conservation, land conflicts reduction, governance, multiple land frontiers, topographic imperatives, Indigenous Knowledge Practices (IKP), marketing of land, sharing of benefits and community development. These stakes are considerations, specificities and the basis of stakeholders' interaction options for LM Bui Division. These stakeholders have evolved and changed in their typology and spatio-temporal dimensions. There are variations in the patterns of distribution of stakeholders directly linked to LM such as farmers, agricultural experts, policy makers, administrators, politicians, religious bodies, Civil society organizations and international agencies (Fig. 2).

Most of the stakeholders are concentrated in the tribe of Nso (64%) (Fig. 3) with a large spatial extent (Table 1) harbouring Kumbo town as the Divisional headquarters (Fig. 2) with rapid

population growth and diversity as the major urban settlement. The number reduces with increasing distance towards the rural areas as in the case in Noni with least stakeholders (9%) area. At the Sub-Divisional level, they are more in Oku (25%) (Fig. 3) which is the most mountainous areas with multiple LM stakes. They are generally classified as endogenous (originated from within the tribal communities) and exogenous (external stakeholders) (Table 2).

Internally, 98% of the stakeholders are indigenous people, most involved as they consider and depend only on land and the resources therein for survival. Land to the indigenous people is the ultimate prerequisite for sustenance and constitute significant natural, economic and socio-cultural assets. They live in the abodes of land and directly engaged in LM through exploitation options and land uses. Externally, 44% are state institutions and more engaged in the regulatory mechanisms in the LM process through legal and institutional frameworks. On the spatio-temporal dimensions, the LM stakeholders have evolved changed from 1971 to 2021 (Fig. 3).

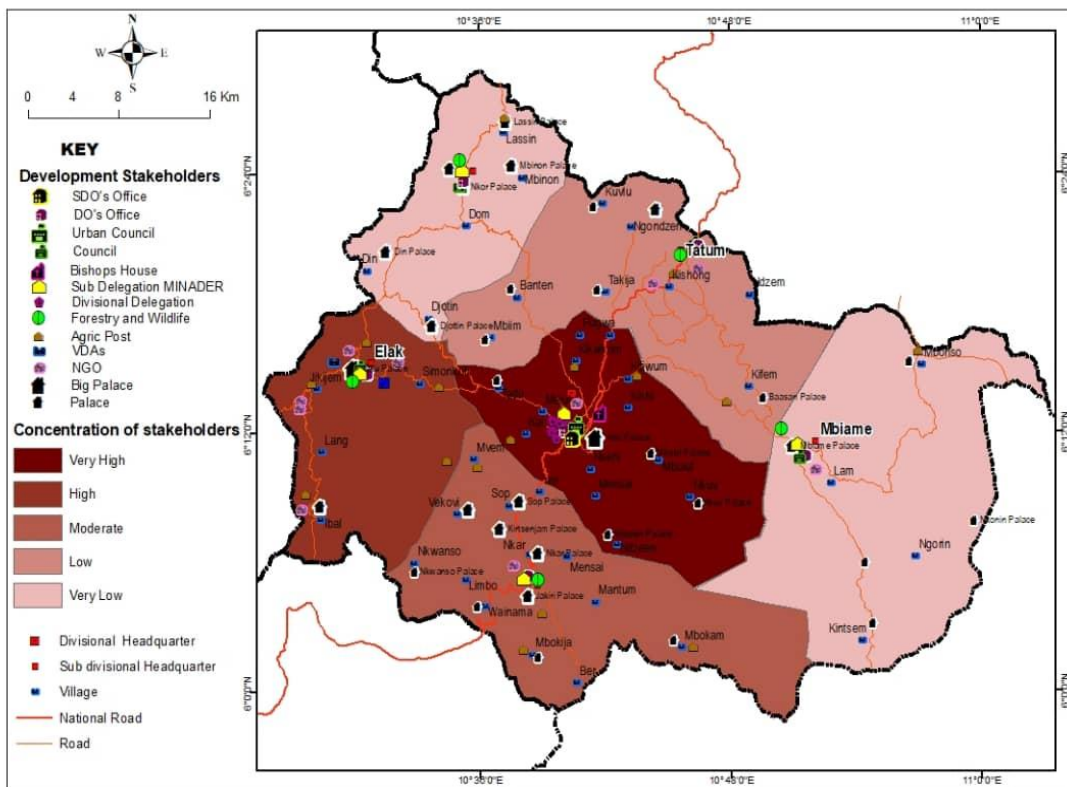


Fig. 2. Spatial distribution of stakeholders in land management in Bui Division

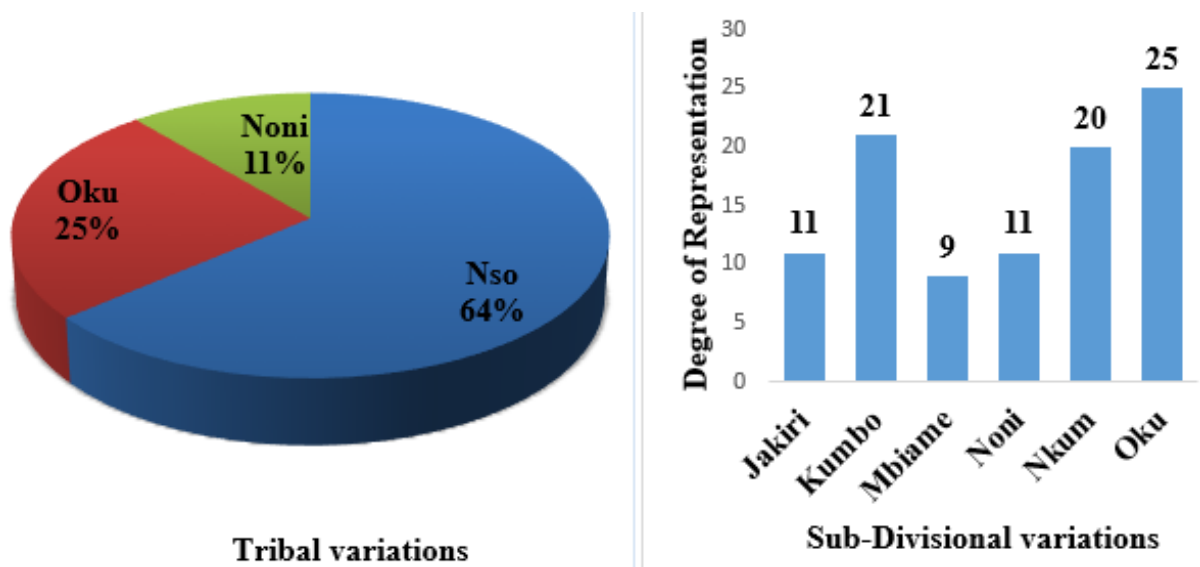


**Table 2. Typologies of stakeholders in land management**

Category	Stakeholders indicators	Number	Percentage
Endogenous (local)	Indigenous people (households)	55259	98.8
	Indigenous authorities	253	0.5
	Traditional institutions (Kwifon)	6	0.01
	Civil Society Organisation	411	0.7
	Municipal Councils	6	0.01
	<b>Total</b>	<b>55935</b>	<b>100</b>
Exogenous	State institutions (DDs and RDs)	12	44.4
	State Agencies and Parastatals	5	18.5
	External NGOs	5	18.5
	International bodies	5	18.5
	<b>Total</b>	<b>27</b>	<b>100</b>
<b>Total</b>	<b>/</b>	<b>55962</b>	<b>/</b>

Source: Field Survey (2021), [22]

Key: DDs: Divisional Delegations; RDs: Regional Delegations; NGOs: Non-Governmental Organisations



**Fig. 3. Spatial variations in stakeholders involved in land-based resource management in Bui Division**

Source: Field Survey (2021)

There has been an increase in the discovery of more resource potentials, ushering in multiple stakeholders into the LM process. In the period from 1971-1980, there were little potentials and trivial management options available for the population. Only indigenous people and few government representatives were available to dictate the pace of LM. From 1981-1990, there was an increase in stakeholders. This increase was justified by the 1987 forestland Decree with the government declaring the Kilum/Ijim forestland as a reserve. The range was more from 11-15 stakeholders' groups (40.7%) from 1991-2000 and 15+ groups from 2011-2021 (46%). These positive changes were reflected on the increasing knowledge on the land potentials

and LM options. There was substantial population increase and more state reforms that attracted external stakeholders through education and innovations practices. There has been the persistent upsurge of stakeholders in LM indicating multiple interaction management options over the years.

### 3.1.2 Legal and institutional regulatory options for land management in Bui Division

Land management options in Bui Division are based on legal and institutional tools. These tools are considered in order to prioritise the management stakes and challenges. (Table 3).

Generally, state instruments are the highly used in the LM process. The 22.6% relative representation is according to the Cameroon's legal framework where land has many dimensions with all unregistered lands and the resources therein are owned by the state. The legal instruments vary in applicability based on different dimensions of land (Table 4).

These legal provisions contain stakeholders' interactions pointing to the multi-sectorial/multi-stakeholders' LM options in the socio-cultural, economic and political domains. The Cameroon legal instruments contextually delineate the types of lands in Bui Division (Table 5).

The contextualization of the legal options in Bui Division have resulted in the issuing of administrative authorisations by the state institutions for land utilisation. Civil authorities are considered as the custodians of the all the lands in the area. They are regarded as '*Chef Terre*' (Head of Land). Stakeholders in most cases are already recognized and given authorisations to carry out specific LM practices. The national legal frameworks have been used to draw up field legal frameworks by Mayors, Divisional Officers (DOs) and Senior Divisional Officer (SDO). This is seen in the varied number of Municipal, *Sous-Prefectorial*, and *Prefectorial* orders for LM options. Additionally, there are also indigenous interaction regulatory options for LM

in the different tribes. The variations in the rate of application are a function of IKP (Fig. 4).

Customary practices are the basis of the development of the IKP of the population in the LM process. This is more in Noni (40%) and Oku (35.7%). This is linked to the increasing rurality, low levels of civilization and literacy of the population. The Nso population is more exposed and adaptable to LM innovations options which are not only based on traditions but on modern national, regional and international dispensations. These are the bases for LM regulations based on norms. The low application of taboos as a LM regulatory option is strongly imbedded on the consequences of the non-respect of some traditional LM practices based on indigenous norms.

### 3.1.3 Stakeholders responsive options in land management

The general interaction options for LM are reflected in the implementation and decisions on LM practices. This involves the stakes, concerns, activities and interests of the stakeholders. Stakeholders' interactions options are manifested in management indicators of land acquisition and utilisation. The process and rights of stakeholders to own land in Bui Division are entrenched Ordinance No 74-1 of 6<sup>th</sup> July 1974. This law defines the procedure of land ownership and the stakeholders charge with land acquisition and distribution (Table 6).

**Table 3. Legal tools used in the management of land-based resources in Bui Division**

<b>Legal tools</b>	<b>Land management significance and applicability</b>
International instruments	Sets the pace for the management of global lands and LM benefits through conventions.
State laws	Defines the legal and institutional frameworks for LM
Customary laws	Define the customs and traditions to ensure traditional land tenure security. Govern indigenous LM sanctions
Ancestral laws	Defines the taboo practices, norms and the methods of land acquisition through inheritance
Innovation practices	Ensures new sustainable practices and the dynamics in the management options. Introduces modern practices.
Traditional injunctions	Restrict some ill-adapted land uses. Refuses the right of ownership and exploitation of a particular land resource
Religious principles	Ensures peaceful inter-community coexistence among tribal communities in interaction LM options. Blesses the land regarded as a heavenly gift
Environmental laws	Ensures sustainable environmental practices and sustainable development of land resources
<b>Total</b>	<b>/</b>

Source: Fieldwork (2021), [22]

**Table 4. Degree of applicability of legal instruments for land management**

<b>Laws and Decrees</b>	<b>Dimension</b>	<b>Context of Applicability</b>
Law no 74/1 of July 1974	Land management	Organises the right of communities in Bui Division to own land. All land registration in this area passes through the SDO and DOs.
Decree no 76/165 1974 modified by decree no 2005/481of 2005	Land management	Land should be occupied and exploited through only by those in possession of land certificates without which exploitation is on national and public lands which can be taken over by the state ant any time.
Law no 94/01 of January 1994	Forest lands management	Gives rights to communities to own and exploit community forest lands. State has the responsibility to protect forests and reserves.
Law N° 96/12 of 5 <sup>th</sup> August 1996	Environmental and biodiversity resources	Basis for varied conservation practices of MINEPDEP, MINOF, MINADER and multiple Civil Society Organisations'
Decree 01/718/PM 3/9/2001 modified by N°. 2006/1577/PM of 11/9/2006	Forest and grazing lands management	Organising the functioning of the inter-ministerial committee on exploitation and use of biodiversity in forests and grazing lands.
Law No 2004/003 06/4/2002	Built-up land management	Prohibits housing development in areas of exposure and sensitivity to geo-hazards
Law No. 2004/003 of 21/4/2004	Urban Built-up land management	Regulate Town Planning by controlling housing development in urban areas through the issuing of building permits
Law No 99/014 of 22/12/1999	All lands	Provide the legal basis for the creation of the multiple Civil Society Organizations involved in LM.

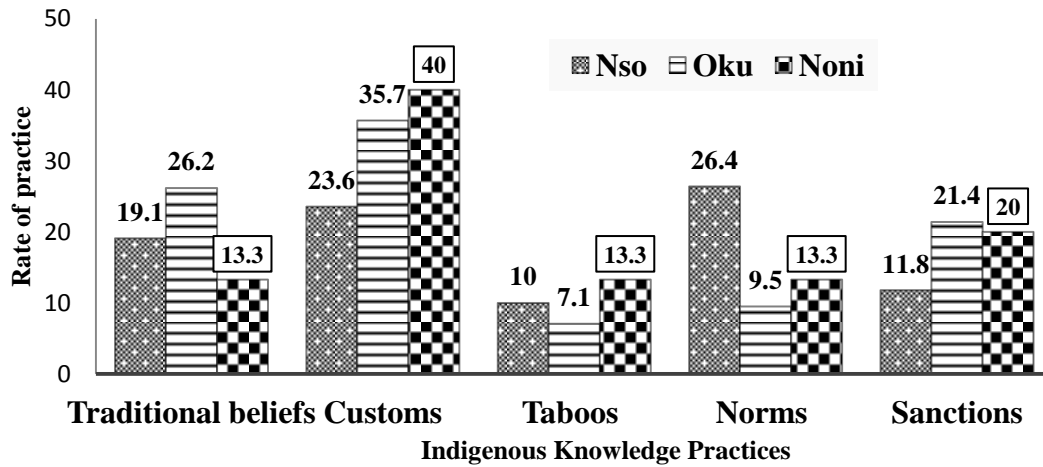
Source: [18, 22-24]

**Table 5. Categories of lands in Bui Division as per the 1974 Ordinance**

<b>Category of land</b>	<b>Cameroon standards</b>	<b>Land as in Bui Division</b>
Private land (owned private individuals)	Registered, Freehold, Transcribed, concession and Grundbuch lands	Lands with pillars bearing number or land possessing Land Titles and other legal documents
National lands	Lands occupied by houses, farms, plantations, grazing, forests and all lands free of any effective occupation	Rural and urban built-up with no titles, farmlands, forested areas and grazed areas utilized by the indigenous populations
Public lands	Coastlands, waterways, Subsoil, air space, marsh and wetlands, lakes, roads, seas and airports, communication lines, public buildings and monuments as well as cemeteries, palaces and shrines	Cultivated marsh and wetlands as well as irrigated river banks and valleys. Associated components like climate that support the management of lands

Source: [18, 22-24]





**Fig. 4. Degree of application of Indigenous Knowledge Practices in the tribal communities of Bui Division**

Source: Fieldwork (2021), [25]

**Table 6. Stakeholder charged with land acquisition and distribution in Bui Division**

Stakeholders	Roles in land acquisition and distribution
Fon	Permanent member in land distribution, highest traditional authority in land tenure determination
Village council	Judge land matters in the villages, execute the Fon's orders, punishes defaulters who violet tenure laws
Village head	Member in land registration, allocates and distribute land for public use, receives and treats petitions on land matters
Quarter head	Same functions as the village head but in a limited scope. Charged with installing and removing injunctions on land
SDO/DO	Permanent member in all the commissions charged with land registration. Chairman of the land consultative board
MINDCAF	Permanent ministry in land registration and distributions. All chiefs of services like the DCL, DCS, DCLT determine the land registration procedures as defined by law.
Council (Mayor)	Member of the site board chairman and surveillance commissions in land distribution. More involved in urban and public land development
Landlord	More involved among others in land speculation. They buy and sell land. Involve in the signing of sales certificates
Family Head	Highest authority in taking decisions over family land assets. Determines the inheritance rights of the family.
<b>Total</b>	/

Source: [18, 22, 24]

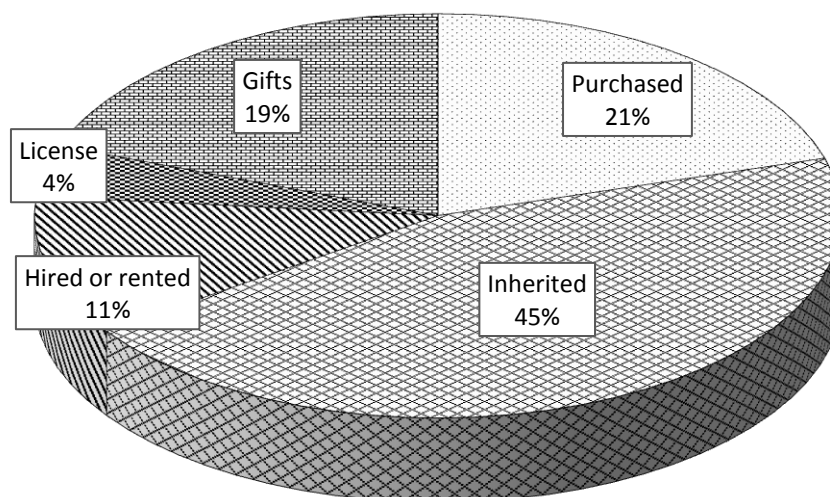
**Table 7. Land registration commissions in Bui Division**

Commission	Stakeholders	Status	Functions
Site Board Commission	SDO	Chairman	Determines the extent of implementation of state laws and regulates the activities of the commission. Delegate powers to members
	DCSL	Secretary	Take down minutes on issues and documents registration process
	DOs	Member	Allocates land for specific functions in the area
	DD	Member	Determines the agricultural potentials of land

Commission	Stakeholders	Status	Functions
Land Consultative Board	MINADER		
	DD MINEPIA	Member	Defend the rights of the grazers
	MP	Member	Defend the rights of the people in land exploitation.
	Mayor	Member	Produces the land use plan for the municipality to guide the commission members. Building permits
	Fon	Member	Allocates land and determines the land tenure
	2 notables	Member	Assist the Fon and confirm the traditional tenure laws. Ensures the respect of tenure rights
	DO	Chairman	Determines the procedure of operations and local functions of members. Signs legal documents
	DCLT	Secretary	Take down minutes on issues and documents registration process
	DCS	Member	Ensures the technical specificities by measuring and planting the pillars
	Surveillance commission	Fon	Member
2 notables		Member	Assist the Fon and confirm the traditional tenure laws. Ensures the respect of tenure rights
DO		Chairman	Determines the procedure of operations and local functions of members. Signs legal documents
DCS		Secretary	Ensures the technical specificities by measuring and planting the pillars
Mayor		Member	Produces the land use plan for the municipality to guide the commission members. Building permits
Village head		Member	Confirms the right of ownership of land by individuals
2 notables		Member	Assist the Fon and confirm the traditional tenure laws. Ensures the respect of tenure rights

Source: [18, 22, 24-25]

Key: DOs: Divisional Officers; SDO: Senior Divisional Officer; MINDCAF: Ministry of State Property, Lands and Surveys; DCL: Divisional Chief of Lands; DCS: Divisional Chief of Surveys; DCLT: Divisional Chief of Land Tenure; MINADER: Ministry of Agriculture and Rural Development; MINEPIA; Ministry of Livestock, Fisheries and Animal Husbandry



**Fig. 5. Land tenure options in Bui Division**

Source: Field Survey (2021), [25]

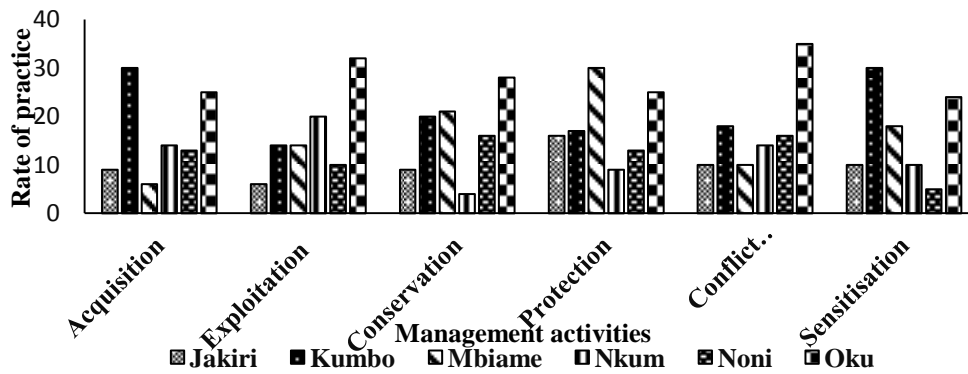


Fig. 6. Spatial dynamics in stakeholders' management options

Source: Field Survey (2021)

Table 8. Sectorial stakeholders' interactive land management options

Category of land	Major sectorial stakeholders	Management specificities
Land and fertile soils	Population, Councils, SDOs, DOs, MINDCAF, MINADER and MINEPDED, MINDUH Kwifon, CIGs, VDAs, CBOs	Land use planning, crop cultivation, training and sensitisation on sustainable environmental agricultural practices, administrative and traditional orders, town planning regulation, building permits, land registration, Organise water and land conflict mitigation, regenerate vegetation, prohibit destructive activities, training and river bank protection, administrative and traditional orders.
Forestlands	Population, Council, DOs, Kwifon, MINOF, FMIs, NGOs, CIGs, VDAs, CBOs International bodies	Reforestation, fires tracing, regeneration, sensitisation and elimination of eucalyptus trees, administrative and traditional orders, exploitation of forest resources
Agrarian lands	Grazers, MINEPDED, MINEPIA, DOs, Kwifon, MINDCAF, CIGs, VDAs, CBOs	Land use mapping and training on pasture production, administrative and traditional orders, raising of livestock

Source: [18, 22, 24-27]

Key: MINEPDED: Ministry of Environment Nature Protection and Sustainable Development, CIGs: Common Initiative Group, VDAs: Village Development Associations, CBOs: Community Based Organisations, MINOF: Ministry of Forestry and Wildlife, FMIs: Forest Management Institutions

The family head is the highest stakeholder in land acquisition and distribution. The 21% relative rate is linked to the fact that the population in Bui Division is very much embedded in the traditional methods of land acquisition and distribution. By this method of land tenure, only the family head gives out land to family members. Based on this indigenous practice, the 1974 Ordinance and the 1984 amendment provisions defines the commissions in land registration process (Table 7).

Considering the fact that indigenous stakeholders constitute a majority of the stakeholders in land management regulated by state instruments, the distribution of land is

based on the traditional and modern land tenure rights unique in all the tribal communities. These communities have a similar ancestral origin. The acquisition and use of land is based on the different land tenure systems practiced in this area (Fig. 5).

Inheritance (45%) is the main method of land acquisition in Bui Division. This is explained by the fact that the indigenous tribal communities believe in land being ancestral land. The family head hands it down to the successors. Acquisition is marked by land grabbing high in pioneer fronts like Mbonso, Mbokam, Chaah, Bamti and Buukuh. Land is also bought by the wealthy for large scale farming and investments.

Interaction management options are reflected on the spatial dynamics of stakeholders' activities and rate of intensities (Fig. 6).

Land acquisition is more a management option in Kumbo and Oku Sub-Divisions. The 30% and 25% respective variations are seen in the different rates in the acquisition of land titles and building permits in Kumbo. In Oku, the high scarcity of land in a sensitive mountainous community has caused management options to be focused more on land conservation activities. This is the most mountainous zone of the division and part is forested land and protected from encroachment. Land scarcity necessitates a rising stake in acquisition and utilisation. This is the basis of LM in the area skewed more on conservation of endemic land resource frontiers admits a growing population in a precipitous environment. Another significant specificity in LM options is protection and sensitisation dominant in Mbiame, Kumbo and Oku Sub-Divisions. Interaction stakeholders' options have dynamics with increased Civil Society Organisations and the state institutions. Varied interactive management optional signatures are therefore striking in diverse domains (Table 8).

On a general perspective, most land use options in the different periodical trends are based on rural land uses. Large scale agriculture for grabbed lands exist in the hollow frontiers, unsettled areas and pioneer fronts. Cultural land use options reflected in IKPs were most dominant before 1980 (40%) and dropped sharply from 1990 to 2020. The exploitation of varied medicinal plants thrived a source of healthcare delivery to the population in this period. This is seen in the Kilum/Ijim Wildlife Sanctuary that is highly protected and conserved. Management of rural settlement space was also dominant with all settlements before 1980 and 1981-2000 being rural except Kumbo as the Divisional headquarters. Changes occurred from 2011-2020 as all the 6 Sub-Divisional headquarters today are urban centres.

The DOs and the *Kwifon* are involved almost in all categories of lands considering the sectors' specificities. The laws and constitution of the Republic of Cameroon give the DOs the right to represent the Head of State in their areas of command with the ultimate powers to control all the lands. The *Kwifon* is the supreme authority, traditional parliament and custodian of the tradition in the tribal communities of Bui Division. They are charge with the main

tenure decisions concerning land exploitation options.

#### **3.1.4 Spatio-temporal analysis of stakeholders' interactive management interests**

There are spatio-temporal variations in stakeholders' interests LM. This is a function of the different stakeholders' interaction options in the LM process. The evolution and rate of change is driven by the multiple stakeholders with varied socio-cultural, economic, political and IKP towards the significance of the different categories of lands (Table 9).

From Table 9, there are spatial variations in the management interests of stakeholders. There is the conspicuous dominance of the livelihood interests Jakiri (30%) and Oku (26.2%) Sub-Divisions. This was explained by the periods between 1971-1980 and 1991-2000 when agricultural activities were the main livelihood activities. There was little diversification of the economy with insignificant non-farm sector activities. More LM practices were more on subsistence cropping systems. Environmental management interest is most in Nkum (14.7%) and Mbiame (14.6%). This is explained by the high protection of customary lands for traditional and cultural practices. These protected areas are considered as sacred sites where the gods of the land of the Nso tribe reside. The introduction of multiple stakeholders in in Kumbo and Oku Sub-divisions (Fig. 3) have made LM interest to be tilted more towards village development and employment. This is explained by the management options being shifted from communities' socio-cultural aspirations to options of income generation for livelihoods sustenance. This explains why livelihood and employment are the main LM interests of the stakeholders across all the tribal communities of make-up Bui Division (Nso, Oku and Noni). The population highly depends on land exploitation for survival. This is the basis for the practice of agriculture, grazing, construction and forest exploitation by 98% of the population in Bui Division. The least interest in LM is political. This is explained by the increasing apolitical nature of individuals' people in LM activities. They are more interested in the economic benefits of land than political reflected more in state institutions. The highest political interest (34%) in Nkum in Nso is seen in the cosmopolitan nature of the Sub-Divisions and the proximity to the tribes like Noni and Wimbun with dissimilar traditions but multi-cultural interactions.

**Table 9. Spatial variations in management interests of stakeholders in Bui Division**

Stakeholder s' interests	Jakiri		Kumbo		Mbiame		Nkum		Noni		Oku	
	F	%	F	%	F	%	F	%	F	%	F	%
Livelihood	18	31.0	21	19.1	12	25.0	16	15.7	15	25.	3	26.
Environmental	8	12.1	11	10.0	7	14.6	15	14.7	8	13.	1	9.5
Political	4	6.9	15	13.6	12	25.0	35	34.3	15	25.	1	9.5
Village development	10	17.2	21	19.1	6	12.5	14	13.7	7	11.	2	16.
Employment	10	17.2	23	20.9	3	6.3	7	6.9	4	6.7	3	28.
Customs and traditions	4	6.9	13	11.8	3	6.3	11	10.8	4	6.7	6	4.8
State laws	5	8.6	6	5.5	5	10.4	4	3.9	7	11.	6	4.8
<b>Total</b>	<b>59</b>	<b>100</b>	<b>110</b>	<b>100</b>	<b>48</b>	<b>100</b>	<b>102</b>	<b>100</b>	<b>60</b>	<b>107</b>	<b>126</b>	<b>100</b>

Source: Field Survey (2021), [24]

**Table 10. Anova Test for multiple stakeholders' interactions in land management**

		ANOVA				
Multiple stakeholders interactions		Sum of Squares	df	Mean Square	F	Sig.
Stakeholders in land distribution (1971-2020)	Between Groups	33.015	7	5.502	.894	.654
	Within Groups	3938.787	498	7.925		
	<b>Total</b>	<b>3971.802</b>	<b>505</b>			
Decisions making (1970-2020)	Between Groups	161.929	7	26.988	7.98	.000
	Within Groups	1680.910	498	3.382		
	<b>Total</b>	<b>1842.839</b>	<b>505</b>			
Traditional institutions (1970-2020)	Between Groups	53.121	7	8.853	3.92	.001
	Within Groups	1120.782	498	2.255		
	<b>Total</b>	<b>1173.903</b>	<b>505</b>			
State stakeholders (1970-2020)	Between Groups	40.584	7	6.764	3.60	.002
	Within Groups	931.884	498	1.875		
	<b>Total</b>	<b>972.468</b>	<b>505</b>			
Local development actors (1970-2021)	Between Groups	54.670	7	9.112	8.27	.000
	Within Groups	547.322	498	1.101		
	<b>Total</b>	<b>601.992</b>	<b>505</b>			

Source: Field Survey (2021), Generated in SPSS V20

**3.1.5 Significance differences in stakeholders' interactions in land management options**

To compare the significant differences in the multiple stakeholders' interaction options for LM, the premise of the study was used based on the

Anova analysis. Framed on the concept of stakeholders, the operationalization of this concept pointed to multiple stakeholders having diverse interaction options for LM. Calculations are done at a 0.05 critical level at a df of 7 (Table 10).

The calculated Anova Ratios are 0.9, 8, 3.9, 3.6 and 8.3 (approximated at one decimal place). The significant corresponding values in the Anova Table at a 95 Confidence Level are 0.65, 0.000, 0.001, 0.002 and 0.000. Comparing the calculated values and the tabulated ratios, the former is greater than the later. This means that the alternative hypothesis is accepted which states that there are significant differences in stakeholders' interaction options for LM in Bui Division. This is supported by the general increasing trend of management stakeholders' typologies, interaction activities and interests that culminate spatial differences in LM management options in the interaction process.

#### 4. DISCUSSION

There has been the reinforcement of sustainable LM options through multi-sectorial and multi-stakeholder participation. This is seen in the protection and conservation of land and the resources therein. Fieldwork statistics portray most of LM activities as environmentally, economically and socio-culturally responsive, accounting for the growth in multiple stakeholder representation. These are similar to the findings of [9,11] who argued that the sustainability in the management of land resource is determined by more stakeholders' involvements in different sectors. This is indicative in the significant differences in the interactions options for sustainable LM. These stakeholders are resolutely represented from the different tribes, Sub-Divisions and sectors. They are both from the state, Civil Society and indigenous actors. They are also participatory in all the sectors of LM in the different periodical trends. These are in concordance with [6,13,15] who considered the role of multiple stakeholders' representation and participation in reversing the physical environmental human stakes dominant in the management of rural lands for development. This is a salient consideration based on the fact that sustained rural development is based on the effective implementation of the principles of natural resources as echoed by [15]. Field evidence portray 98% of endogenous stakeholders being indigenous and 44% of external stakeholders being state institutions. These stakeholders with an increasing trend use multiple interaction options for LM based more on state institutional regulatory mechanisms. This is consistent with the findings of [16,17,19]. There are dynamics in LM responsive propensities with more relative efforts tilted towards land acquisition, sustainable land

exploitation and land conflicts management as the major stakes of LM. This is different from the analysis [12,13] who considered on the physical stakes and challenges in management of resources for rural development in the Kom Highlands. These LM options are interactively responsive, and significantly addressing 85% of the management stakes considering the multiple representation from diverse sectors as resonated in multiple analyses of [8,11,17]. These have bestowed optimistic management signatures reflected in the increasing livelihood options, innovation diffusion in land exploitation and efficient land service provision for population sustenance and survival. This is in line with the study of [1,2] who positioned that the efficient manage of land and the resources therein is an essential prerequisite for the survival of the population in ecumenes of intricate resources frontiers. Management options have been improved through land use planning [6, 9] for efficient utilisation of land for different land uses for the benefit of all and sundry.

#### 5. CONCLUSION

Land management options are marked by the dynamic trends of multi-stakeholders and multi-sectorial interventions to address the stakes identified. Interaction options are reflected on management predispositions based on stakeholders' interests that vary at spatio-temporal scales. Positive interaction outcomes (85%) are seen on the increasing participatory approaches of the stakeholders' interactions. Management approaches from 1971-2021 are indicative of the dominating influence of indigenous stakeholders (60%). The Anova analysis at a 0.05 critical level at a 95 confidence level with a df of 7 reveals ratios of 0.9, 8, 3.9, 3.6 and 8.3 which are significantly higher than the corresponding Table Values of 0.65, 0.000, 0.001, 0.002 and 0.000 respectively for the LM interaction options. This confirms the hypothesis concluding that interaction options for LM are significantly different and directly based on stakeholders' activities and interests. This establishes a strong positive correlation between LM options and stakeholders' interests with 78% more of livelihoods. Considering the inseparable nexus between stakeholders' interaction options for LM and stakeholders' interests, the study posits that participatory [8, 10, 11] LM is the best approach to reduce the problem of under representation of stakeholders in land resource management platforms. These results are suggestive of the fact that the applicability of



indigenous stakeholders' responsive options in LM through a blend of modern innovative practices and IKP are plausible in reversing the increased perception of under representation of some stakeholders and sustainability. This, in the context of multi-stakeholder and multi-sectorial interaction arenas are a direct panacea to circumventing the stakes of LM in local communities. Intercommunity interdependence in trans-boundary LM should therefore be primordial. Such commonplace exertions can promote sustainable interactive LM options in sensitive milieus where the defiance of space occupancy and land developmental dilemmas are still exacerbated.

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. FAO. Sustainable Land Management for Food and Agriculture. Report from the Regional Office for Africa; 2021;74. Available: [www.fao.org/sustainable-land-management](http://www.fao.org/sustainable-land-management). Consulted on 27/10/2021.
2. Aghileri D, Burlando P. Water resource management. Report on the EU water framework on the threshold: environmental changes as causes of acute conflict. *Journal of international security*. 2017; 16(2):76-116.
3. UNO. Sustainable land use for the 21st Century. Hand book. 2012; 195.
4. Hart K, Allen B, Lindner M, Keenleyside C, Burgess P, Eggers J, Buckwell A. Land as an Environmental Resource, Report Prepared for DG Environment. Institute for European Environmental Policy, London. 2013:262.
5. World Bank. Sustainable Land Management challenges, opportunities and trade-offs. 1818 H Street, NW Washington, DC. 2006; 41.
6. Hanne L, Thaworn O, Phrek G. Building Local Capacities in Natural Resources Management for Food Security in the Highlands of Northern Thailand. Report on the International Conference on Asian Highland Natural Resources Management, Asia. 2018; 8.
7. FAO. Land resource planning for sustainable land management. Land and water division working Paper. 2017; 14.
8. Mehretie B, Woldeamlak B. Stakeholder linkages for sustainable land management in Dangila Woreda, Amhara Region, Ethiopia. *Ethiopian Journal of Environmental Studies and Management*. 2013; 6(3): 253-261.
9. Kimengsi JN, Moteka PN. Revisiting Participatory Forest Management and Community Livelihoods in the Kilum-Ijim Montane Forest Landscape of Cameroon. *International Journal of Global Sustainability*. 2018; 2(139): 39-55.
10. Bailack KM, Fogwe ZN. Land resource conflict mitigation diplomacy for harmonious inter communities' coexistence: The Oku-Mbessa legacy in the North West region of Cameroon. *International Journal of Current Research*. 2019; 11(07): 5628-5635.
11. Mbanga LA, Bailack KM. Land Resource Management for Sustainability in the Oku-Mbessa Highlands, North West Region, Cameroon. *International Journal of Natural Resource Ecology and Management*. 2019; 4(6): 173-182.
12. Yuliana N, Johannes MS, Tetelepta JA, Pattikawa, Ong TS, Ongkers. Incorporating the Ecological, Socio-economic and Institutional Conceptual Model Framework for Sustainable Management of Small-scale Mud Crab (*Scylla serrata*) Fishery in Western Seram Regency, Indonesia. *Environment and Natural Resources Journal*. 2021; 19(3): 207-219.
13. Fogwe ZN, Ateh EN, Kimengsi JN. Stakeholders' Interaction and Sustainable Rural Development Implementation Challenges in Kom, Western Highlands of Cameroon. *Journal of Geography, Environment and Earth Science International*. 2019; 23(3): 1-13.
14. Mbanga LA, Ndi HN. Participation of farmers' groups as a panacea for revamping the agricultural sector. Analysis of the NW Region of Cameroon. In *Revue*

- Kaliao. HTTC, University of Maroua. Hor serie numero. 2013; 2:309-322.
15. Mbanga LA. Institutions and local development: Analysing experiences in Mezam Division, North West Region, Cameroon. *African Journal of Social Sciences*. 2020; 11(6): 25-44.
  16. Nyanchi TG. Nchamcham NO. Common Initiative Groups (CIGs) Enhancement in Agricultural Production Oku, Cameroon. *International Journal of Sustainable Development Research*. 2020; 5(3):71-78.
  17. Friedman AL. Developing a stakeholder theory. *Journal of Management and Studies*. 2001; 39(1): 1-21.
  18. Divisional Delegation State Property, Lands and Surveys, Bui. Annual Report on Land Administration Activities Bui Division. 2020; 22.
  19. Bailack KM. Land resource management and conflicts in the Oku-Mbessa highlands. Unpublished Master's Thesis, Department of Geography and Planning, The University of Bamenda; 2018; 202.
  20. Taro O. Determining Sample Size. IFAS, University of Florida. PEOD-5. 1976;5.
  21. Rob K. The Data Revolution: Big Data, Open Data, Data Infrastructure and their Consequences. Ireland, NUI Maynooth. 2014; 204.
  22. Senior Divisional Officer, Bui. Archives of Administrative Reports. 2021;175.
  23. Kumbo Council Development Plan. Elaborated with the support of the National Community Driven Development Program (PNDP). 2017; 276.
  24. Divisional Delegation of Agriculture and Rural Development, Bui. Annual Report on Agro-Pastoral Activities in Bui Division. 2020; 41.
  25. Nso Palace. Palace archives on Customary and Traditional Set-up of the Nso Tribe; 2021;44.
  26. Divisional Delegation of Livestock, Fisheries and Animal Husbandry, Bui. Annual report on animal production in Bui Division. 2019; 27.
  27. Divisional Delegation of Environment and Nature Protection. Annual Report on environmental Management for Bui Division. 2018;30.

© 2021 Mbuh and Akei; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*

*The peer review history for this paper can be accessed here:*

<https://www.sdiarticle5.com/review-history/78195>