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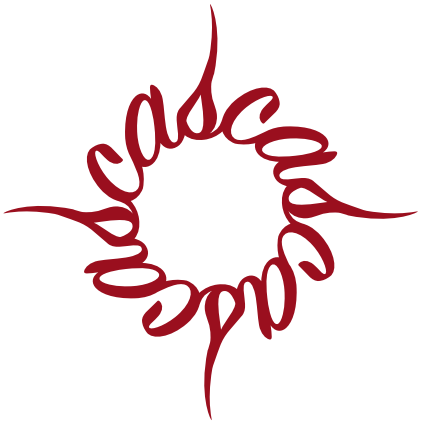

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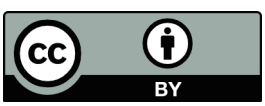

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# The Accra Tudu Lorry Park Drivers' Association and Politics in Ghana: 1930s-2000

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**Abstract**

This paper discusses some of the changes that occurred due to the introduction of motorised transport in Ghana, as viewed through the lens of Accra's Tudu Lorry Park and bus stops. Specifically, we discuss how Tudu Lorry Park has been politically connected to Ghana's politics from the colonial period to the present. This paper argues that the complex relationship between local networks, such as drivers' associations, and Ghanaian Politics, can be better understood through the operations of lorry parks, examples of which include those in Accra, Ghana.

**Keywords**: Ghana, Accra, drivers' association, politics, lorry parks, Tudu

## 1. Introduction

In 1902, the first motorcar was introduced on the Gold Coast, which became modern-day Ghana. The car was used by Governor Sir Nathan Mathew, whose administrative jurisdiction was expanded following the defeat of the Asante in the Yaa Asantewaa war of 1900/1[1]. This defeat led to the incorporation of the Asante and the Northern Territories into the colony (Maxwell 1928)[2]. Even though other forms of transportation existed, such as portering, and river and rail transportation, the introduction of the motor car was one of the most significant transport revolutions that ever occurred in Ghana[3]. This study discusses some of the changes that ensued as a result of the introduction of motorised transport in Accra's Tudu[4]. Moreover, we explore how Tudu Lorry Park was politically connected to Ghana's politics. This study is divided into three parts. The first section provides a brief history of the Tudu Drivers' Association. The second discusses the process of becoming a member of the association. The third examines the complex relationship between local networks, such as the Driver's Association at Lorry Park, and politics in Ghana.

## 2. The Tudu Drivers' Association

The emergence of drivers' unions or associations in the 1920s and 1930s highlights the array of strategies for social and economic organizations that were available to workers on the Gold Coast. Particularly among workers who operated outside the conventional categories of the colonial economy, unions provided only one of many models for labour organization (Hart 2014). Associations and unions became avenues through which drivers and vehicle owners engaged in colonial administration, and later the state, on matters related to transportation. Associations have also become critical of the country's political culture since independence.

The exact year in which the Tudu Drivers' Association was founded is unclear; however, informants believed that it was formed in the early 1930s. This association was formed under the initiative of Ex-Sgt. Bukar Grumah, Pte Amadu Suuka, Pte. Kofi Boafo, Amadu Ilorin, Imoro Lincoln, and E. K. Gbedemah. It is important to note that, except for the first three ex-servicemen and Gbedemah, who were drivers, the rest were traders in kola nuts, cattle, and horses (Ntewusu 2011). The colonial administration did not employ these drivers; instead, private merchants bought

[1] Yaa Asantewaa was an Asante queen mother from Ejisu in the Asante region of Ghana. The war with the British was named after her because she played an important role in resisting some of the demands made by the British Army when they were in Kumasi, the capital of the Asante.
[2] The Northern Territories refers to the present-day northern part of Ghana which includes: the Northern, North-east, Savannah, Upper East, and Upper West Regions.
[3] We shall use Gold Coast and Ghana interchangeably as both terms refer to the same thing in this paper. This does not necessarily indicate that we are not unaware of the name Gold Coast prior to independence in 1957.
[4] Tudu is a Hausa word that means a hill or an elevated area. Hausa is a language spoken in West Africa, particularly in Nigeria. The original people in Accra, the capital of Ghana, were the Ga; however, other migrant settlers include the Akan, Ewe, Dagomba, Gonja, and several others. Accra is home to several ethnic groups from West Africa. Ghana, formerly called the Gold Coast, gained independence from Britain in 1957.

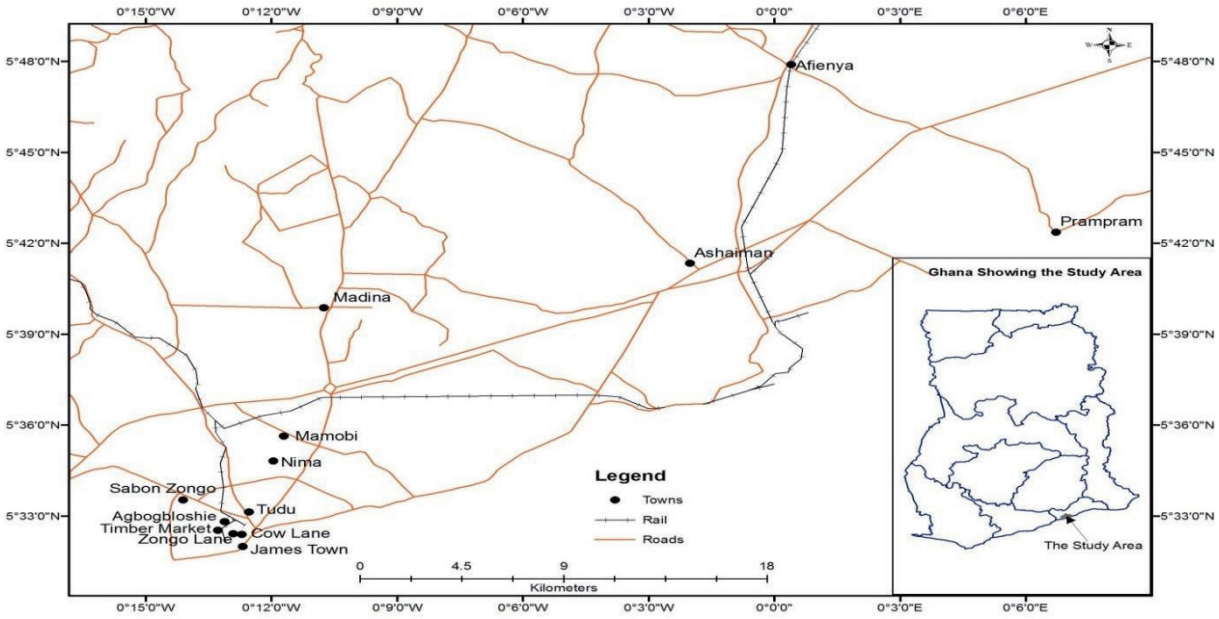


Figure 1. Map of Accra showing the study area. Insert is the map of Ghana with the study area highlighted

Source: Ntewusu 2011: 32.

vehicles and employed them to work for them as drivers. Some drivers had been previously employed in colonial security services and took on jobs as drivers following their retirement or disbandment. Our informants indicated that non-driver membership arose because of their residence in Tudu and their use of the park for trade. By the 1940s, members of the Tudu Drivers' Association comprised mainly drivers and car owners; traders were excluded. This change in membership was due to the incorporation of the Tudu Drivers' Association into the wider Motor Drivers' Union.

### 2.1. Becoming a member and the benefits thereof

Since its incorporation into the Motor Drivers' Union, and later, the Ghana Private Road Transport Union, membership in the association had always been for registered drivers at the lorry park with a driver's licence, owners of the vehicles at the park, and '*bookmen'* or '*collectors*' whom they refer to as 'porters'[5]. Two types of drivers exist in lorry parks. The first are regular drivers, whose vehicles are always on the road, except on days when they decide to rest or visit mechanics. The second are called *spare*; *spares* are usually those whose vehicles have been seized by their owners, have been involved in an accident, or have just obtained their driver's licence and are yet to be given a vehicle. They mostly went to the park and sat near welfare offices. Usually, if a regular driver is sick or attends to social issues, a *spare* is called to drive the vehicle to a specific destination and back. Even though *spares* are drivers

[5] The name *bookmen* came about due to the entries that they kept in books relating to vehicular movements and other issues related to mobility in the lorry parks.

at the park, they are not part of the union because they do not pay their monthly dues. Membership has many benefits. Regarding finances, members could receive money during marriage, childbirth, ill health, or bereavement. Soft loans were also provided to drivers to meet contingency expenses. Recently, drivers at lorry parks have been included in the National Health Insurance Scheme, for which the premium is paid based on the drivers' contribution to the association. One symptomatic factor of this association is its engagement in politics in Ghana.

### 2.2. The Drivers' Union and politics: 1930-1956

The events that culminated in the creation of lorry parks in 1929 and the 1930s showed the first positive signs of the partial political engagement of drivers in Tudu. However, the period of radical nationalism on the Gold Coast provided a lucrative outlet for full participation in politics. In the 1940s, drivers were effectively used as tools in the decolonization process. For example, during the February 1948 shooting incident and subsequent rioting in Accra, E. K. Gbedemah, who was then a resident at Farrar Avenue, close to Tudu, and a member of the United Gold Coast Convention (UGCC), indicated in his testimony during an inquisition into the crises that lorry drivers had refused to work in solidarity with ex-servicemen[6]. The behavior of the drivers in Tudu should not be surprising, as the ex-servicemen not only got jobs as drivers at the lorry park but were also very influential in the establishment of the drivers' association in Tudu.

The engagement of the Tudu Drivers' Association in the 1948 riot forced Kwame Nkrumah to depend on drivers for propaganda purposes when he formed his Convention Peoples Party (CPP) in 1949. The informants indicated that they were responsible for distributing the Accra Evening News, a pro-Nkrumah newspaper. They also ensured that newspapers from the opposition, especially the Statesmen, never reached their proper destinations when given to them for delivery. In addition, as the colonial administration relied on drivers on the western route to deliver some of the mail going out or coming in from overseas, Nkrumah was able to monitor some of the correspondence between British officials in the country and London. Strikingly, some newspapers are still sent through Tudu Lorry Park according to the routes operated. During our fieldwork, we focused on the delivery of the 'Catholic Standard and Evening News' to several destinations in Ghana.

The relationship that developed between Nkrumah and drivers made some members of the Youth Wing of Nkrumah's Convention People's Party to join the Young Pioneers. Nkrumah chose Tudu for espionage because of the numerous routes that operated in the park. The leader of the Young Pioneers at the park was E. K. Gbedemah, the brother of K. A. Gbedemah, a leading member of the Convention

[6] Public Records Office (PRO), Kew, London, CO 964/14, Memoranda Received from Members of the Public Gold Coast Commission of Enquiry, 1948.

People's Party.[7] Informants at Tudu indicate Nkrumah's regular visits to 'The Elders of Tudu', particularly Amadu Ilorin, a prominent Kola nut trader. Although he was not a driver, Amadu was influential in founding the Tudu Drivers Association. In addition, because of his wealth, religious affiliation, and connection with drivers, Amadu became the preferred unofficial representative of Muslim migrants in Accra in Nkrumah's CPP. Amadu's son indicated that it was not only motor drivers who were roped into Nkrumah's campaign but also horse-drawn transporters in Tudu[8]. Besides the Drivers' Association, Nkrumah used other motorised technologies, such as mobile vans, to spread his propaganda. In this context, a link existed between motor cars and motorised transportation in ensuring electoral victories in African countries and Ghana's decolonization process. As Brenda Chalfin pointed out, Ghanaian socialism took hold in the aftermath of independence. In the late 1950s and early 1960s, the state reclaimed the vehicle as a marker of its modernizing capacity and purchased and distributed cars to its many programmes and backers; the car remained a centrepiece of state power and patronage (Chalfin 2008).

### 2.3. Ghana's independence and the Driver's Association 1957-1966

From 1957 onward, drivers at Tudu Lorry Park sustained Kwame Nkrumah's propaganda machine and spread his ideas. Drivers at the Lorry Park, such as Pte Kofi Boafo and his son Kweku Boafo, were recruited for Nkrumah's secret service[9]. Their role was to obtain information from the public and relay it to the government. In 1960, through his Minister of Defense, Kofi Baaku, Nkrumah assisted Kwesi Boafor and a few others in establishing the Abossey Okine Lorry Park, the purpose of which was to monitor the activities of the Abossey Okine motor spare parts businessmen and women who were perceived to be anti-Nkrumah. Using drivers was an effective tool since the businessmen relied on them to convey their products from the Takoradi port to Abossey Okine. Daily conversations with and from the port were recorded by drivers and relayed to the government.

By 1961, the drivers at the park were divided into two groups: those in support of Nkrumah and those against him. Why should a lorry park, which was initially pro-Nkrumah, become divided later? The answer lies in the relationship between Nkrumah and K. A. Gbedemah. As indicated previously, both Nkrumah and K. A. Gbedemah originally belonged to the UGCC. K. A. Gbedemah left with Nkrumah to form the CPP. While Nkrumah was charismatic, K. A. Gbedemah was known for his organisational ability. In part, his ability to organise was due to his brother's position as the driver leader in Tudu. As their leader, his brother was able to utilise the various routes operated at Lorry Park to spread the ideas and propaganda of the party. Party functionaries were transported from the park to various parts of the

[7] They are all from the same hometown in Anyako in the Volta Region of Ghana
[8] Information from Imoru Bobolagi, Tudu, 2015.
[9] Information from Kweku Buafo, Tudu, 2010.

country at the expense of the associations.

K. A. Gbedemah was the Minister of Finance. Informants indicated that in addition to being a Member of Parliament, his organizational role in the party earned him that position. We argue that this organizational role would have been impossible without the drivers and lorry park. In 1961, K. A. Gbedemah fell out with Nkrumah over the latter's lack of cooperation with some of his ministers and over the country's finances. K. A. Gbedemah resigned in 1961 and went into exile in the same year to avoid being imprisoned under the Preventive Detention Act (Apter 1968). With K. A. Gbedemah in exile, no incentive remained for his brother, and for that matter, some drivers in the association continued to support him. E. K. Gbedemah convinced most drivers on the Volta route to go anti-Nkrumah in solidarity with their tribesmen since he was an Ewe from the Volta Region. Kweku Boafo, driving at the Abossey Okine Lorry Park, returned to Tudu to strengthen the Nkrumah faction. He and his father, Kofi Boafo, were Fanti from Takoradi in the Western Region, where Nkrumah originated. By 1963, Kofi Boafo convinced the rest of the drivers to apply various routes, except Volta, to continue supporting Nkrumah.

### 2.4. The overthrow of Nkrumah and the Drivers' Association 1966-1969

In 1966, Nkrumah was overthrown by both military and police forces. Following his overthrow, Kweku Boafo and other drivers at Abossey Okine Lorry Park and Tudu fled to Nigeria through the Tudu-Lome-Lagos route. E. K. Gbedemah and other drivers on the coastal route supported military overthrows by the National Liberation Council. They named their office at the Tudu Lorry Park 'Kotoka Station' to celebrate the success of the overthrow of Nkrumah and to recognise the contribution of Colonel E. K. Kotoka, one of the architects of the revolution, and an Ewe from the Volta Region[10]. The actions of both E. K. Gbedemah and Boafo can be interpreted in a broader political context. Regionalism and ethnicity were parcels of Ghanaian politics, even before and after independence. At the park, one could say that occupational interests sustained Nkrumah's popularity; however, when K. A. Gbedemah went into exile, ethnicity and regionalism became relevant and superseded occupational interests, hence, the division. It must be added that K. A. Gbedemah's actions were geopolitically motivated because the Volta Region, formerly Trans-Volta Togoland, was an anti-CPP territory, as evidenced by the formation of its own party, the Togoland Congress (Apter 1968). In addition, E. K. Gbedemah and the other drivers named the branch office Kotoka, after one of the military leaders who overthrew Nkrumah, reflecting the geopolitical forces within the park.

[10] The rest of the top hierarchy of the coup-makers included Major A.A. Afrifa and J.W. Harlley, the Inspector General of the Police.

### 2.5. The Drivers' Association under K.A. Busia 1969-1972

In 1969, Kofi Abrefa Busia and his Progress Party came to power, three years after military rule. That same year, some drivers in Asante broke away from the Motor Drivers Union, accusing the union of retaining Nkrumah's ideas, even though he was overthrown. It should be noted that Nkrumah was pro-socialist, an ideology that worked against the market- or capital-oriented operations of the private transport system (Stasik 2015). The breakaway drivers formed the Progressive Transport Owners Association (PROTOA). The name 'Progressive', as adopted by the drivers, was in keeping with the name of Busia's Party, the Progress Party. PROTOA was supported by the Busia administration. Of greater interest to our discussion is the extent to which the formation of the PROTOA and Busia's policy on aliens affected the Tudu Drivers' Association. In 1969, Busia passed the Alien Compliance Order, which required aliens without the requisite residential or working permits to leave the country. Most of those affected were Lebanese, Syrians, or Nigerians. Among Nigerians, the Yoruba and Ibo were the most affected. Friction began among drivers regarding the order in the lines of those who support the deportation order and against the order. Meanwhile, some drivers within the park were Yoruba and Ibo, and some held positions such as treasurer and secretary within the Drivers' Association. Matters worsened in 1970, when the positions of treasurer and secretary were to be filled following the departure of officers to Nigeria. Those who were in support of the deportation order held positions as treasurer or secretary. Those who opposed the deportation order accused their opponents of being agents of Nkrumah. Unable to coexist with the others, they broke away to form a branch of PROTOA in Accra. The break-away drivers succeeded in establishing a rival lorry park at Novotel, about two hundred metres north-east of the Tudu Lorry Park, called the 'Ho station'. Even though the park was called the Ho Station, it operated at several destinations on the Volta route, offering stiff competition to the park in Tudu.

### 2.6. The Drivers' Association after K.A. Busia 1972-2000

In 1972, K.A. Busia was overthrown. From then until 1981, the drivers at Tudu Lorry Park were less involved in Ghana's politics, even though a few strikes were staged in opposition to fuel or spare parts price increases. They maintained a low profile because the regimes after Nkrumah and Busia did not eschew ambitions to secure hegemonic political control over society, although they professed a broad commitment to liberal politics (Gyimah-Boadi 1994). In 1981, Tudu drivers returned to Ghanaian politics under Jerry John Rawlings, his Provisional National Defense Council (PNDC 1981-1992, military), and the National Democratic Congress (NDC 1993-2000 civilian). Several reasons accounted for this trend, two of which merit comment here, namely, the Economic Recovery Programme and Rawlings political mobilization programme (Gyimah-Boadi 1994). Following the adoption of the Economic Recovery Programme, the country's informal sector expanded, and the transport sector benefited the most. Rawlings' liberal policy towards importing vehicles and vehicle parts from the

United States and Europe resulted in a revamp in the motor transport sector and an increase in the number of vehicles in the country. Many drivers and vehicle owners, including those in Tudu, were drawn to the government through this policy. As Alhassan indicated:

> I will say that from Nkrumah's time, things have changed, and Acheampong and Busia have also changed. Acheampong brought vehicles, Dr Hilla Limman too brought vehicles, but Jerry Rawlings brought us many cars through GPRTU. Rawlings did a lot for us; nobody, including the drivers in the park, enjoyed it when Rawlings was there (in power)[11].

Second, the PNDC government has made conscious efforts to incorporate private transporters into its arms. For example, the Private Transporters Association was reorganised through the Trade Union Congress into the Ghana Private Road Transport Union (GPRTU). The GPRTU operated through 'branches' and 'locals'. Several vehicles within a lorry park (usually approximately 20) make up a local, and five or more locals make up a branch. Each sizeable lorry park in the country has approximately four or more branches and several locals. Through such an arrangement, it became easy for Rawlings revolutionary organs, such as the Workers' Defense Councils or the Committees for the Defense of the Revolution (CDRs), to be formed within the lorry parks. In Tudu, drivers were responsible for keeping the revolutionary flame of Rawlings burning within the park and along the routes operated by the drivers. Incidentally, E. K. Gbedemah, the figure known in our discussion of Nkrumah, became the chairman of all the revolutionary groups in the park.

In 1993, the position of the National Chairman of the GPRTU was vacant; the government assisted E. K. Gbedemah in becoming the national chairman of the GPRTU. He succeeded Nana Kofi Aikins, who was National Chairman from 1981 to 1992. E. K. Gbedemah's election drew the Tudu Drivers' Association closer to the PNDC. Under his chairmanship, a series of Tata buses were imported by the PNDC government and distributed to all branches of the GPRTU on hire purchase bases in the country. E. K. Gbedemah ensured that Tudu Lorry Park drivers received more buses. He argued that even though buses were imported during the chairmanship of Aikins, Tudu received fewer buses, despite the activeness of the drivers in the government. Some drivers at the park also offered themselves to Union Guards, usually referred to as *Union Police*, a para-military group established by the Rawlings administration to police lorry parks in the country. The *Union Police* were trained by the military using military facilities in the country, such as the Armed Forces Training School in Teshie or Defunct Nkrumah's Military Intelligence School at Afienya in Accra. More importantly, some members of the Tudu branch guard, such as Abdalah Mohammed, were empowered to train guards in other parts of the

[11] Information from Alhassan Ibraimah, Tudu, 2012.

country. In a sense, the drivers' association in Tudu was incorporated into the military regime of the Rawlings through its guards and CDRs. Through the provision of vehicles for drivers in Tudu and the formation of the *Union Police,* the PNDC government succeeded in gaining and retaining support from the Tudu Drivers' Association. By 1986, the government placed the GPRTU in a highly privileged position, giving it sole control of all lorry parks. The Tudu association, through its membership in the GPRTU, naturally gained control of the Tudu Lorry Park. In Tudu, the drivers' association capitalised on its new power to tax shopkeepers, chopbar operators, and hawkers at the park.

When Ghana returned to constitutional rule in 1992, the loyalty of the drivers to the National Democratic Congress was assured, as some had acquired vehicles on a hire purchase basis, while others got the job of *Union Police*. The Tudu Drivers' Association made its vehicles available to the NDC to embark on campaigns. The NDC party paraphernalia were displayed in the park in strategic locations[12]. Some vehicles receive indoor and outdoor decorations, mainly reflecting colors such as red, green, white, and black, which are the typical colors of the NDC. The bodies of the drivers are no exception to this. Drivers proudly wore party T-shirts, armbands, and headgear. The National Democratic Congress was in power from to 1992-2000 and equally enjoyed the patronage of E. K. Gbedemah and the Tudu Drivers. The party was defeated by the New Patriotic Party in 2000, and E. K. Gbedemah ended his tenure as Chairman of the GPRTU in the 2000s.

## 3. Conclusion

This study aimed to indicate the circumstances under which the motor car was introduced into the Gold Coast, now Ghana, and the changes that resulted in its introduction. One significant change was the creation of lorry parks. Several factors such as revenue, urbanization, and politics were considered in the creation of lorry parks. Tudu Lorry Park was one such park, established to make goods available to Accra while facilitating the movement of passengers into and out of Accra. Through its numerous national and international routes and destinations, Lorry Park has made several products available to Accra. However, more than just the movement of goods and passengers, the Lorry Park, through its drivers' association, was utilised by various regimes, especially those under Kwame Nkrumah and Jerry John Rawlings, to achieve various political ends. In this context, a lorry park can serve as a microcosm of complex life relationships, rather than just a physical space, as perceived by earlier researchers.

## Reference

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[12] In the course of our research at the lorry park, we met two weavers from Kpotoe in the Volta Region who had relocated there to weave party paraphernalia. According to them, they arrived in 1996 and have since remained.

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# The Role of Traditional Authorities in the Implementation of the Livelihood Empowerment Against Poverty (LEAP) Cash Transfer Programme in Krachi East, Ghana

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**Abstract**

This study examines the role of traditional leaders in the implementation of social protection policies at the local level. In Ghana, traditional leaders play significant roles at the community level and have been incorporated into the modern state as development intermediaries, yet there is a paucity of research on their role in the implementation of social assistance programmes. This paper draws on fieldwork from three communities in the Krachi East District – Dormaben, Addo Nkwanta, and Adumadum – to explore the social interfaces and power relations involved in the implementation of the Livelihood Empowerment Against Poverty (LEAP) cash transfer programme. Data were gathered through semi-structured interviews with key stakeholders, as well as through participant observation and informal discussions. The study established that although the oversight responsibilities of chiefs and traditional leaders are limited in the current democratic dispensation, they continue to operate in an informal space through social norms and practices in the community. The research revealed that although traditional leaders' roles are unofficial, they use their power to influence core LEAP implementation processes: targeting, sensitization and enrolment, payment, monitoring, and grievance redress mechanisms. This study calls for the need to pay attention to the local power dynamics at the community level.

**Keywords**: traditional leaders, social protection, development intermediaries, power relations, implementation process, case study, Krachi East, Ghana

## 1. Introduction

Poverty has been and continues to be a major challenge that confronts both developed and developing countries. In recent decades, social protection has been widely acknowledged as a means of alleviating poverty and providing social transformation and sustainable development (Midgley 2012). Historically, social protection began in industrial economies where the state provided social welfare policies for people engaged in formal labour (Alcock *et al.* 2000). These decisions are often made by elected politicians to reflect the social contract between them and the citizens (Esping-Andersen 1999). In developing countries, social protection has received both policy and research attention as a result of increasing poverty, inequality, social exclusion, and lack of human capital. In the last few decades, cash transfer has emerged as the most widely implemented social protection programme in Africa. External donors have invested in convincing African governments to adopt and expand social protection programmes (Foli 2016, Adésínà 2020) and cash transfers specifically. In fact, by the end of 2017, about 41%of state funding was spent on social protection programmes (Beegle *et al*. 2018: 7). Cash transfer programmes started in Latin America in the 1990s, in response to poverty and rising inequality (Barrientos and Villa 2015). Their success in Mexico and Brazil led to their subsequent adoption in developing countries as a framework for fighting poverty and vulnerability (Barrientos 2010, World Bank 2015; 2018).

In Ghana, formal social protection programmes are categorized into three types based on Devereux and Sabates-Wheeler's (2004) transformative social protection framework. These are social insurance policies that protect people against risks, social welfare services for people who require special care and support, and social assistance programmes to support extremely poor individuals and households. Some examples of formal social protection policies implemented in Ghana include the National Health Insurance Scheme to assist with basic healthcare, the Capitation Grant Scheme to eliminate school fees at the primary school level, the School Feeding Programme to reduce hunger by providing one hot meal every day to impoverished school children in remote regions, and the Livelihood Empowerment Against Poverty (LEAP) programme to help address disparities in poverty levels and tackle a wide range of vulnerabilities (Abebrese 2011, ILO 2014, MOGCSP 2015).

Many studies investigating social policies in developing countries have focused on policy formulation (see Howlett *et al*. 2009, Grindle and Thomas 1991, cited in Rohregger *et al.* 2021: 405), with limited attention to the implementation processes. Few studies on implementation dynamics point out how issues concerning technical and operational challenges can be overcome through investment in operational and human capacities (Pellissery 2005, Calder *et al.* 2011, Cosgrove *et al.* 2011, Barrientos and Pellissery 2012, Wanyama and McCord 2017, cited in Rohregger *et al.* 2021: 405).

More recent studies on social protection policies have focused on the politics of implementation (Abane 2017, Kramon 2019). In Africa, structural pressures and politics have been identified as key factors that influence the policy implementation process (Mkandawire 2010, Adésínà 2011, Foli 2016, Lavers and Hickey 2016, Chinyoka and Seekings 2016, Abdulai 2019). Some studies have pointed out how transnational actors used their power and ideas to influence state political elites in the adoption and implementation of social protection programmes (Foli 2016, Lavers and Hickey 2016, Chinyoka and Seekings 2016, Abdulai 2019). Other studies have shifted attention to how democratization and decentralization impact the design and delivery of social assistance programmes, especially where local actors are involved in the targeting and selection of beneficiaries of cash transfer grants (Kramon 2019). These scholars have highlighted how clientelism and neo-patrimonial tendencies often shape the implementation of social intervention programmes (Abdulai 2014, Abdulai and Hickey 2016). They have argued that the interaction between actors at the subnational and local level is characterized by politics and power relations, poor incentives, and capacity challenges (Barrientos and Pellissery 2012). The decentralization of local governance was to ensure that state actors work in tandem with local level actors in promoting development. Traditional authorities play a significant role in local governance and interact with state actors in the provision of development interventions (Logan 2013, Baldwin 2015). They act as 'power brokers' who mobilize political support at the national and local levels and use their power and influence to monopolize the delivery of state intervention policies.

Despite the aim of decentralization district assemblies do not give traditional authorities the space to contribute meaningfully to development at the local level (Kendie *et al.* 2008). For instance, in the decentralized structure of the implementation of the LEAP cash transfer programme, actors from the national, district and community levels interact with each other and play different roles at different stages of the programme, including the selection of eligible households (MESW 2012). Whereas most of the formal roles are reserved for the district assemblies, the district social welfare officer (DSWO), district LEAP implementation committees (DLICs), community LEAP implementation committees (CLICs), and community focal persons (CFPs), policymakers have assigned traditional authorities limited roles and influence over the implementation of the LEAP programme. This is puzzling because, on the one hand, traditional authorities are portrayed as seeking to use their power to control and influence the delivery of development interventions; on the other hand, they are recognized as key partners in local governance and development (Logan 2013, Baldwin 2015). This raises questions and concerns regarding the role traditional authorities play in the implementation of social protection policies. To what extent are traditional authorities involved in the implementation of social protection policies, and how do they use their power and agency to influence the implementation processes?

Despite the important contribution of traditional authorities to local development and governance, no previous study in Ghana has examined the role of traditional authorities in the implementation of

social protection policies, particularly social cash transfer programmes. This study presents insights into the role of traditional authorities in the implementation of the LEAP cash transfer programme in the Krachi East Municipality of Ghana. Using an empirical approach that underscores the social discontinuities and linkages that characterize development interventions (Long 2001), the study examines the broader institutional and power relations that characterize the implementation of the LEAP cash transfer programme at the micro-level. The findings stress the power and agency of traditional authorities and reveal how they influence key LEAP implementation processes, despite the informal role assigned to them by policymakers. The study suggests that for effective implementation of LEAP in Ghana, traditional authorities must be assigned formal roles to complement that of state actors and to deal with the capacity challenges bedevilling the implementation of the programme.

The paper proceeds as follows. Section 2 examines the literature on the role of traditional authorities in Ghana's socio-political landscape. Section 3 discusses social protection in Ghana, particularly the LEAP cash transfer programme. Section 4 presents the conceptual framework of the study. Section 5 describes the methodological approach. Finally, Section 6 presents the findings, and Section 7 consists of the discussion and conclusion.

## 2. Traditional authorities in Ghana's socio-political landscape

Traditional authorities are seen as leaders of traditional communities who play significant roles in the development of the area. In places such as Africa, Asia, and Latin America, people refer to them as chiefs and elders (Ray 2003). In Ghana, the chieftaincy institution started in the period before colonial rule. During this period, chiefs acted as the religious, political, and judicial heads of their various kingdoms. They were responsible for maintaining peace and order and defending the people against any form of external attack. They were also the custodians of the community's customs and traditions (Busia 1951, Assimeng 1981). In recent times, chiefs have become agents of social change at both the national and community levels (Odotei and Awedoba 2006).

During the colonial period, the British colonial administration maintained the chieftaincy institution through the indirect rule system because of the Africans' reverence towards it (Nukunya 2016). The colonial administration's indirect rule system relied on traditional authorities in the Gold Coast to enable them to maintain their economic interest (Mamdani 1996, Rathbone 2000, Shillington 2005). They were responsible for carrying out all the policies implemented by the colonial administration and served as the link between the government and the people (Buah 1998). They formed part of what the colonial administration referred to as the 'native authority' and were responsible for maintaining law and order, collecting revenue, and promoting health and sanitation in the community (Rathbone 2000, Sharma 2003, Brempong 2007). They also received the fines placed on people by the traditional courts, with some chiefs sitting as members of the legislative council to enact laws (Buah 1998). As Kwame Arhin noted,

'the colonial government took away the power of traditional rulers in the Gold Coast and instead gave them authority in local government' (Arhin 1985: 108, cited in Rathbone 2000: 11). This authority, derived from 'socio-cultural norms' and values, was used to ensure that the colonial policies were implemented effectively (Nkrumah 2000).

After independence, the relationship between chiefs and the post-colonial leaders became marred because of the notion that the chiefs were collaborators of the colonial regime and undemocratic and that they needed to be transformed (Rathbone 2000, Brempong 2007). For instance, Nkrumah abolished the native authority tribunals and stripped chiefs of the power to control revenues from the sale of lands and other resources (Ninsin 1989). Although the chiefs' powers were eroded after independence, the post-independence leaders continued to use traditional authorities as agents of development in rural areas. The recognition of the institution of chieftaincy in Ghana's 1992 constitution led to the inclusion of chiefs in local governance. The constitution has allowed chiefs to be part of the National House of Chiefs, regional and district assemblies, and coordinating councils (Republic of Ghana 1992, Odotei and Awedoba 2006). The adoption of the decentralization policy was to ensure that state actors work with local actors, including traditional authorities, to develop rural communities (Ayee 1994). However, traditional authorities have played a limited role in policy implementation and local government structures, leading to poor service delivery (Agrawal 2001). This has generated tension between traditional authorities and officials of the respective district assemblies and other community-level structures (Ayee 2006). Although the decentralization policy sought to include chiefs in the formulation and implementation of policies, they have been assigned limited roles. However, traditional authorities continue to play active roles in local governance and in the implementation of social intervention policies at the local level.

## 3. The Livelihood Empowerment Against Poverty (LEAP) cash transfer programme

The history of social protection in Ghana can be traced to the pre-colonial period where informal and indigenous 'safety nets' in the form of 'gifts and reciprocity, [and] voluntary donations from family, friends and neighbours' were provided to the poor in society (Bortei-Doku Aryeetey and Opai-Tetteh 2012, Bortei-Doku Aryeetey *et al.* 2013). With these forms of informal social support, the family and kinship often constitute the main support systems (Iliffe 1987, Hyden 2005, Oduro 2010). Formal social protection began in the colonial period with the establishment of classical welfare measures in the formal economy. These contributory welfare policies, including pension schemes, health insurance, and invalidity benefits, primarily targeted 'white settler' communities (Mkandawire 2016) and adversely affected the development of human capital and efforts towards progress (Kpessa and Béland 2013). In recent decades, non-contributory social protection schemes in the form of cash transfers have emerged as policy interventions for eradicating poverty in developing countries. The adoption of cash transfer

programmes in Ghana was to help enhance growth and poverty alleviation, which earlier schemes failed to achieve (NDPC 2008, Foli 2016). One of the flagship social cash transfer programmes that the government of Ghana has implemented as a policy intervention for addressing disparities in poverty levels and for tackling a wide range of vulnerabilities is the LEAP programme (ILO 2014, MOGCSP 2015). The LEAP cash transfer programme provides entitlements to eligible citizens and targets the needy and deserving poor, orphaned and vulnerable children (OVC), people aged 65 years and above who do not have any source of income, persons with disabilities who are without productive capacity, and extremely poor pregnant women and mothers with infants under one year (Foli 2016).

The programme is both conditional and unconditional. The unconditional aspect is for persons living with a disability and the elderly who have no productive capacity or any livelihood support; no qualifying conditions are applied to such persons (Foli 2016). However, the conditional aspect requires that eligible caregivers of OVC enrol the children in school, register their births, immunize the babies, enrol them in the National Health Insurance Scheme that has both conditional and unconditional eligibility provisions, and protect them from child labour (Foli 2016). The amount of cash grants received by LEAP beneficiary households as at September 2023, ranges from 128 cedis (11 US dollars) to 212 cedis (18 US dollars) depending on the number of beneficiaries in a household on a bi-monthly payment cycle. Since its inception, the programme has helped with poverty reduction by providing cash benefits to about 20% of the poorest people who find themselves at the 'bottom of the pyramid' (Joha 2012, Jaha and Sika-Bright 2015). Additionally, beneficiary coverage has increased from 143,552 households in 2015 to 344,389 households with a total of about 1.8 million individuals as of September 2022. By 2024, the government is expected to expand LEAP coverage to about 2.5 million individuals who have been captured by the seventh Ghana Living Standards Survey as living in extreme poverty.

Impact evaluations of the LEAP programme showed that it has made significant contributions to improving the livelihoods of the poor, disadvantaged, and excluded in society. Alatinga *et al.* (2019) found that the programme has improved the material, relational, and psychological dimensions of poverty. Others found that LEAP has improved child nutrition, access to education, health and wellbeing, healthcare service utilization, poverty reduction, and social transformation (Handa *et al.* 2014; Owusu-Addo 2016). However, other scholars noted some challenges facing LEAP, such as political manipulation and a tendency to exclude a large number of people through weak targeting mechanisms (Agyemang *et al.* 2014, Alidu *et al.* 2016). Other key challenges facing the programme include irregular payments, inadequate human and operational capacities, poor linkage with other antipoverty interventions, low coverage of poor households (Agbaam and Dinbabo 2014, Abbey *et al.* 2014) and meagre cash grants (Bawelle 2016).

## 4. Conceptual framework

The study is based on Norman Long's actor-oriented approach, which analyses the interactions between actors in a development process. The actor-oriented approach seeks to examine 'social discontinuity' and linkages that occur in the processes of development. These processes, according to Long (2001), are often characterized by social difference, diversity, and conflict, resulting in problems of bridging, accommodating, segregating, or contesting social, evaluative and cognitive standpoints. This approach focuses on actors, development interventions and interaction among actors and uses social interface analysis (Long 2004, Koponen 2004). According to Long (2001), social interfaces comprise actors with multiple interests, relationships, and modes of rationality and knowledge/power. This includes instances of confrontation within broader institutional and power domains. Social interfaces are also characterized by forms of social relations and interactions between actors, where each tries to devise ways of associating with people from different social and cognitive worlds (Long 1989). Arenas are therefore important in the study of social interfaces because that is where actors interact with each other, mobilize social relations, and devise ways of remaining relevant to achieve particular objectives (Long 2001). Olivier de Sardan (2005) refers to it as using 'different cards to play according to different rules' (185), to seek political survival (Migdal 1988).

The actor-oriented approach is also concerned with human agency, defined as the capacity, capability, and knowledgeability of actors to process social experiences and deal with issues even under difficult circumstances (Long and Long 1992: 23). Knowledge and power are crucial to agency as people's knowledge about a situation shapes the actions taken to address such situations or challenges. Knowledge, power, and agency are significant for the distribution of public goods, social status, and the determination of how people gain access to scarce resources. However, the issue of power and power relations has not been adequately addressed in the social protection literature. This study examined how traditional authorities use their power and agency to influence the implementation of the LEAP cash transfer programme in Krachi East Municipality (Long 2001). Analysis according to Long's (2001) actor-oriented approach showed that development interventions such as the LEAP cash transfer programme must be seen not as a mere planned intervention or bottom-up implementation of policies but rather as an intervention that involves interactions between actors in the policy arena through dialogues, discourses, conflicts, negotiations, and compromises. Figure 1 shows the application of the conceptual framework to the LEAP implementation process.

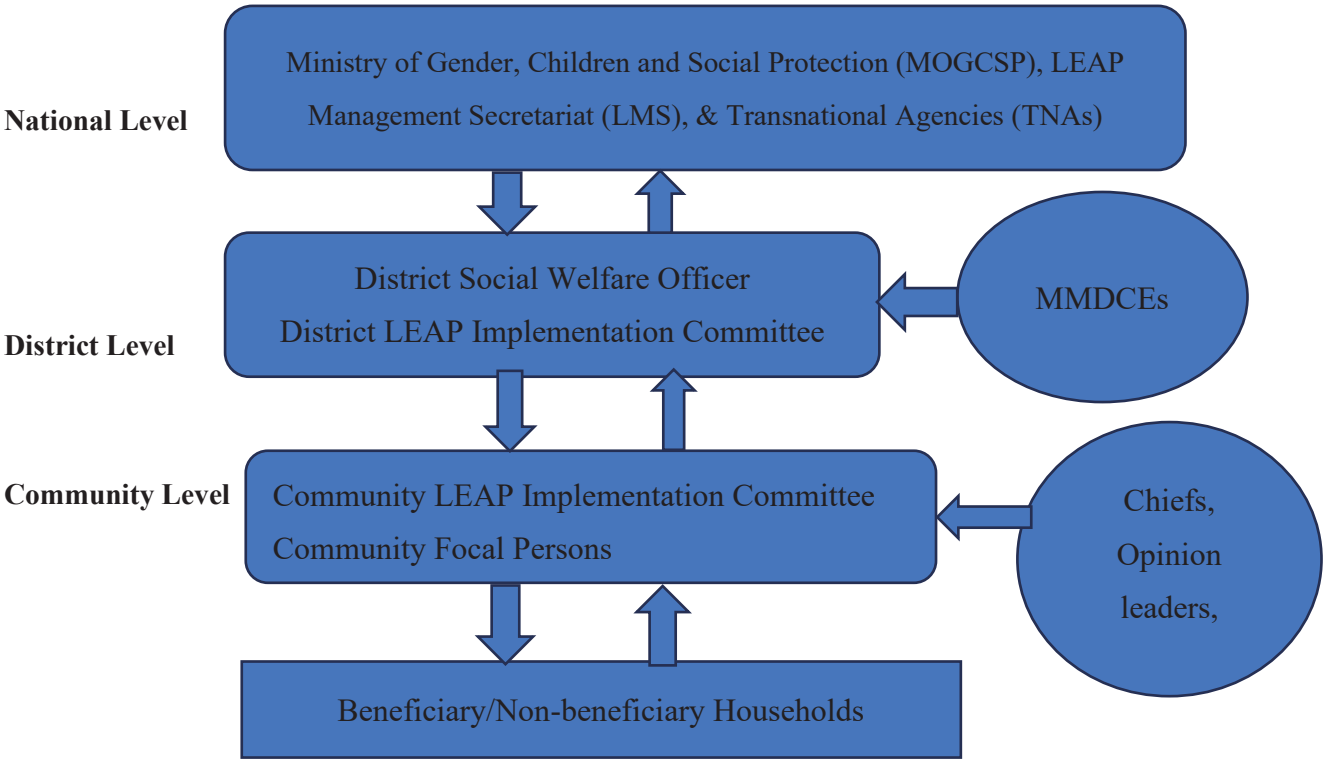


Figure 1. Institutional framework of LEAP

Source: Author, based on field data, 2022.

Figure 1 shows the institutional framework and various social actors involved in the implementation the LEAP programme. As noted earlier, owing to the democratic reforms in 1992, a decentralized local government system was introduced (Ahwoi 2010, Bebelleh and Nobabumah 2013). This requires that resources and development interventions from the central government are channelled through the district assemblies for effective delivery to the people (Ahwoi 2010). Implementation of the LEAP cash transfer programme is done through decentralized institutions with actors at the local level. For instance, selection of eligible households for the LEAP programme is done through the district assembly system, with actors at the national, district, and community levels playing different roles at different stages of the implementation process (MESW 2012).

Figure 1 shows interactions among actors at three levels: national, district and community. In the LEAP cash transfer process, the state operates as a visible and invisible actor through various institutions, officials and policies. At the national level, the Ministry of Gender, Children, and Social Protection (MOGCSP) works in collaboration with the LEAP Management Secretariat (LMS) and transnational agencies such as the Department for International Development (DFID) United Nations International Children's Emergency Fund (UNICEF), and the World Bank to ensure that the programme meets its objectives. These actors possess more power because they provide the policy framework as well as technical and financial support for effective implementation of the programme. The subnational or

district level comprises stakeholders at the local level, including the Metropolitan, Municipal and District Chief Executives (MMDCEs), the DLIC, and the DSWO, who is also a DLIC member. These actors operate based on the policy framework developed by the sector ministry. The DLIC is responsible for sensitizing the targeted communities on what to do in preparation for the selection and enrolment of beneficiary households (MESW 2012). In recent times, the community LEAP implementation committee has been replaced by CFPs nominated by community members with the assistance of traditional authorities (MESW 2012). These actors are responsible for selecting potential LEAP beneficiaries using the program's eligibility criteria. Whereas the roles played by some actors are recognized as official and visible, that of traditional authorities is unofficial and largely invisible to the actors at the national level. This study is therefore intended to understand the interactions between traditional authorities and other actors at the interface of the LEAP programme, the power relations involved and how these impact the implementation process. The actor-oriented approach was the most appropriate framework for examining the interactions and power relations between actors and the intended and unintended outcomes on the implementation of antipoverty interventions such as LEAP.

## 5. Methods

The study focused on the Krachi East Municipality, located in the Oti region of Ghana, along the banks of Rivers Volta and Oti. Historically, the Oti region was part of an area designated as the German Protectorate (Amenumey 1976). The 2021 Population and Housing Census (PHC) data placed the overall population of the region at 747,248 people, with the male population constituting 50.5% (GSS 2021). The Krachi East Municipality was carved out of the former Krachi District in the Volta Region, with Dambai as its administrative capital. There are two main systems of governance in the municipality: the formal and traditional systems. The formal system is administered by the municipal assembly that ensures the attainment of total decentralization and participatory development.

The traditional system comprises chiefs and/or queen mothers representing communities and/or clans. Traditional governance in the area is led by the paramount chief, currently Nana Krachi Wura, who is resident at Krachi and oversees all the communities in the municipality, assisted by appointed representatives in communities in the area. Below these representatives are elders and queen mothers, clan heads, family elders, and opinion leaders, who mostly represent various interest groups in the communities. These people play various roles in the management of development projects and in fostering peaceful co-existence among the various communities. The population is predominantly rural comprising dispersed settlements where the majority of the people are involved in agriculture. Although farming is the dominant economic activity in the area, land disputes are rare among the people because the lands are vested in traditional chiefs in trust for the people (Brukum 1997). These ethnic groups co-existed peacefully until recently when land conflict arose between the landowning Nchumurus and some

settler/tenant Konkomba farmers. A group of young men belonging to the Konkomba ethnic group reportedly shot the paramount chief of Burae and some of his subjects while they were working on the farm, killing them instantly. This has led to a strained relationship between the Konkombas and Nchumurus in the area.

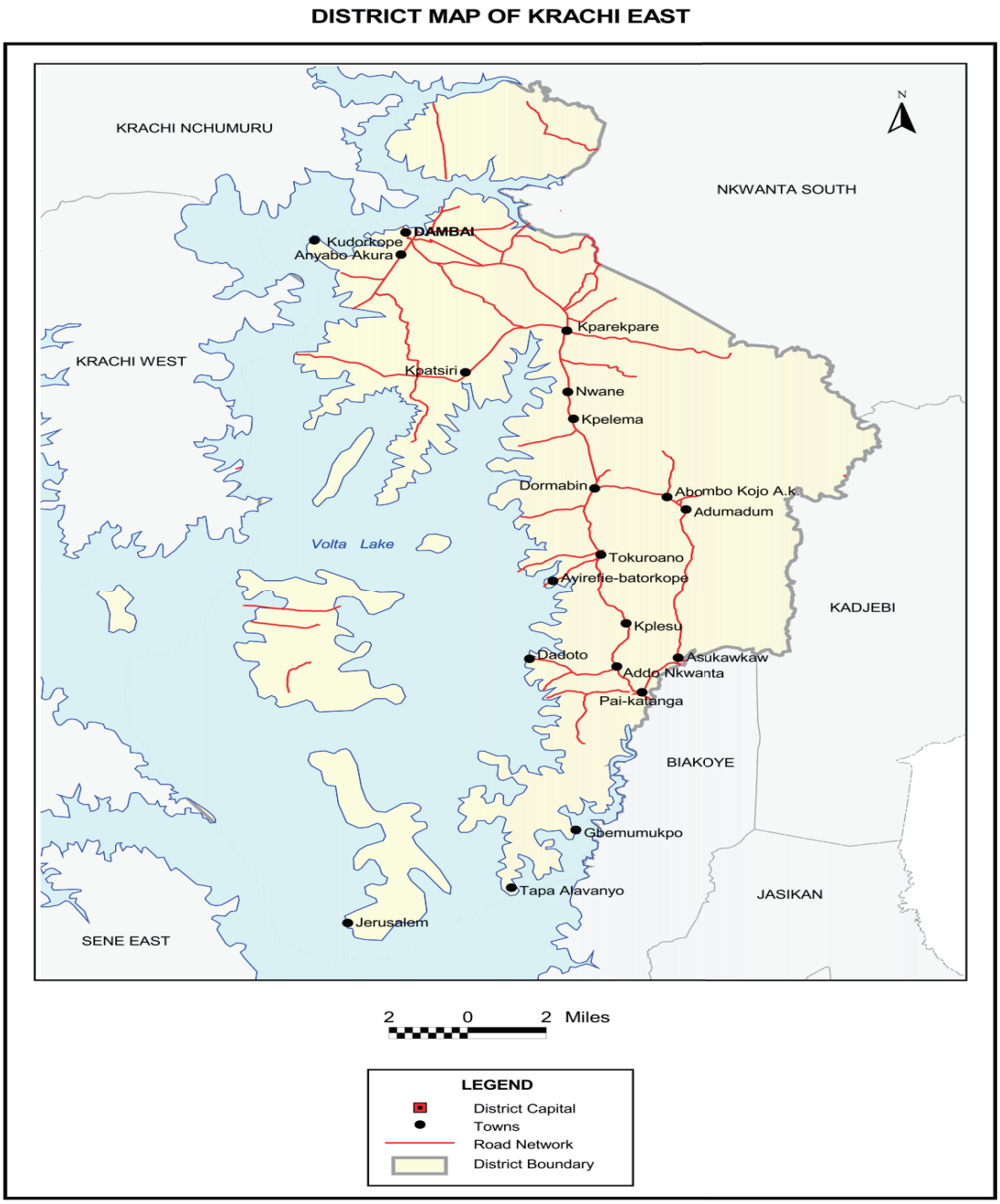


Figure 2. Map of Krachi East and the study villages

Source: KEMU (Krachi East Municipal Assembly) 2020.

Krachi East was selected as a case study because it is predominantly rural. According to the 2010 PHC, about 56.9% of its population is dependent on agriculture (GSS 2012). They live near Volta Lake and are therefore vulnerable to extreme conditions. Since the implementation of LEAP in the municipality, more than 1,676 households in 73 communities have been covered by the programme; however, poverty levels remain high (Ghana Poverty Mapping Report 2015). The selection of the area as the case study was also based on my familiarity with the people's language, cultural norms, and practices. More importantly, since the implementation of the LEAP programme in the municipality in the past decades, no research has examined the impact of such poverty reduction interventions in the area. Therefore, the case study provided a unique opportunity to understand the local setting and how the various actors in the LEAP implementation process interact with, negotiate with, and encounter each other, including the power relations at play.

Based on the objectives of the study, a qualitative research approach was adopted. Qualitative data (Creswell 2013) were collected during fieldwork in three villages: Dormaben, Adumadum, and Addo Nkwanta. Selection of these villages was based on their close proximity to the district capital, their high poverty levels, and the fact that they are all pay points where LEAP beneficiaries from other smaller villages converge to receive their cash payments. The study relied primarily on data collected from semi-structured interviews and field observation conducted from August 2021 to July 2022. Twenty-seven interviews were conducted with local actors involved in the implementation of LEAP (i.e., three chiefs, two officials from the social welfare office, two members of the DLIC, three members of the community LEAP implementation committee, three CFPs, two opinion leaders, a linguist, nine beneficiaries of LEAP, and two non-beneficiaries). The interviewees were purposely selected based on the study objectives. The sampling process took gender into consideration, but of the 27 participants, only 6 of the LEAP officials were female. Among the traditional leaders, there was no woman, demonstrating male dominance in Ghana's formal sector and the traditional chieftaincy institution, contrary to the constitution of Ghana, which provides for gender equality (Republic of Ghana 1992).

The interviews were held in the households of community members and at the offices of LEAP officials, with each interview lasting 30–60 minutes. The length of the interviews depended on the time available to the respondents and their willingness to give more information. Audio recordings were used to capture the field data, but in cases where the respondents were reluctant to consent to audio recording, the responses were recorded in handwritten field notes. Participant observation was also undertaken at the three research sites to ascertain how the LEAP payment process occurs. Participant observation was helpful because it enabled the researcher to examine verbal and non-verbal behaviours as they occurred in the research context (Creswell and Poth 2018). The primary data were supplemented by secondary sources, including reports and policy papers from online journals and manuals from the LMS and from working papers published by transnational agencies such as DFID, UNICEF, non-governmental

organizations, and civil society organizations to gain a better understanding of Ghana's social protection and LEAP cash transfer regulatory frameworks and their implementation processes.

The interviews were recorded, transcribed and analysed manually, using content analysis. Prior to the interviews, informed consent was obtained from all participants. They were informed about the objectives of the study, voluntary participation, and the right to refuse to answer questions without any consequences. The participants were also assured of privacy and data security. Anonymity and confidentiality were ensured by assigning unique codes to each transcript containing respondents' names and addresses. Research assistants were trained on how to ensure that the ethical considerations were followed to the letter.

## 6. Key findings and results

This section presents my findings on traditional authorities and the role they play in the LEAP cash transfer implementation processes. The findings reveal that traditional authorities use their power and agency to influence the LEAP implementation processes, specifically targeting, selection, the payment process, monitoring and evaluation, and grievances and redress mechanisms. The section examines the actors involved in implementation at the local level and sheds light on the roles and influence of traditional authorities in the LEAP implementation process. It explains why and how policymakers and implementers have attempted to include traditional authorities by assigning them informal roles in the selection of beneficiaries and how they use their power and agency to influence the implementation processes. It was found that traditional authorities are able to use their power and agency to influence the implementation processes, although the programme manual requires them to play informal roles.

### 6.1. Role in community sensitization

In my interview with the social welfare and community development officer in the Krachi East Municipality, he expressed the view that traditional authorities play limited roles in the LEAP implementation processes. He emphasized that the day-to-day management of LEAP at the national level is done by the LMS, which is managed by a team of government officials and technocrats comprising programme officers, senior DSWOs, Management Information System specialists and an accountant. The administrative unit is headed by other lower-level heads or directors, with their supporting staff in charge of different aspects of the LEAP implementation process. However, there are also subnational and local level administrative units, including officers at the district and community levels who play key roles in the implementation process (interview with the Dambai DSWO).

My interviews revealed that although some roles are officially recognized by the LMS, others, such as the role played by traditional authorities, are informal and not officially recognized. It is evident that although traditional authorities have retained great authority in mediating between state and community

members and have been incorporated into the modern state as development intermediaries, they have no formal role in the implementation of the LEAP programme. The LEAP operational manual mandates state officials to work with traditional authorities and other local agents to organize workshops and sensitize community members on the eligibility criteria for identifying extremely poor and vulnerable households who require assistance. Evidence suggests that they have taken over some of the formal roles played by state bureaucrats. Traditional authorities and other community elders have frequently been involved in key implementation processes, including targeting, enrolment of beneficiaries, payment processes, monitoring and evaluation, case management, and grievance redress mechanisms.

In interviews with some of the chiefs, they expressed concern about their limited role in influencing development interventions in the community, especially regarding controlling financing and budgeting and the overall control of state institutions and bureaucrats. However, they acknowledged the immense role they play in ensuring that various communities benefit from social intervention policies, as is evident in the excerpt below:

> We are not directly involved in the LEAP implementation process, but you know, as traditional authorities, we need to lobby for development interventions that will help our people to move out of poverty. Even this LEAP, I had to fight for the non-beneficiary villages and households to be included in the programme. We even go round sometimes or send some elders to go round or mobilize community members to educate them on the benefits of the programme. (interview with a sub-chief, Addo Nkwanta)

Chiefs and other traditional leaders are also powerful decision-makers who use their power and agency to influence the targeting and selection processes, to the extent that some of them take over the role assigned to DLICs and CFPs. The DSWO reiterated the crucial role of chiefs in community-level LEAP implementation. He noted that they help determine whether households should be included or excluded from the LEAP programme, as evidenced in the excerpt below:

> Prior to the establishment of CFPs, the chiefs and elders worked with the DSWOs to identify potential households for the programme, after which the final list of beneficiaries is generated. They were the people who used to support us in the administration of the programme. (interview with the DSWO, Dambai)

The quote shows that chiefs and traditional authorities command some authority and respect and therefore have the power to mobilize community members and influence the implementation of LEAP at the community level. It is the recognition of the authority and power of traditional authorities that

may partly explain their inclusion in the sensitization of LEAP beneficiaries at the community level. In an interview, the DSWO explained why traditional authorities are involved in the identification and selection of households for enrolment in the LEAP programme, as follows:

> It is not possible to mobilize and sensitize community members without the involvement of chiefs and traditional leaders. They are the eyes and ears of the community, and since they know every part of the community, it is easy to use them in the sensitization process. (interview with the DSWO, Krachi East)

### 6.2. Role in targeting and selecting beneficiaries

Although their roles have been limited to community sensitization, in my interviews with some of the community LEAP implementation committee members, they noted how traditional authorities use their power to influence the targeting and selection process. Targeting involves the process of identifying individuals and households that are eligible for social assistance (Arnold *et al.* 2011). The DSWO explained the targeting procedure as follows:

> The targeting process starts with geographical targeting where the mapping and selection of extremely poor districts and communities are done using data from the Ghana Living Standards Survey, prepared by the Ghana Statistical Service. The indicators are based on poverty indicators that are determined by national-level actors and implemented by actors at the subnational level. (interview with the DSWO Dambai)

He noted that many of the community members complained about the beneficiary selection criteria. As reflected in the quote below, they have argued that the programme does not provide accurate information regarding the actual poverty and vulnerability status of households in the area and that it does not consider the social and cultural dynamics of their understanding of poverty as opposed to that of programme implementers.

> We mostly rely on the traditional authorities for dissemination of information and data collection due to the limited operational capacity of the social welfare office. The chiefs and their representatives assist the programme implementers to select the communities that are poor and need support. Aside from that, as part of tradition, one cannot undertake any project in the community without first consulting the traditional authorities. So, we have to work with them to ensure programme success. (interview with the DSWO, Dambai)

The traditional authorities influence not only the processes comprising targeting but also the selection of LEAP officials at the community level. For instance, CFPs act as intermediaries between the DSWO and the beneficiaries. The LEAP operational manual mandates the DLIC to ensure that five community members are nominated and validated at a community durbar to form a community LEAP implementation committee (MESW 2012). However, the fieldwork revealed that traditional authorities use their power to influence the selection of CFPs, even though this role is reserved for DLICs. In my interview with a committee member on why traditional authorities involve themselves in the selection of beneficiaries, he stated that:

> The fact is that the traditional authorities are key in selecting or nominating the CFPs since they are the custodians of the community and know the people in the community. Since they are the landowners, they often use their power and influence to select or nominate the people they like, even though that role is supposed to be played by members of the DLICs. (interview with a member of the DLIC, Adumadum)

The above response is in sharp contrast to the informal role assigned to traditional authorities in the LEAP implementation manual. What is interesting is the district and community LEAP implementation committees' endorsement of traditional authorities' activities when the former are aware of the roles they are supposed to perform. These committees' offloading of their responsibilities has given chiefs the opportunity to influence and control the selection of LEAP beneficiaries at the community level. Although the role performed by traditional authorities in the selection process is to complement formal processes, it is not without friction and contestations. Both state bureaucrats and community members have complained about chiefs and traditional authorities skewing the selection process and rules to favour their family members and non-eligible persons in return for personal gains and family recognition. This was captured in the following response from a LEAP beneficiary:

> Some of us are not happy about the selection process. You said you are selecting poor people, but why is it that a lot of the beneficiaries are not among people we classify as poor? While some of us suffered before being enrolled into this programme, some did not because they are family members of the chief. How can you allow the traditional authorities to have so much power in the selection process? If you check the whole community, there are a lot of elderly, disabled, and households with vulnerable children who do not benefit. But we cannot complain because the chief is the custodian of the land and you cannot challenge his authority. (interview with Madam Akua Donkor, a LEAP beneficiary in Dormaben)

The above excerpt shows that several LEAP beneficiaries and non-beneficiaries are unhappy with the selection process but fear expressing their opinions openly, especially in cases where chiefs are involved in the selection process. The DSWO mentioned that some non-beneficiaries lodged complaints in his office concerning their exclusion from the programme even though they live in extreme poverty. They questioned why chiefs have selected some persons whose need cannot be compared to their own in terms of their poverty. However, there are varied opinions among LEAP officials and community members as to whether traditional authorities should be given formal roles to play in the LEAP programme. Whereas some want the role of traditional authorities to be documented because they possess huge knowledge of community dynamics, others feel it may result in abuse of power and the potential for favouritism and bias in the selection process. Traditional authorities also play a key role in the payment process. Payment is processed through the Asubonten Bank, which goes into communities to pay the beneficiaries with physical cash via e-zwich cards. My observation of the payment process indicated that although chiefs do not go directly to the locales where payments are made, they sometimes ask their elders to visit the LEAP pay points to ensure that beneficiaries are safe. This is to ensure that beneficiaries such as the elderly and vulnerable in society are not attacked by unscrupulous individuals after receiving their money. Beneficiaries with payment challenges such as non-payment also report to chiefs to intervene for them. I chanced upon the chief's representative in Adumadum complaining to the DSWO about some non-beneficiaries who visited the pay point to demand inclusion in the programme. When I inquired of the DSWO how he intended to address this issue, he said:

> My brother, this is a daily occurrence in most of the communities. Although the chiefs mostly intervene for the inclusion of the non-beneficiaries, we have no control over this. We simply tell them to wait so that we can continue to follow up for them. (interview with the DSWO, Dambai)

This response points to low sensitization of beneficiary communities by LEAP officials and the state's attempt to maintain impartiality regarding the programme by avoiding a situation where community elites dominate and influence the implementation process. It is evident from field observation that there is a high expectation among poor people to be included in the LEAP programme; however, this has not been possible for a large number of communities and households in the Krachi East Municipality.

### 6.3. Role in monitoring and evaluation

Another important implementation process where traditional authorities use their power and agency is in monitoring and evaluation of the programme at the community level. Monitoring and evaluation are important aspects of LEAP because these help to improve the programme by ensuring accountability, transparency, and identification of challenges for prompt feedback. The establishment of accountability mechanisms is crucial in the case management and monitoring and evaluation processes. At the district and local levels, it involves giving beneficiaries the opportunity to register their concerns with programme officials who must find ways of addressing such challenges. According to the DSWO, the monitoring and evaluation process involves visiting beneficiary communities or households to see how they utilize the cash grants, assess the effectiveness of the programme, investigate issues of non-payment of benefits and delays in payment, explore the possibility of the inclusion of non-beneficiaries, and become aware of the death of a beneficiary or caregiver and other issues concerning the success of the programme. He noted that a report is often generated on the successes and challenges emanating from the evaluation process and sent to the LMS in Accra. Although acknowledging the success of the programme in the area, he reiterated several challenges with the monitoring and evaluation process, as follows:

> Monitoring is supposed to take place at least every one or two months, but due to some challenges, we are not able to undertake the process effectively. The communities in this area are scattered settlements and we need to travel farther to these communities on motorbikes, bicycles and sometimes on foot. This makes it difficult because a community like Abrowanko is a hard-to-reach community due to its distance from the district capital. Since we don't have any proper means of transport, we find it Herculean to travel there for monitoring of the programme. Our major issues are low motivation and lack of qualified personnel and resources such as bicycles and motorbikes to move from one community to another. The district assembly always complain of lack of money so we don't get resources to go for monitoring. As a result, traditional authorities and chiefs sometimes assist in the monitoring process since they have adequate knowledge of community dynamics and receive information from their subjects. Although we sometimes disagree with some of their actions, we cannot complain due to the position and power they hold in the community. (interview with the DSWO, Dambai)

The above quote reveals how distance to communities and lack of human and operational capacities negatively impact the programme, paving the way for traditional authorities to take up such

responsibilities. The DSWO and his assistant admitted the impact of inadequate district-level capacity for monitoring and evaluation. This finding is in line with Lipsky's (1980) study on street-level bureaucrats and policy implementation. Lipsky pointed to how frontline workers or street-level bureaucrats are often forced to take on considerable caseloads with few resources. In my interview with a community member and a LEAP beneficiary, she remarked:

> We don't see the LEAP officials here until the payment period. So, when we have challenges, we sometimes report to the traditional authorities or assembly members. The CFP also attends to our needs. When the LEAP officials arrive, they don't get time to interact with us to know our challenges. So, the traditional leaders play that role. (interview with a LEAP beneficiary, Addo Nkwanta)

### 6.4. Role in grievance redress mechanisms

Chiefs and traditional authorities also complement the grievances redress mechanism process. Although the LEAP implementation manual prescribes the channels or structure through which people can lodge complaints and seek redress through a formal process, it is evident that traditional authorities play key roles in complementing the activities of the LEAP officials at the community level. For instance, the DSWO explained that some chiefs constantly assume the responsibility of ensuring that caregivers use the cash grants intended for beneficiaries for its intended purpose. He narrated an incident in Addo Nkwanta where the chief's intervention saved a LEAP beneficiary from a caregiver's misuse of her benefits. According to him, he received a call from the chief of Addo Nkwanta about how a caregiver who regularly received a cash grant from LEAP officials refused to give it to the intended beneficiary. His story is as follows:

> This e-zwich card is for a beneficiary in Dormaben [shows me the card]. I collected it because a secondary caregiver who was standing in for a beneficiary refused to hand over the money to the beneficiary. The chief of the area reported to me that he always collects the cash grant and uses it to buy things for himself, including cigarettes and alcohol. As a result, I had no option but to seize the card from him. Initially, when the sisters complained, I didn't take it seriously, until the chief himself intervened. So, I think the position and power of the chief compelled me to take immediate action. (interview with the DSWO, Dambai)

In my interviews with the chief's linguist (spokesperson), he confirmed the incident and supported the DSWO's seizure of the e-zwich card. He said:

> This behaviour had been going on for a long time. The grandmother is 74 years, but when he goes for the money, he uses it on unnecessary things. The woman is not able to visit the clinic for a check-up because there is no money. Why should you do this for the chief to watch you? The woman is now happy after the intervention of the chief (interview with a chief's spokesperson, Addo Nkwanta)

These narratives and views from respondents demonstrate that although traditional authorities are assigned limited informal roles in the implementation of LEAP, they are able to use their power and agency to strategically influence key LEAP implementation processes that are reserved for LEAP officials at the district and community levels.

**7. Discussions and conclusion**

This study examined the role of traditional authorities in the implementation of the LEAP cash transfer programme in Ghana, in Krachi East Municipality in particular. It revealed that although traditional authorities have no formal role in the implementation of LEAP, they are able to use their power and agency to influence key implementation processes, including targeting and selecting beneficiaries, payment processing, monitoring and evaluation, and grievance redress mechanisms. The study showed that traditional authorities interact with state actors and other local stakeholders in the delivery of the LEAP programme, and these interactions are characterized by social differences and diversity and conflict, with multiple interests, relationships, and modes of rationality and knowledge or power at play (Long 2001). Each actor tries to mobilize social relations and devise ways of remaining relevant to achieve particular objectives.

This study demonstrates the deep-rooted nature of the socio-cultural and political role of chiefs and its impacts on the implementation process. It found that traditional authorities use their power and agency (Long 2001) to influence the implementation of LEAP in two ways: first, to achieve their own parochial interests, and second, to complement the formal structures' lack of human and logistical capacities. For instance, in the targeting and selection of beneficiaries, chiefs are able to use their power to ensure that their family members and close allies are enrolled in the programme. This finding demonstrates the contestations and friction between traditional authorities and state actors and community members, especially non-beneficiaries, given that the selection process is skewed to favour

the family members of the chiefs and other non-eligible persons in return for personal gain and recognition. This finding is in line with Long's (2001) assertion that in development interventions such as LEAP, actors have multiple interests, relationships, and knowledge, including instances of confrontation within broader institutional and power domains. The inability of state actors and other stakeholders to hold traditional authorities accountable when such persons are performing roles that were not assigned to them shows how they are revered in African societies. This supports the view that traditional authorities occupy a higher position in society because of the socio-cultural values and norms that confer authority on them (Ahwoi 2010, Asamoah 2012). It explains the inability of both community members and LEAP officials to challenge the activities of chiefs or traditional authorities in pushing for their relatives and family members to be included in the LEAP programme. The findings also question the assumptions and wisdom of policymakers and the LEAP manual regarding the stipulation that traditional authorities must play limited formal roles in the implementation of the LEAP programme (MESW 2012). This is because even when most of their roles are informal in nature, they are able to use their power and agency to influence some key implementation processes.

The decentralization of LEAP administration was to ensure that actors at the local level play key roles in policy implementation processes. However, lack of human and logistical capacities has rendered decentralized institutions weak. My findings have revealed that these capacity challenges facing LEAP officials at the local level have enabled traditional authorities to fill the gap in certain implementation processes. The study also revealed power relations and inherent challenges involved in monitoring and evaluating the programme. For instance, the lack of adequate personnel, office spaces, computers, and bicycles and motorbikes for DSWOs and CFPs to carry out the day-to-day administration of the programme shows how the state uses its power to deny them the necessary tools that will ensure that they perform effectively. Consequently, traditional authorities have taken over the role of engaging community members to ensure that the programme achieves its intended objectives. They sometimes monitor caregivers and beneficiary households to ensure that the cash grants are effectively utilized. The use of power and power relations are also inherent in the case management and grievance redress mechanism. In fact, the DSWO's seizure of an e-zwich card from a beneficiary's proxy caregiver because of their inappropriate actions and inaction demonstrates the power of state actors and the authority and power of traditional authorities in the LEAP cash transfer process (Long 2001). The DSWO's sanction of the caregiver shows the power and agency of traditional authorities in ensuring the effectiveness of the case management and grievances and complaints redress mechanism. The agency with which the LEAP official addressed the issue points to the respect and honour accorded to the chief. The inability of state officials and community members to hold chiefs accountable for their interference in development interventions for personal benefits and recognition is an important determinant of outcomes of policy implementation in the rural setting. Further research is needed on how state actors

involved in policy implementation interact with traditional authorities and the implications of this for implementation of policies at the local level.

By examining the involvement of traditional authorities in the implementation of the LEAP cash transfer programme in Ghana, and Krachi East Municipality in particular, this study concludes that traditional authorities use their power and agency to influence key implementation processes despite the limited formal role the programme manual has assigned to them. They act as intermediaries and power brokers in their interactions with state actors and strategically use their power to advance their interests and to ensure that community members benefit from the LEAP programme. The analysis revealed that the motive behind denying traditional authorities more formal roles to perform is to prevent them from using their power to achieve parochial interests, but this has not adequately permeated the local level. The idea of implicitly denying traditional authorities the power to control and influence the implementation of social protection policies requires further research, considering their position in the socio-cultural structure of Ghanaian societies. The influential role of chiefs in the LEAP programme shows the extent to which policymakers underestimate them as intermediaries between the state and citizens. Examining the role of traditional authorities in social protection has illuminated their relationship with other local actors and how it shapes and reshapes the implementation process. From a policy perspective, the study is crucial to understanding local institutions and how they shape and reshape the outcomes of development interventions. Rather than seeing their role as anachronistic and dysfunctional, it is important to conduct further research on how traditional authorities promote or hinder the implementation of social protection policies in Ghana.

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# Investiture of Chiefs, a Relic of Colonialism? Reflections of an Ignoramus on the Installation of Chiefs in the Upper East Region of Ghana

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**Abstract**

Chieftaincy in Ghana is highly resilient notwithstanding post-colonial efforts to downplay its significance or obliterate it altogether. While the institution is dynamic and responsive to change, the unrepresentativeness of selecting its officeholders is questioned. Mamprugu, one of the oldest traditional states in northern Ghana, exercises 'heritage' investiture rights over chiefs in the Upper East Region, an entirely different political administrative region. The paper argues that these rights are transient based on mythic conquest and resurrect vestiges of colonialism. Moreover, investing chiefs in a dichotomous modern and traditional spaces is incongruous with a democratic dispensation, particularly as the practice is a source of coronation conflicts in some of the traditional areas. These conflicts hinder development and negatively impact young people due to a pronounced silence of the state on jurisdictional limitations of chiefs because of administrative borders. The practice also mirrors the claim that the paramountcies are subservient to Mamprugu, although this is inconsistent with current realities. The paper, using concept/theory of invention of tradition and primary data, concludes by advocating for an open discussion to enhance the participatory investiture system in the 'areas under domination'.

**Keywords**: investiture/enskinment, chieftaincy, traditional area

## 1. Introduction

Chieftaincy, in Africa, has been an ageless institution for mobilisation whose meanings have changed over time. Some pre-colonial chiefs were mighty monarchs, others were figureheads without esteem, while 'some were largely ritual figures' who combined 'spiritual roles with extensive temporal powers' (Rathbone 2000: 48).

In fact, history abounds with West African rulers who possessed immense amounts of wealth, properly structured jurisdictional arrangements, and large battalions of disciplined armies prior to the 15th century (Bovill and Hallett 1995). Empires like Ancient Ghana, Mali, Songhai, Kanem-Bornu, and others are evidenced examples. Similarly, the kingdoms of Oyo, Benin, Edo, and the Habe dynasties of northern Nigeria and the Asante were among those that shaped the socio-political destinies of the people (Davidson 1965; Falola and Heaton 2008).

Colonialism, however, altered the institution. 'Native chiefs retained titular positions and exercised restricted powers'[1]. Chieftaincy became an instrument of indirect rule (Mamdani 1996) created to manipulate Africans under 'administrative rule rather than enfranchise them' (Ribot 2002: 4). Chiefs were accused of oppression, labour exploitation, insensitive taxation, brutalisation, and torture of their fellow Africans (Keese 2011). In acephalous societies, chieftaincy was invented and foisted upon the indigenes (Geschiere 1993). Overall, chieftaincy had a chequered history and battered image during colonialism.

With the rise of nationalism, democracy, and market economics, it was believed that the institution 'in Africa would wither away' (Comaroff and Comaroff 2018: 1). This prediction, however, has failed and chieftaincy remains 'very resilient' (Tonah 2004: 56), though without countless explanations. For instance, it has been argued, rather ironically, that 'while chiefs are weak, one cannot achieve anything without consulting them' (Ntsebeza 2005: 20) and that 'their control of land allocation processes (in many societies) makes them indispensable' (*ibid*: 22). More critically, traditional authorities seemingly 'function as vote banks in the new' space of democratic governance (Geschiere 1993: 151).

Chieftaincy's dynamism and responsiveness, has made it a robust continental establishment and a 'living embodiment of people's cultural identity' (Anafu 1973:35); but like all living things, it is mutable. While its popularity continues to soar, grave concerns have correspondingly been raised about its unrepresentativeness because of the undemocratic criteria and opaqueness in nominating and investing officeholders. Consequently, it has been tagged as anachronistic (Boateng 2020).

The closest literature to this paper's subject is Ntsebeza's (2005) *Democracy Compromised*, which examines traditional authorities in a democracy. Using a detailed historical analysis of the role of traditional authorities in Xhalanga magisterial district of South Africa's Eastern Cape, the author

[1] See Lord Frederick Lugard, *The Dual Mandate in British Tropical Africa* (London: Routledge, 2013).

discusses incongruities between the chieftaincy institution and democracy. He argues that 'upholding a constitution which enshrines democratic principles …whilst acknowledging a political and developmental role… for un-elected and unaccountable traditional authorities, is inconsistent and contradictory' (Ntsebeza 2005: 1). He observes that:

> …a fundamental contradiction exists in the… constitution in attempts to accommodate a role for the institution of traditional leadership and its incumbents in a liberal democracy based on multi-party principles and representative government (Ntsebeza 2005: 23-4).

The inconsistency and dichotomy of democratic dispensation and the simultaneous existence of traditional authorities are also highlighted by Fisiy (1995), who notes that:

> Complex and dynamic patterns of socio-political interaction have resulted in the co-existence of different institutional frameworks from which contradictory discourses and agendas emerge. New institutions have appeared, some old ones have been substantially transformed, while others have simply atrophied (Fisiy 1995: 50).

In the scheme of these complementary institutions and systems, Ntsebeza (2005) concedes that traditional authorities could play a public political role, but recommends that they give up 'their hereditary status and subject themselves to the process of election by their people' (Ntsebeza 2005: 33).

This paper departs from urging the elective principle of selecting leadership of traditional authorities but argues that 'contradictions and inconsistencies' are not only limited to the unrepresentativeness of traditional authorities, but (Ghana's) democratic governance risks a self-destructive compromise as some chiefs have postured themselves unwilling to relinquish vestiges of colonialism by extending their rule across administrative regions when the country's 1992 republican constitution[2] requires chiefs to operate in specific regional areas. The constitution stipulates that 'There *shall* be established in and for each region of Ghana a Regional House of Chiefs.' Among other functions, the House shall:

> Hear and determine appeals from the traditional councils within the region in respect of the nomination, election, selection, installation or deposition of a person as a chief[3].

The expansionist proclivities of these chiefs are causes of conflicts in certain paramountcies,

[2] The 1992 Constitution of the Republic of Ghana. Government of Ghana, Accra
[3] Article 274 (1) and (3)(c) of the 1992 Republican Constitution of Ghana.

particularly in northern Ghana, due to a colonial legacy of backing some paramount chiefs to enskin[4] analogous rulers of other traditional areas during colonialism. Investing chiefs across politico-administrative regions under a modern democracy and rule of law is inharmonious and raises questions of peaceful accommodation of traditionality and modernity in a republican state.

Amid these incompatibilities, the Ghanaian state is nonchalant towards the problem, pleading non-interference in chieftaincy affairs due to constitutional restrictions as cover while investing heavily in providing security, particularly in conflict situations. Regrettably, the same state is unable or unwilling to pressure or persuade colonially minded chiefs perpetuating 'anomalies' to discontinue actions that cause, inflame, and perpetuate destructive conflicts.

### 1.1. The Mamprugu state

One of the states with an expansionist ideology is Mamprugu, in north-eastern Ghana. It is one of the earliest of the Mole-Dagbani states, comprising major ethnic groups (the Mamprusi, Dagomba, Nanumba and Gonja), which could be traced to the 1300s (Niane Ed. 1997). Their peoples are believed to have migrated from the Lake Chad area and set up kingdoms in northern Ghana.

Mamprugu society is characterised by an identifiable centralised political structure. Mamprusi refers to the people of the entire Mamprugu state, while the Nayiri[5] is its overlord with Nalerigu as capital. In fact, the traditional Mamprugu state consists of the province of Nalerigu and five paramountcies of Kpasenkpe, Janga, Wungu, Yungoo, and Kurugu (Tonah 2004: 44), all in the present-day North East Region.

During the apogee of the defunct Mamprugu kingdom in the 1470s (Davis 1987), the traditional leadership exercised authority beyond the entire Mamprusi territory and traversed into vast areas belonging to neighbouring, hitherto acephalous groups (Tonah 2004). Thus, in the colonial epoch, Mamprugu's rule stretched outside the administrative districts of South Mamprusi to encompass parts of *Kuasuug*[6], the Frafra, Kassena, and the Builsa traditional areas in the present-day Upper East Region. These districts, having fallen under the then Mamprugu kingdom, purportedly entitled Nayiri, through a mythical right of conquest and later, to the support of the colonial administration to formally perform enskinment rites on chiefs in these 'acephalous' societies.

It must be indicated that the overlord and his counsellors assign a quality called *Na-am*, 'power of office' or 'political authority' (*ibid*). Thus, '*Di Na-am*', literally, 'to eat *Na-am*', means that the officeholder is formally invested with (or indeed into) power by undergoing enskinment rituals.

In the map below, the Mamprugu Kingdom is in North East (marked by the arrow) while the

[4] The coronation process is called enskinment because the skin symbolizes chiefly authority in northern Ghana. Investiture, enskinment, coronation & installation are used interchangeably for ascension to a throne.
[5] In the article Nayiri is same as the Mamprugu king, the monarch, or his royal majesty, etc.
[6] Areas belonging to the *Kusasi* ethnic group and other minorities.

traditional paramountcies, the subject of this paper, are found in Upper East.


Figure 1. Administrative Regions of Northern Ghana after the Creation of New Regions in 2018

Source: Wikimedia commons.

### 1.2. Stating the problem

The brief chronology above, which bestows upon the Nayiri an enskinment 'heritage' in the Upper East Region, proves insufficient today. The contemporary Ghanaian setting has undergone a tremendous transformation: regional administrative boundaries and a democratic dispensation anchored on the culture of rule of law, imbedded with egalitarian rights.

Among the many extinct empires and kingdoms which have existed in various parts of the world, there is no known domain today, perhaps except in Ghana, where descendants of non-operational kingdoms or empires enforce erstwhile conquest rights and privileges over onetime 'vanquished' peoples in a democracy.

Arguably, the enskinment ritual adds little to the authority of the selected individual in the indigenous states concerned. More critically, some major chieftaincy conflicts, particularly post-investiture struggles, in parts of the region are traceable to the Nayiri supporting some blocs while disavowing others. These conflicts obstruct livelihoods, engagements, investments, and development and negatively

impact the youth. The Bawku chieftaincy conflict[7], which dates back to immediate pre-independent Ghana, is a typical illustration. While this entrenched conflict persists with no end in sight, the Nayiri has once again ignited another conflict, this time in Bolgatanga.

The regional capital of the Upper East Region has witnessed recurring violence from February 2015, as the Nayiri enskinned a rival chief alongside a sitting occupant of the Bolgatanga 'Skin', an act which is unconventional and impermissible.

Exercising enskinment rights across different administrative regions reflects a clash of epochs and necessitates an academic investigation. The paper seeks to interrogate whether or not the Nayiri merits 'true' investiture rights in the said traditional states today. As conflicts sometimes arise after enskinment, it also seeks to stimulate discussion of how the investiture of chiefs in those states might be independent of the Nayiri with minimal conflicts before, during, and after installation. To properly analyse the issues in context, the following reflective questions are worth exploring:

- How did the Nayiri assume a kingmaker role in traditional states of the Upper East? Was it merited by conquest or earned through invented traditions?
- Will an enskinment in the modern day be invalid and unappreciated if unexecuted by the Nayiri?
- What democratic system of enskinment process should traditional Frafra paramountcies of Upper East Region adopt in place of that hitherto performed by the Nayiri?

### 1.3. Contribution to knowledge

The paper seeks to contribute to peace and security and provoke debates on preventing conflicts after the installation of chiefs. Historical and recent events have witnessed escalating violence after installations superintended over by Nayiri, even in his areas of jurisdiction like Wungu (Tonah 2004) and the current raging conflict in the Bolgatanga Traditional Area.

The paper also draws the attention of managers of state power to the need to call traditional rulers to order where actions of the latter are sources of instability, loss of property and life, misery, and pain to innocent citizens.

Structurally, the paper begins with an introduction which dovetails into the statement of the problem and research questions and then the theoretical framework. The methodology follows next, and then discussions and the conclusion.

## 2. Theoretical framework

Theoretically, the paper is grounded on invented tradition. 'Tradition' literally means 'something

[7] Bawku, a commercial hub of the region, is inhabited by the Kusasi ethnic group: the landowners (*tindanas*), who lived in the area long before the arrival of the Mamprusi. The latter reportedly established a military post to protect their trade interests and eventually instituted a chieftaincy (Awedoba 2009).

handed over' and is 'almost equivalent to inheritance' (Graburn 2001: 6), and refers also to the 'process of handing down from generation to generation, some thing, custom, or thought process …' (*ibid*).

When tradition is strictly delineated as selected aspects of a past way of life, there often appears a choice as to whether to 'pick from tradition or go along with something mainstream or more modern?' (Horner 1990: 14-17). Practices which had hitherto been unknown but are today a norm appear to be founded on this hypothesis.

Tradition could also be appreciated as property, with 'bundles of power' which may be used to access resources or impose a will on societies. Property, in this framework, is 'a right in the sense of an enforceable claim to some use or benefit from something'. Similarly, 'enforceable claim' is an artefact 'acknowledged and supported by society through law, custom, or convention' (Ribot and Peluso 2003: 155). Power is 'the capacity of some actors to affect the practices and ideas of others' (Weber 1978, Lukes 1986).

Essentially, tradition legitimises the actions of a power holder or a sovereign to do or act in ways that impose a responsibility or a restraint on society or the individual. It prompts a psychological and socio-political acceptance of leadership's actions as well as the source of granting or withholding a specific type of right(s) or obligation(s) while demanding compliance of a duty.

It may imply 'the creation of the future out of the past' (Glassie 1995: 395). Due to its centrality and purposes in human affairs. Graburn (2001) argues that:

> Tradition is usually seen as the opposite to modernity, yet it is much loved by modernity. Traditions are continually being created, not in some past time immemorial, but during modernity. Even these new, historically created phenomena are often quickly assumed to be timeless, because people want them to be so and because the customs become invested with authority that is difficult to challenge (Graburn 2001: 8).

Tradition bestows authority. Due to its 'power-accessories' it could be 'original' or invented. 'Invented tradition' is:

> …a set of practices, normally governed by overtly or tacitly accepted rules of a ritual or symbolic nature, which seeks to inculcate certain values and norms of behaviour by repetition, which automatically implies continuity with the past (Hobsbawm and Ranger 1983: 1).

Therefore, it survives as 'a timeless past', a reservoir of 'how things have always been done in a constant flow of time' (Lund 2008: 68). However, if this timeless past was mythical or practically

invented, its perpetuation may be deemed a travesty and could be abrogated or possibly reinvented based on best practices from anywhere. Thus societies, considering themselves as historically 'independent', like those of the Upper East where an investiture 'tradition' has been invented and ascribed to the Nayiri, the desire to assert their citizenship of a comity of equals could either constitute built-on, re-invented tradition or not countenance continuity of the 'original' tradition.

## 3. Methodology

Methodologically, this paper used a qualitative approach, as the method affords insight into the cultural dimensions of '... society, and its institutions' (Tracy 2013: 5).

To answer the reflective questions, primary and secondary data sets were used. The primary information was collected from persons well versed in the chieftaincy institution of the study areas. Chieftaincy issues are mostly nursed in the bosom of the elders, who have 'control of "traditional" knowledge, not only on which claims to land and resources are based', (Ranger 1983: 255) but also on historical facts of the royal house in question. Young people and women were not central in the sample since they may or may not be privy to royal history. Similarly, colonial records on the African 'tradition' on which the invented custom was based, excluded the 'indigenous female' (*ibid*). Even women who may be well-informed on the subject most often recoil from participating.

A total of seven purposively sampled individuals were interviewed due to logistical constraints. Chiefs[8], elders, secretaries, princes, and historians formed the main sources of the primary data. The sample was selected from the traditional paramountcies of Bongo, Nangodi, Tongo, and Zuarungu, who reign not only as chiefs enskinned by the Nayiri, but also as paramountcies in their respective districts. Nangodi was selected over Sekoti from the Nabdam[9] district by virtue of relative accessibility, and the Bolgatanga paramountcy was omitted due to the raging conflict over a controversial enskinment, which is an integral theme of this paper.

Unstructured in-depth individual interviews were used for the primary data because of their flexibility and the opportunity to cover a great variety of aspects of the subject. Participants were interviewed in their natural settings at occasions and locations that they themselves scheduled and selected. Confidentiality and anonymity were assured; hence, the names used are fictitious. Primary data collection took four months, from June to September 2022, to complete.

The secondary data were collected through an extensive examination of literature on historical accounts of chieftaincy, particularly the mutual collaborative activities of the colonial administration

[8] Chiefs were not interviewed directly on the subject due to logistical constraints. There are stringent procedures, particularly local ones, for researchers to meet with them.
[9] Nabdam refers to an ethnic group and a district comprising the group. Originally the Talensi-Nabdam District was part of Frafra Native Authority, which was curved out from the Mamprusi Traditional Area in 1952 (Grischow 2006). It became the Frafra District Council in 1957.

and the Nayiri in the traditional areas. Reports from online media portals as well as newspaper accounts were also gleaned for details in the reportage on the conflict following the investiture of two parallel chiefs in Bolgatanga.

The historical records were categorised as reflecting the precolonial, colonial, and post-colonial evolution of the chieftaincy and contemporary investiture conflicts. The entire body of data was synchronised and analysed thematically and then and the results presented as an ordered narrative. Statements deemed insightful, either from secondary or primary data, are presented in block quotes.

## 4. Discussion

### 4.1. Precolonial history: Origins of the chieftaincy in Northern Ghana

History classifies northern Ghana into centralised and acephalous societies. Writers have variously described the origins of chieftaincy in the 'organised' societies in the region with mixed accounts dependent on the source of their historical accounts. Very early, before the advent of European colonialism, the region was believed to have been overwhelmed by groups of migrant cavalrymen moving southwards from the Sahelian region of Fada N'Grumah (Staniland 1975). The marauding invaders purportedly defeated the autochthonous populations, set-up a power bloc, and imposed themselves upon the locals as rulers (Tonah 2004).

Historically, the area had hitherto been administered politically, albeit more practically in religious observances, by a *Tindana*[10], an earth priest. According to the legend:

> …a band eventually came to a 'town not far from the White Volta. Here the young man sat down at the watering-place, whither towards evening came the young women of the place. From them he learned that the city was the abode of the great *tindana* of the country' and he accompanied the girls back, accepting the hospitality of one whose beauty particularly attracted him. She was the only daughter of the *tindana*. Arrived at her home, he was hospitably received by the father and sojourned awhile in the house as an honoured guest until the great day of the annual sacrifice …. The *tindana*…, was to perform the sacrifice, and retired early to his bed. That night the young man murdered his host, and when morning came presented himself to the people dressed in the sacred robes of his victim (Cardinall 1921: 3-4).

Ironically, the priest's kindness was reciprocated by him being assassinated and his politico-ecclesiastical power cruelly usurped through the seizure of his 'insignia, or in reality, the "medicine"

[10] *Tindana*, literally 'owner/lord of the land'.

which gives authority and power' of a chieftain (Cardinall 1921: 18). The people were awed and cowed into silence.

This brief context provides clues: to the origins of the triumvirate cluster of central states of Dagomba, Moshi, and the Mamprusi in pre-northern territories of the Gold Coast (Staniland 1975). The common 'mythology of all these pioneer monarchies refers to a common ancestor, Tohajie, the Red Hunter' and grandfather of *Na* Gbewa, whose descendant, Tohagu was believed to have established the Mamprusi dynasty (Staniland 1975:3). Other historiographers, however, believe that the kingdom was founded by *Na* Gbewa himself, who was purportedly 'the first Nayiri' (Davis 1987: 629). Thus, the kingdom is considered the oldest, predating the Dagomba, Nanumba, Gonja, and Wala by centuries.

### 4.2. Chieftaincy in the colonial period and the rise of the Nayiri in acephalous societies

After the violent usurpation of authority from the autochthones as recounted above, the new rulers assumed full political authority. The *Naba* (Overlord) would then delegate power to his sons, so in the course of time every community was ruled over by a prince. By virtue of personal egos and instincts shaped by the virulent effects of power, '[r]ivalry between Chiefs became acute in spite of the blood ties, and in consequence civil wars were common' (Cardinall 1921: 18).

From early accounts, the Nayiri became kingmakers in certain paramountcies of today's Upper East Region by using the spaces in the traditional areas as exile destinations/convict camps to get rid of traitor princes, who had committed various kinds of treasonous offences and moral injudiciousness. Moral ineptitudes such as committing adultery with wives of the *Naba* qualified offenders for expulsion from the capital, Nalerigu. Others absconded for self-preservation as illustrated:

> Usually, in … civil wars, or in cases of a prince committing adultery with one of the *Naba*'s wives, the offender was punished by exile and forfeiture of any right to reach the Na-ship. These exiles were frequently sent to the far distant extremes of the kingdom (Cardinall 1921: 18-19).

Once 'convicts' arrived at their destinations and saw that the territory had no identifiable ruler, and also remembering 'the blood connection with the parent family of the *Naba*,' they proclaimed themselves the rulers of these territories (Cardinall 1921). The source of chieftaincies of Tongo, Bongo, Nangodi, and Passankwaire (now extinct) are typical examples.

The Tongo chieftaincy was founded, according to the tradition stereotyped throughout Taleland, by Musuor, a fugitive prince. According to history 'Musuor … fled to present day Tongo after an unsuccessful bid for the Mamprugu chiefship' (Anafu 1973: 28). He and 'his band of followers' armed with guns claimed chiefship of the Talensi. On Musuor's death his son went back to Mamprugu – the

source of the office – to be formally and ritually invested with his father's office. The tradition of going back to the Nayiri for enskinment with the Tongo and other chiefships most probably started from this point.

The descendants of Nangodi's royal family also descended from Mamprugu and are of blood-royal. Its founder had waged war against his relative the *Naba*, and, being driven into exile, came with his followers to Nangodi, where the Nabdam gave them land (Cardinall 1921: 11). Similarly, the descendant of the Bongo chieftaincy was also an exile who:

> …came from Mamprusi, exiled thence for treason against the *Na*. They settled at Bongo on the invitation of the Awubugu people, who were hard pressed by invading families of the Fra people…. The Mamprusi were triumphant and remained in the land and intermarried with the Awubugu, who today are no more (Cardinall 1921: 12).

The Builsa area is another illustration of a perverse prince turning exile into a reward for himself and setting a pattern for the Nayiri to extend its ruling 'prowess' to enthrone chiefs. An ostensibly lascivious prince, 'one *Wurume*, committed adultery with one of his father's spouses. He was banished and he came with followers to a place called *Kassidema*[11] in Builsa country. He then set himself up to rule the people' (Cardinall 1921: 12).

The expulsion of wayward princes from the kingdom was not castigatory but, ironically, more of a recompense for wrongdoing. Rather than dispossessing the traitors of their new-found powers and coercing them to account for their transgression to daunt others, the Nayiri inexplicably tolerated these miscreants or immoral elements by allowing them form chieftainships in the destination areas. Strangely, however, in some situations, the Nayiri rather recognised these renegades and requested 'resources' from them. For instance, during, *Na* Mahama's reign, he sent his son to the chief of Bongo demanding fifty girls and fifty youths to reward the Chakosi mercenaries who helped him fight his enemies (Rattray 1932:548).

In all the examples, these exiles moved to the destination areas with armed followers, which either compelled the indigenes to instinctively accept them or else coerced them to do so. Chiefs in all these traditional areas today, exclusive of the Builsa, are enskinned by the Nayiri.

While erring princes self-proclaimed themselves chiefs of exile settings, another source of enskinments was either through communities negotiating alliances or requests from egoistic pushy 'strongmen' very interested in being rulers of sorts. Hence:

[11] Kassidima is currently extinct.

> In the country which these chiefs dared not venture, there were no chiefs but heads of families who for various reasons such as protection, ambition, pride, etc., went to pay their respects, presenting cows or other gifts. The *Naba*, gratified at this recognition, rewarded his visitor with a present of 'medicine,' conferring thereby some of the magic which had enabled him to attain so lofty a position (Cardinall 1921: 20).

This category of chiefs held more of honorary titles although some were later formally accepted and recognised by the colonial administration. For instance, Captain Stewart[12] reported in 1896 that

> …there is a Chief called *Tanganaba* who has established himself at a place called Larey on the main road to *Wagadugu*. This man has collected all the criminals and refugees from the surrounding countries. He obeys no one, but pillages caravans wherever he can find them; all the people are in terror of him. 'The reference to *Tanganaba* (chief) appears to be the present town of Bolgatanga…' (Goody 1990: 5).

While this account is implicit, it gives a clue to one possible source of the Bolgatanga chieftaincy. This chiefship was, with the passage of time, recognised by the Nayiri and the colonial administration and was one of the paramountcies rewarded for loyalty (as would be evidenced later).

### 4.3. The colonial administration's empowerment of the Nayiri

The colonial administration strategically crafted, supported, and consolidated the powers of chiefs of so-called independent native states, who supposedly ruled over considerable territory. Hence, a hierarchy of chiefs was constituted for the Northeast District in five subdivisions: Mampurugu, Frafra, Kusasi, Gurunsi, and Builsa (Grischow 2006: 37). The Mumprugu king was then proclaimed overall sovereign of the North Eastern Province in 1912 (Bening 1975: 119) and empowered to implement policies of indirect rule.

However, when the Nayiri's assertions of suzerainty are evaluated with reference to true historical accounts, they were hollow, hypothetical, mythical, and 'clearly illusory' (Goody 1990: 6) and were therefore pragmatically discredited and dismissed. The people had instituted themselves into 'independent communities'; on becoming conscious that the 'King of Mamprusi was powerless to check the inroads of (slave raiding) Babatu' (Bening 1975: 117) in their very hour of need, empirically before 1898, the declaration of the Nayiri as having prerogatives and jurisdiction over the said traditional areas had been rebutted. Thus, even before Ghana's independence in 1957, these states had declared

[12] See Governor to Secretary of State, 5/2/1897 and Stewart's letter to Colonial Secretary on 29 December 1896.

themselves self-governing and independent of the Mamprugu kingdom.

Furthermore, the first African agent of the British, George Ekem Ferguson, earlier witnessed first-hand the 'true independence' of the area in 1894 when he travelled from Wa[13] to Gambaga and then to *Wagadugu*. Ferguson found that 'all the routes to *Wagadugu* were 'closed by Talensi, Kusasi, (and) Busanga' (Goody 1990: 3). Ferguson, contrasting the 'claims' of 'a powerful' Mamprugu native state with 'jurisdiction and control' over the area and the reality on the ground, noted: 'Yet it was over this very same area … that the Chief of Mamprusi claimed jurisdiction. Clearly, his claims were at odds with reality' (Goody 1990: 3).

The central problem of jurisdictional and control issues of the region at the time were major contradictions between the claims of the Mamprusi ruler and the actualities of power on the ground (Goody 1990). When checked against reality, it was found that such pronouncement 'relates to the sovereignty of Mamprusi over Gurunshi in former times, but … the latter broke away from its allegiance and constituted itself as a collection of independent communities' (Goody 1990: 6). These inconsistencies render the Nayiri's claims of interests or enskinment heritage problematic.

Although the reality of Nayiri's political control over the area was conspicuously remote and accordingly recognised by the colonial authorities, the administration was highly determined to 'buoy the power of Mamprusi' (Goody 1990:19) to rule over these other traditional areas. The first Commissioner and Commandant of the Northern Territories, Lt. Col. Northcott, had 'concluded treaties with chiefs who claimed to be independent and ruled over considerable territory, to consolidate their power', whether they were truly in control or not (Bening 1975: 118).

The recruitment of native chiefs as an agency to support the administration in running the country was 'uniformly supported'. Between 1906 and 1907 the policy effectively kicked in with colonial authorities deploying a 'combination of persuasion and measures of coercion', including 'punishing people and de-skinning chiefs who refused to recognize the authority of the paramount chiefs', to ensure the attainment of the 'native states' policy (Bening 1975: 119).

It was, however, a disaster and humiliation, as the selected traditional areas openly rebuffed the policy. For instance, when the Kasena, Nankana, and Builsa areas were given an opportunity to pledge suzerainty to the Nayiri, they bluntly refused and blamed the Mamprugu kingdom for previously enslaving their peoples. Additionally, they declared that their sign of respect to the monarchy in the past was only 'obeying the instructions of British officers' (Bening 1975: 123).

However, 'The five paramount chiefs of Bolgatanga, Tongo, Sekoti, Bongo and Nangodi in the Zuarungu District … agreed to come under the Nayiri instead of choosing one amongst themselves as the overlord' (Bening 1975:123). Why these paramountcies opted to place themselves under the Nayiri

[13] Upper West Regional capital.

needs interrogation, although the reasons are not farfetched. The colonial administration employed both coercion and inducements to achieve the objectives of its grand scheme by using 'devotion and loyalty to the British administrators' (Bening 1975: 119) as the decisive carrots. For instance:

> The Chief of Bolgatanga … was made paramount over the surrounding settlements for assisting the British troops and helping to reconcile other peoples to (the) British administration. … Similarly, the chief of Sekoti was awarded the status of paramountcy for his unfailing devotion to the British Officers (Bening 1975: 119).

It is also worth noting that the Tongrana, whose area of jurisdiction was the rallying point for fierce resistance to British rule, was demoted in rank, while the Chief of Kurugu was elevated above him. Any rational Tongrana at that time would have done anything possible to restore his status and avoid calamity befalling him again.

Judging objectively, these traditional areas' allegiance and declarations of suzerainty to the Nayiri were largely influenced by the colonial administration's machinations and factors of survival and maintenance of their chiefships rather than any other considerations. At best, the Nayiri exercised a proxy rule over the areas and stage-managed by the colonial administrators.

### 4.4. Chieftaincy in the post-colonial epoch (in North East Ghana)

During the struggle for self-rule, chiefs were seen as collaborators with the coloniser; hence, after independence 'there was significant social disquiet with the position of chiefs, and popular social demands to curtail the despotic power chiefs had gained under British indirect rule' (Amanor 2021: 23). The CPP government had an 'ambivalent and pragmatic position towards chiefs' (*ibid*), favouring those sympathetic to the administration while censuring those sympathetic to the main opposition.

Specifically, for north-eastern Ghana, steps were taken to address the concerns of 'Frafra and Kusasi young men over what was felt as Mamprusi control and domination over affairs in their areas' (Ladouceur 1979: 124). 'Thus, "colonialism" and "imperialism" meant not only British rule, but also subjugation to an alien African ruler – the Nayiri – and his representatives' (As Ladouceur 1979: 124).

With Ghana's independence in 1957, the Frafra District was curved out of the former *Mamprusi* District. The Nkrumah regime also enacted the Chieftaincy Amendment Act (Act 81) in 1961, and 'concomitant with this action was the elevation of the five divisional chiefs in the Frafra area into paramountcies', raising them to equal national status with the Nayiri (Anafu 1973: 34). The paramountcy status of the Frafra states was short-lived as Nkrumah was overthrown, leading to the suspension of the constitution in 1966. This interruption consequentially downgraded the paramountcies in the traditional areas under discussion. Nkrumah was a perceived opponent of the Mamprusi chieftaincy (Lund 2008),

and the coup makers sought to court the adherence of Mamprugu:

> Reversed the political arrangements in the North East …. By N.L.C. Decree 112, the … Frafra Chiefs, suffered a collective descent into the subordinate status of Divisional Chiefs under the paramountcy, once again, of Nayiri (Anafu 1973: 35).

The NLC-backed Progress Party (PP), which won the 1969 elections, retained NLC 112 (Bukari *et al* 2021). The Provisional National Defense Council (PNDC), which overthrew the government of Dr. Hilla Limann's People's National Party in 1981, decreed the Restoration of Status of Chiefs Law (PNDCL 75), which overturned the NLC Decree 112 and restored all the affected paramountcies to their former independent status, as under the CPP administration. Similarly, the country's 1992 republican constitution limits the operation of chiefs to definite administrative regions.

Yet, since 1993 no government democratically elected under the 1992 constitution has attempted to enforce its provisions on chieftaincy, prompting nagging questions. Does chiefs' meddling in chieftaincy matters across regions not infringe the 1992 constitution? Is the rule of law being respected by 'neocolonial'-minded chiefs? With no 'God father' to halt the 'colonisation' of the area, the Nayiri continually perpetuates cross border chieftaincy actions in the Upper East Region triggering conflicts which culminate into considerable and unbearable pain, suffering, and loss of property and lives, while Nalerigu enjoys an oasis of peace.

## 5. Conflicts as echoes of Nayiri's enskinment heritage

### 5.1. Concurrent coronation sets a city ablaze

Arguably, some conflicts in northern Ghana have been problems 'scripted into social arrangements' within which political groups or individuals 'compete for power, influence and authority' (Awedoba 2009: 9). Similarly, the *longue durée* of historical contexts of chieftaincy issues in the conflict areas which are largely unknown to the indigenes, and the silence and inactions of political actors due to parochially entrenched interests are the foundations of current endless conflicts in some traditional areas today.

The enskinment of chiefs by any institution or authority is expected to be peaceful for 'development' to flourish. Unfortunately, the Nayiri's enskinment heritage in the dominions under discussion, just as in others, has been bedevilled with ferocious conflicts arising from invented tradition, specifically '*time and space*' imbedded on 'presence of the past in the present' (Lund 2008:68). According to Lund:

> Conflicts over land and chieftaincy are characterized by an intense reference to the past as the source of unadulterated legitimacy of claims to the future. The past and lines of heritage

> are frequently rehearsed … in which everyone who depends on pedigree for position or privilege engages with passion (Lund 2008: 68).

Therefore, Bolgatanga Naba, Martin Abilba III, who reigned from 1970 to 2013, invoked the '*time and space*' argument to express his ambience of emancipation by declining enskinment by the Nayiri (Lund 2008, Awedoba 2009). He argued that the investment of Frafra chiefs in precolonial days was executed by indigenous kingmakers and that the Mamprugu king's claim of enskinment heritage was a colonial relic (Awedoba 2009). Upon Martin Abilba III's death in 2013, Mamprugu rediscovered a lacuna to ensure that his investiture rights in the area were restored.

After the passing of the paramount chief, his first son was installed as a regent in September 2014. Then, in May 2015, he was enskinned Bolga-Naba, in accordance with the tradition of choosing chiefs through 'Elders and Headmen', with the skin name Naba Awogeya-Lebna Raymond Alafia Abilba IV, at a colourful ceremony in Bolgatanga. The rite attracted a massive crowd, including a delegation from the Asantehene[14]. Of the seven families of the royal clan of the area, five backed Naba Alafia Abilba IV for the Bolgatanga chiefship.

The celebration ended abruptly as the municipality was rocked by an unprecedented controversy. The day after, Naba Abeka Nonge Buuri Maltinga was hailed, having also been invested as Bolga-Naba by the Nayiri, Naa Bohagu Mahami Abdulai Sheriga, at Nalerigu in the Northern Region. The installation was wrapped up with the Nayiri's metaphorical assurance that '*When I plant a tree, the tree does not die*'. He then instructed a cavalry of Mamprusi warriors to accompany the convoy of the 'new chief' by road to Bolgatanga (Bertrand 2016).

The Mamprusi king's action contravened a ruling given by the Upper East Region House of Chiefs Judiciary committee with which he had been served. According to Graphic Online (2015):

> On February 17, 1988, the Upper East Regional House of Chiefs Judiciary Committee by its judgement in an appeal filed by the late Bolga-Naba Martin Abilba III held that the Nayiri was not the authority to enskin a Bolga-Naba. The judgement further acknowledged that there were two isolated occasions in which two chiefs of Bolgatanga were enskinned by the Nayiri, which was an aberration rather than the custom of the people of Bolgatanga who, since time immemorial, had chosen their chiefs through their 'Elders and Headmen' now the senior divisional, divisional and sub-divisional chiefs.

The concurrent instalment of a rival chief of the same chiefdom instantaneously sparked a spate of

[14] The *Asantehene* is a very powerful king in southern Ghana, who wields international influence.

'endless' violence engulfing the township, as the feuding parties are within Bolgatanga. Newspapers and online portals became inundated with headlines on the recurrent violence.

While judicial attempts at solving the problem with promises of true commitment to peace for the sake of the people were made, violence continued, albeit sporadically. On 28 September 2015, 'Seven people reportedly received treatment at the Bolgatanga Hospital after sustaining gunshot and machete wounds. Police said the clashes were related to the longstanding chieftaincy dispute' (Modern Ghana 2015). Another report, on 4 April 2016, said, 'One person had been confirmed dead, and at least eight others injured in renewed chieftaincy clashes in Bolgatanga' (Daily Guide Africa 2016).

When the two families clashed on several occasions in 2015, security agencies obligatorily stationed a team of military and police personnel in the area in September that year, yet the presence of the peace officers did not end the violence. On 4 May 2017 at least two people were confirmed dead, with another in critical condition at the Bolgatanga Regional Hospital, following renewed clashes in the dispute. 'Sporadic gun shots were heard, as some combatants wielded machetes and pelted stones' (Citifm 2017). Another disturbing story appeared on 5th August 2019, which vividly described the following scene:

> Just yesterday, two houses, each full of belongings that took years to gather, were set on fire in Bolgatanga just like a sweeper would gather some rubbish, bend forward and strike a match to it (Starrfm.com 2019).

'Several lives have been lost and belongings worth millions of Ghana cedis destroyed since the rivalry between the two factions resurfaced in 2015' (Ghanaweb 2019). The business community in the Bolgatanga Municipality called on the Government to urgently find a lasting solution to the chieftaincy conflict, as the area had become fragile and unsafe for business transactions, which had severely affected business activities (News Ghana 2017).

As the conflict negatively impacted the population and a judicial solution to the impasse was sought, a civil society organisation[15] made up of citizens from the Bolgatanga, Nabdam, Bongo, and Tongo (BONABOTO) traditional areas moved in to engage with the two families with the objective of finding a lasting solution to the dispute (MyNewsGh 2020). The group envisaged that even if the matter was settled judicially, some significant amount of conciliation was needed to unite the families permanently due to the acrimonious relationship that had arisen between them in the course of the conflict. Members unanimously appealed 'to both families to encourage their youth to desist from acts of violence which were costing lives and property and giving the area a bad name' (Daily Graphic 2020)

The conflict would resurface every now and then, often through springboards of unlikely sources,

[15] BONABOTO is a hometown association that does appear apolitical but exercises public authority. Its membership is spread throughout the erstwhile Frafra District Council.

leaving the central location of the conflict 'boiling' with an uncertain future. The conflict's nerve centre Atulbabisi:

> is the commercial live wire of the Upper East regional capital of Bolgatanga – a place once called 'Geneva, Haven of Peace'. It is where almost all the banks and insurance companies which are headquartered out of the region have chosen to plant their branches in the regional capital. The biggest Catholic parish in the region and the Central Mosque, touted to be the biggest in Ghana, are hosted in the heartbeat of the regional capital. And it is the headquarters of midnight entertainment of the region (Adeti 2019).

Atulbabisi may be a foil to Nalerigu, the control centre of Nayiri, which remains serene with ordinary people going about their normal duties oblivious of the suffering, anguish, and violence that their 'brothers and sisters' in Bolgatanga experience from the conflict. If matters continue unchanged, Bolgatanga will become a member of the league of townships with protracted conflicts. Could excluding the Nayiri from enskinning chiefs in the dominated paramountcies resolve this problem?

### 5.2. Enskinment without Nayiri, possibility of peace?

Chieftaincy has been an effective indigenous mobilising institution to safeguard the survival and security of citizens in communities before the advent of European colonialism (Boateng 2020). Due to its usefulness and the aura of respect and obedience it commands, the colonial administration adapted it to minimise costs and elicit citizens' willing compliance with policy implementation. For these reasons, chieftains were created where none existed while others were imposed on indigenous groups (Grischow 2006, Mamdani 1996).

Their creation, however, produced a system of hierarchy of chiefs by exalting some paramountcies above others and requiring the latter to be enskinned by their 'overlord' whose suzerainty must be declared. While Ghana's 1992 Republican Constitution obliges paramount chiefs and kings to be members of their corresponding Regional Houses of Chiefs (Boafo-Arthur 2006, Brempong 2007), some paramountcies, following colonial patterns, operate in jurisdictions outside their regions in defiance of the provisions of Ghana's constitution that limit them to specific regions. The installation of chiefs by 'foreign' paramountcies often breeds conflict, as already enumerated. This colonial rooted vestige must have motivated the Nayiri to claim investiture 'rights' over the paramountcies in Upper East region, prompting this examination of whether the investment of a chief without the Nayiri's participation in the traditional areas under discussion would affect their legitimacy and respect or undermine their authority.

There was unanimity among the study's participants that enskinment without the Nayiri would

generally have hardly any adverse ramifications, either for the institution or the person invested, though some expressed concern over constituting acceptable kingmakers whose verdict would be hailed like the Kassena or the Bulisa systems. For instance, among the Builsa, 'the mode of selecting' depends on 'who has the majority' of heads of house owners (*Yeri-nyam*). The electorates (*Yeri-nyam*) stand by their preferred candidate, and the contender with the majority of *Yeri-nyam* is pronounced the victor. The main criterion is that a candidate must be a member of the royal family of *Abil-yeri* and in their lineage there must have been, at least, one chief (Bukari 2016). The Kassena have an enduring institutional and administrative arrangement with different families playing different roles from the death of one chief until the coronation of another.

Contrariwise, the tradition of enskinning chiefs among the Frafra has since time immemorial been performed by the Nayiri, a long-standing *status quo* even under the democratic dispensation. Amikire, aged 73 years, is from one of the traditional areas. He stated that he has 'never known the Frafra to have any kingmakers apart from Mamprugu' but argues that:

> Bolga-Naba refused to go to Mamprugu to be enskinned, but was respected and adored until his demise. What of Bawku-Naba? I know that because of the confusion between the Kusasi and Mamprusi, no Bawku-Naba from the Kusasi gate has ever gone to Nayiri [to be enskinned] for some time now. Don't people respect and obey him as their chief? (15 August 2022)

He was however, baffled as to why enskinment in the traditional areas had always been done by Nayiri which sharply contrasts the Kasena or Builsa, who enskin chiefs without travelling to Nalerigu. Amikire says:

> Growing up, I have never heard that the Mamprusi has ever fought and conquered the Frafra, so why go to them for enskinment? Ghana drove the white man away and we are now free [from colonisation], so why should we the '*Nyetiyaa-buure*' [the Frafra] go to Nalerigu '*ta di Na-am*' [to eat na-am]. [*Yelke, yelke, bani wan bobeh Naba ti za-ba kan-ehige?*] [The main challenge is: who would be the kingmakers such that investitures would provoke no conflicts?]. Let's coronate them [contestants] here.

Respondents moved beyond the scope of acceptance or rejection of non-Nayiri enskinned chiefs in the traditional paramountcies to the enskinment processes themselves. The propriety of the Nayiri enskinning people whom he hardly knew except through contestants' emissaries was questioned. One prince argued that the enskinment process engenders indeterminacy and a lack of clarity, compelling

candidates to expend colossal resources, generating indelible metaphors of commodifying the enskinment process and creating an impression that 'the highest bidder' is given the fez (crown).

This assessment concurs with a finding by earlier studies which found that the opaque procedures and heavy sums of money spent on campaigning for election by the Nayiri were 'tantamount to auctioning the skin' (Awedoba 2009: 89) against worthier candidates. Prince Adefaara (a 57-year-old contestant), states:

> When we go to the *Nayiri* to eat *Na-am*, the resources we spend are uncountable. Each morning you must 'greet' the Overlord and all those who play crucial roles [for your victory]. Sometimes you may have to come back home, or send trusted relatives to mobilise more money in order to impress the kingmakers to boost your bid. After each contestant has spent so much, can we agree that the eventual winner actually merits the 'skin' or got it by offering a higher price? After spending so much resources without winning…*hmm*. …While you pledge your loyalty to the winner, you estimate your losses and inwardly you are weeping and gnashing your teeth. (8 August 2022)

The claim about expending resources to be crowned is corroborated by Tonah (2004):

> All the contestants made regular visits to the Nayiri, his elders, and other royals considered to be able to influence the decisions of the Nayiri. During such visits …, each of the contestants made donations of livestock, cola nuts and cash to the king and his elders and all those who offered to assist them to get the nod as paramount chief. (Tonah 2004: 47)

The huge economic outlay to the Nayiri for enskinment raised serious concerns. A participant stated that the amount of money spent campaigning for the 'fez' is exorbitant, stimulating a situation in which those chosen to the office are exposed to the temptation to seek material advantage to recoup their substantial outlays. More sinister is the possibility that losing contestants could use spiritual powers to eliminate winners.

As explained by Tonah (2004), a candidate can spiritually attack his opponents and eliminate them from the contest by making them physically deformed or ill, or kill the strongest rivals through spiritual powers. It is also held that 'mallams, diviners and soothsayers can intervene' and 'devise ways and means of improving the candidate's chances, protect him from evil deeds and machinations of his opponents, as well as strengthen him spiritually, and pray fervently for his success' (Tonah 2004: 47). These also come at a huge cost.

The participants generally concluded that the Nayiri's role in enskinment processes should be

symbolic and must not imply domination, subjugation, or a determination of who should lead the people of a traditional area. If a tradition was invented which was accepted by the autochthones, a tradition can be invented for the selection by kingmakers of an accepted ruler for the development of the area instead of endlessly witnessing dreadful conflicts.

## 6. Conclusion

The paper was triggered by the raging legal battle between the Nayiri and Upper East Region House of Chiefs Judiciary Committee, with the former making claims based on the 'presence of the past in the present' (invented tradition), on which claimants often rely to buttress their positions. As a member of Northern Region House of Chiefs, the Nayiri asserts that his rights and interests were affected in the Upper East region, outside his constitutionally guaranteed operational territory. The suit prompted an examination of the evolution of chieftaincy in North-East province of the Northern Territories to properly situate the Nayiri's assertions and determine whether the entitlements are merited.

The historical basis of the relationship between traditional states in today's Upper East Region and Mamprugu was not due to outright conquest, a pact, or a signed accord, but to pre-16$^{th}$-century mythologies. In fact, by 1894 the area had declared itself autonomous of the Mamprugu kingdom; hence, any claims of superiority over the said states are suppositious, mythical, and unsupported by historical accounts – mere lore perpetuated over time. Even if there was a compact, such treaties are obsolete, null and void after Ghana's independence and the present constitutional dispensation with clearly defined operational jurisdictions for chiefs.

From the historical résumé, it is clear that the Mamprugu kingdom was a beneficiary of colonial machinations employed to enforce decentralized nepotism (Mamdani 1996) on the Frafra and other acephalous societies. The Nayiri's act of enskinment has plunged the Bolgatanga paramountcy into cycle of cataclysmic violence in the municipality. His royal highness' actions across the administrative border are essentially ultra vires to Ghana's 1992 constitution and thereby threatens the country's democratic dispensation. Such actions further threaten the rule of law, as individuals or institutions cannot act as though in state of nature since democracy has discipline and orderliness embedded in it, not anarchy.

Similarly worrying are the actions or inactions of the state, due to its actors entrenched partisan political interests, which embolden the leadership of some paramountcies to operate across regions. The 1992 Ghana constitution states that 'There shall be established in and for each region of Ghana a Regional House of Chiefs' and that its functions are 'within the region'[16]. In spite of this clear provision, the Nayiri has crossed over into the Upper East Region to enskin a paramount chief in defiance of the ruling of that region's House of Chiefs Judiciary Committee.

[16] See Article 274 Clauses 1 and 3 (b)(c)(e)(f) of the 1992 Constitution of Ghana.

The state is inert and powerless to stop the Nayiri's unlawful actions but often dispatches peace officers and resources to maintain the peace. The state must uphold the constitutional provisions on the limitations of the operational jurisdictions of chiefs because of the implications of conflict for the youth as a development category and the nation's asset. While Ghana's youth policy seeks to 'involve creating and strengthening mechanisms for peace building and institutionalizing a culture of peaceful co-existence'[17], conflicts energised by colonially rooted enskinment cultures create intrafamily suspicion, mistrust, animosity, and generational segregation among the citizens.

State silence and inertia make investors hesitant to commit resources in unsafe and unpredictable environments, resulting in little or no investment to expand the economy. This hampers job creation and stifles opportunities for gainful employment, and works to the detriment of young people. Apart from focusing on economic development, Ghana's youth policy seeks to 'create institutions that enhance national unity, cohesion and integration'. The state's indecisiveness and failure to act speedily against the contravention of constitutional provisions on jurisdictional restrictions by some chiefs compromises the state's capacity to build a united country through institutions and impairs the inculcation of the tenets of the rule of law in the young.

In examining the article's question whether the Nayiri holds 'true' investiture rights in the traditional states today, it was found that the Mamprusi king was an exalted emissary of the colonial administration. Thus, as an heir of ancestry previously blessed with the support of a global power, the monarch should respectfully play a diplomatic and regal ceremonial role vis-à-vis erstwhile conquered states to promote cultural ties and tourism while refraining from triggering conflicts by aligning with royal factions of paramountcies outside his legally sanctioned domain.

Finally, investitures in these paramountcies could be conflict-free and usher in a lasting peace were the Nayiri excluded from enskinning contestants. The study participants were unanimous that a genuinely crowned contestant does not lose legitimacy, loyalty, or acceptance by not being crowned by the Nayiri, as invented systems thrive on an acceptance in the morals and traditions of the population. Therefore, tried-and-tested processes and procedures of investitures in other paramountcies in the region could be taken as archetypes. The system used in enskinning the Sandem-Nab seems apposite.

Traditions may be invented by the citizens of the traditional paramountcies from established practices or well-thought-out models based on sound logic. Nonetheless, the question worth answering among stakeholders is what acceptable democratic system of enskinment model should traditional paramountcies, particularly those in the Frafra District of the Upper East Region, adopt?

[17] Ghana 2010 National Youth Policy (p. 17).

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# Cross-border Cooperation and Conflicts: An Exploration of Cross-border Cattle Herders' and Crop Farmers' Cooperation in Sierra Leone's Border with Guinea

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**Abstract**

This study investigates how cattle herders and crop farmers in the cross-border communities of Sierra Leone bordering Guinea can manage and live in cooperation and peace amidst limited available resources for herders and farmers. Conflicts between cattle herders and crop farmers are common in West and Central Africa, often resulting in large-scale internal or cross-border conflicts, as in Sudan and Nigeria. This case study presents a different outcome in the context of Sierra Leone. Using a qualitative approach, this study demonstrates how a strong nexus of the deep-rooted sense of homogeneity among cross-border community inhabitants significantly contributes towards building cooperation and peace.

**Keywords**: Sierra Leone, Guinea, herders, farmers, cross-border

## 1. Introduction

Activities of pastoralism are widely practiced in western, central, and eastern African regions, and are largely considered a way of life for the majority of the inhabitants (Galaty 2021, Jouse 2004, Marshall 1990). Transhumance, characterised by McGuirk and Nunn (2021) as the seasonal mobility of foraging animals, has been a major occupation of the continent's population, particularly for those who are often but not always geographically located near rural communities.

Transhumance-related engagements in these communities are largely not only related to economic gains but also have involved the participation of community members to enhance their livelihood. Ducrotoy *et al.*'s (2017) work in Kachi, Kaduna State, Northern Nigeria, on the dissimilarity in the Kachia Grazing Reserve household features how the resources of grazed animals are allotted among the inhabitants shows that livestock maintenance has been a huge source of household livelihood, for instance, 50 percent of community incomes are accrued from transhumance related activities. This steady income often produced by pastoralism activities provides meaningful economic incentives for the actors involved to further expand these activities. Indeed, for decades, this industry has steadily expanded, with a huge number of community members involved in it for sustaining their livelihoods. Similarly, agriculture (farming) in the form of food production is another notable pillar, comprising approximately '30-50 percent of the gross domestic products of some countries in the region, while also supporting the livelihood[s] of nearly 70-80 percent of the population' (Toulmin and Gueye 2005: 23).

While pastoralism activities continue to increase and the economic gains from farming accrue, the emerging challenge of climate change is increasingly dispossessing herders of limited arid and semi-arid land for grazing, as well as land for cultivation by farmers (McGuirk and Nunn 2021). Thus, disruptions in such vital economic and livelihood sustenance activities in a continent with a high youth unemployment rate could result in potential uncertainties. Indeed, a plethora of instabilities have emerged, invariably resulting in large-scale tensions or low-scale conflicts between and among cattle herders and crop farmers, either internally or across borders, with some even culminating in property destruction and death (Brottem 2021).

Notably, while several herder-farmer conflicts continue, a considerably research area underexplored is how the cooperation mechanism for social cohesion has been vital in certain communities. This study investigates how cattle herders and crop farmers in the cross-border communities of Sierra Leone bordering Guinea manage and live in cooperation and peace amidst limited resource availability for herders and farmers, which has often resulted in low-scale tension. Sierra Leone shares a border with Guinea along the north and east. In the northern border, communities on both sides practice pastoralism and farming concurrently on a large scale. The majority of community members in both countries are herders and farmers. Beyond the differences in these livelihood or occupational engagement patterns and the country of origin, the inhabitants along these cross-border communities have emboldened

cultural homogeneity by developing a shared and deep sense of communal bond, integration, and strong family ties; hence, they have been able to associate meaningfully.

In this context between Sierra Leone and Guinea along these border communities, this study demonstrates how a strong nexus of the deep-rooted sense of homogeneity (the integrative communal sense of engagement) among cross-border community inhabitants and cooperation mechanism have significantly contributed to social cohesion, cooperation, and peace in their communities. They have been able to significantly mitigate the recurrent low-scale tensions between farmers and herders over grazing space as well as the destruction of farmland.

This study employed ethnographic research mostly using interviews through several focus group discussions. These discussions were held at several locations from December 2022 to January 2023, with participants including farmers, herders, and community stakeholders. The data were collected in five chiefdoms in Falaba District, northern Sierra Leone, which bordered Guinea: Mongo, Dembelia Sinkunia, Sulima, Kabelia, and Delmadugu. The aforementioned data collection period was selected because during this period, cattle herding gradually increased within these communities while farmers were harvesting. In addition, data collection included minimal participant observations, which were conducted in these communities during focus group discussion interviews. Participant observations provided an opportunity to compare views from the focus group discussions. Finally, the study also used secondary resources obtained through a desk review on the subject.

The remainder of this article is organized as follows: First, this study critically examines the literature on discussions situated on conflicts between herders and farmers from the historical and contemporary emergence of these conflicts. Further, a brief background on agricultural-related activities and transhumance patterns in Africa is outlined. Next, the patterns of transhumance activities in Sierra Leone, and nature of ethnic affinity and its importance in the homogeneity construct of the communities are analysed. Then, the study outlines steps within their cooperative approach for herder-farmer conflict management both within and across borders. Finally, the conclusions are presented.

## 2. Extant Literature

This section briefly outlines key empirical studies on the patterns of pastoralism in Africa. It first examined the historicity of pastoralism in the continent, patterns of its evolution, and importance of the practice in the continent. Next, it traced the historical antecedents of the structural conditions that contributed to emboldening the earliest factors of conflicts between cattle herders and crop farmers. Finally, the causes and patterns of contemporary conflict between cattle herders and crop farmers were examined. These reviews were pursued to understand the existing gaps and context, and situate how the cooperation mechanism characterising the relationship between the pastoral and farming contexts in the bordering communities of Sierra Leone with Guinea has decreased tension between these groups.

### 2.1. Historical patterns of pastoralism in Africa

Pastoralism is an activity mainly associated with the rearing of particular sets of livestock, such as goats, sheep, cattle, and camels, which are considered ruminant animals. Its practice has transformed into culture and is now taken as a way of life common among inhabitants in many parts of contemporary Africa (African Union Report 2010). In addition, pastoralism is analysed as a pattern of production and a social structural arrangement involving the interplay among herders, animals, and the way resources are handled (Salih 1990: 7). The practice of pastoralism in Africa is not universally uniform characteristics. There are some minimal differences in the political, mobility, and prestige patterns of the herder in certain locations. For instance, Salih (1990:7) noted how authority and power relationships are often specified by a herder based on the quantum of yields accrued, underpinned by high socioeconomic benefits. Notably, in the governance structure of the state today and in the past, pastoralists have remained largely disadvantaged in active political participation. In some instances, this is owing to the ecological challenges and erratic climate, which have often resulted in their recurrent migration from one location to another (Fre 2018, Salih 1990).

Pastoralism in Africa is often noticeable in environments mostly characterised by dryness, with considerably large-scale livestock management. As noted by Gifford-Gonzalez (2005), the ecological pattern of the Sahara Desert, which was the earliest locations of the emergence of pastoralism, vitally contributed to the transformation of the earliest patterns of pastoralism, and later resulted in the mobility of herders into the western and eastern parts of the continent. The practice of taming animals has a long historical antecedent in Africa, dating between 10,000 and 9,000 BCE. While scholars debate about what could be understood as the actual historicity of pastoralism on the continent, a noticeable activity associated with the practice of pastoralism can be traced in Sudan and Chad in approximately 9000 BCE, from where the different migratory patterns commenced across and into the different regions of the continent (Little 2012). Moreover, although the practice of pastoralism in Africa involves wide-ranging uncertainties, it has become culturally inherent and identifiable with tribes and clans across regions. For instance, in Nigeria, the Fulani ethnic tribe is largely engaged in pastoralism, whereas in South Sudan, the Dinka, Nuer, and Shilluk are some ethnic groups engaged in pastoralism (Ducrotoy *et al*. 2017, Mclnerney 2010, Wambugu 2016).

Remarkably, about twenty-million inhabitants in Africa derive their livelihood from the practice of pastoralism (Little 2012). Citing the case of the Horn of Africa, Fre (2018) revealed that approximately 50 percent of livelihoods in the region are supported by pastoralism. In addition, through the practice of pastoralism in the form of livestock management, countries such as Ethiopia, Eritrea, Somalia, and Sudan have experienced a huge boost in their agricultural gross domestic product, varying from ‘40 percent in Ethiopia to 72 percent in Somalia’ (Fre 2018: 34). The enormous expansion of international

trade in livestock products through exports to some Gulf countries has also helped in realising valuable foreign exchange. Citing the case of Somalia, Fre (2018) noted that the country exported about 'five million livestock in 2014 and was able to realize $360 million' (35). Indeed, in 2007, pastoralism contributed between '10 to 44 percent to the African countries gross domestic products' (African Union Report 2010: 9).

**2.2. Cattle herders-crop farmers pre-colonial pattern of cooperation and conflict genesis**

Before the emergence of visible animosity between cattle herders and crop farmers from 1990, there were some periods in history where these distinct groups had a mutually inclusive supporting interdependence in communities where they coexisted, particularly in the pre-colonial era. Such cohesion created an atmosphere of stability and peace, and a form of flexibility in which each group would carry out routine activities unhindered by the other group. Davidheiser and Luna (2008:80–82) cited this nature of the serenity between cattle herders and crop farmers. The authors narrated how before the advent of colonialism, cohesiveness and peace were the bedrock that characterised these two distinct occupational groups in Africa. Citing the case of the Fulbe (herders) and farmers, for instance, the authors highlighted the existence of a pattern of product sharing between these two groups. It was oriented towards beneficiation and livelihood support to each group within their communities. In addition, the magnitude of concern each had for another, resulted in a 'symbiotic relationship'. As opined by these authors, such interdependence mitigated any possibility of tension between the herders and farmers, as movements of transhumance were on a free range and occurred unhindered. Furthermore, no disadvantaging regulations existed that favoured one group over the other.

Frantz (1975) clarified that herders had some forms of characteristics during the pre-colonial period which were associated with invasion to sedentarise, and that competition with farmers over access to resources was limited. The low degree of tension between the two groups at the time, according to the author, was because the population at the time was largely infinitesimal to pose any substantial threats, long periods without rainfall often occurred, and disease outbreaks among animals, particularly cattle, happened (Frantz 1975: 9). Situating the genesis of the tensions between herders and farmers, the author opined that during the colonial era, significant changes happened which considerably affected the herders, and pre-existing social relations between herders and farmers.

One of these changes, according to Frantz (1975), were the economic policies which favoured farmers, especially in areas with readily available markets. This resulted in an increase in the population oriented towards farming, whereas most grazing land was overtaken by the farmers. The herders not only lost land-right ownership but also suffered from the taxation and movement restraints imposed on them (Frantz 1975: 10-11). This and many other related colonial policies created dramatic imbalances that were visible in the 'power, wealth and prestige' between famers and herders (Frantz 1975: 14).

These antecedents were among the structures that were long designed and continued in the governance system of the post-colonial era (Davidheiser and Luna 2008). Without meaningful reform, these pre-existing structures characterised by imbalances then become the foundation which continued to fester the tensions between crop farmers and cattle herders, followed by the emergence of the post-colonial demographic structure, international financial markets, decline in available land for herders, and the struggle over the available resource structure (Davidheiser and Luna 2008: 86-87).

### 2.3. The contemporary context of competition, land use, and conflicts between cattle herders and crop farmers in Africa

Clearly, one can discern why communities that used to be at peace internally and with surrounding neighbours began disintegrating in low-scale tensions, often resulting in conflicts of high proportion. Another key factor has been the increasing effect of climate change. As Suri and Udry (2022) noted, agriculture remains a strong cornerstone of the continent's gross domestic product and employment. Other than the decline in the continent's gross domestic product to '1.4 percent in the 1980s from 4.7 percent in the 1970s, Africa is noted to have reclaimed a steady gross domestic product at 4.6 percent, especially between 2002 to 2010' (Badiane and Collins 2016: 4-5). Admittedly, agriculture has been phenomenal contributor to this steady progress, given the massive labour participation in the agricultural sector, whereas '268 million were known as engaged in pastoralist activities (approximately one-fourth of the population) representing a total of 43 percent of the land mass of the continent' (African Union Report 2010: 9).

Climate change is likely to undermine farming-related activities in numerous ways, including but not limited to an 'increase in the level of carbon monoxide that has the tendency to hugely destroy the proportion of crop and weed growth; excruciating temperature; erratic amount in the level of rainfall and sunshine pertinent in crop growth; and the increasing extinction of land needed for agricultural activities by over flooding' (Howes 1995: 215). Africa is increasingly impacted by climate conditions which adversely affect agricultural productivity, which has reduced by approximately 33 percent of harvestable yields. Climate change is also related to livestock management, as increasingly extreme weather is rapidly reducing the accessibility of water for animals and increasing the stress in animals caused by the unusual weather conditions (Welsh 2021).

Indeed, climate impacts are posing challenges in some farming communities, and affecting the practice of pastoralism and wider agricultural activities, even causing hunger in some of the least developed countries. A further complication is that climate change induces new patterns of conflict causation, especially those between crop farmers and cattle herders, and sometimes even between cattle herders. For instance, Suleima and Salisu (2022) studied the 'effect of climate induced farmer-herder conflicts' in four local government wards (Giwa, Shika, Kadage, Kidandan, and Galadimawa) in the

Kaduna State, Northern Nigeria. The authors revealed that these locations have been experiencing significant erratic climatic conditions, including dramatic changes in the level of rainfall, amount of sunshine, and emergence of oppressive drought. This has resulted in low productivity of crop yields and increased rate of livestock death. These consequences, as noted by the authors, have caused social and psychological turmoil among farmers and herders, conflicts because of the competition over limited available resources, and often the destruction of properties, rural-urban migrations, and increased poverty and displacement (Suleima and Salisu 2022: 133-136).

The inability to effectively manage these limited resources between cattle herders and crop farmers may also be connected to the underlying causes of the recurrent tensions among these actors. In West Africa, particularly the Sahel, land for cultivation still remains expansive, while the portion of land for grazing is constantly decreasing. Meanwhile, pastoralists do not have collective land rights. Instead, they gain access to these pieces of land by requesting permission from the local authorities to graze their animals at a certain period of time (UNOWAS 2018). Thus, given the pressure often associated with such a phenomenon, emerging population increase, and poor management, tensions have deepened among these actors in these farming and grazing communities (UNOWAS 2018: 13).

In addition, Bello and Abdullahi (2021) opined that the causes of herder-farmer conflicts are not unconnected to the damage often caused on both sides, such as the livestock damaging farm crops, water pollution, herders' disregard of local regulations, the threat posed by farmers towards herds, and more importantly, the threat of obstruction of transhumance corridors. Furthermore, the interlocutory bias often exhibited by authorities, whereby they favour one side over the other, creates a proclivity for unending tensions between cattle herders and farmers (UNOWAS 2018:14). Hussein *et al*. (1999) highlighted other deeply rooted challenges often inherent within these communities which are considered the flash or boiling points at which proximate factors easily formed. The authors stressed that the increase in the availability of contemporary firearms, infringement by farmers of prehistoric pastoral grazing fields, and the challenges posed by the economic structure are some of the strongest underlying antecedents of discontentment between these groups.

These herder-farmer conflicts are sometimes nested into large-scale conflicts in the region, especially when actions at the formative stage are not curtailed. In Nigeria, for instance, herder-farmer conflicts in certain states have affected whole communities leading to fatal outcomes. In Mali, pastoralists are seen as associates and victims of the ongoing instability. In the Lake Chad Basin, the herder-farmer conflicts have intensified demographic dislocation (UNOWAS 2018:15). While pastoralism and farming on the continent have been strong economic contributors to the economy, and in maintaining and fostering sustenance, their management patterns for enhancing social cohesion between herders and farmers is yet to be addressed on a broader scale.

### 3. Brief context of agricultural and transhumance activities in Sierra Leone

Approximately 60 percent of the population of Sierra Leone is engaged in agricultural-related activities, although the country remains food deficient following the end of the civil war in 2002 (World Food Programme 2022). While agriculture is the largest employer in the country, it is largely characterized by subsistence farming with minimal mechanization. However, this may change with the government's recent push. In a recent pronouncement during the state opening of the 6th parliament of Sierra Leone in 2023, the country's president outlined 'agriculture' as one of the five pillars of his second term manifesto (Government of Sierra Leone 2023). This bold policy promulgation of agriculture, based on its identification as an urgent and dire need, can be a transformative approach to the sector and can help in undertaking a sustained drive towards mechanisation. However, achieving this would foremost require a whole gamut conceptualisation of the underlying fundamentals of why this sector has remained neglected in the past several decades.

The major challenge, especially in food production, in Sierra Leone is that agricultural methods continue to be antiquated. The utilisation, for instance, of the local implements (mainly cutlasses and hoes) by the majority of farmers has been a debilitating hindrance. Consequently, farmers are merely living on subsistent agricultural production for survival, leaving them in cyclical poverty. The high poverty rate linked to rural farming has caused massive occupational and location shifts, and an exodus, particularly of energetic rural youths, looking for greener and quicker pastures in urban areas. Amid these challenges, climate change has also begun interrupting farming patterns. Erratic climatic factors and poor technological usage in farming pose a huge threat to sustained farming. Smart modern farming practices would have helped in mitigating most of these challenges and increasing possible economic gains.

Agro-pastoralism is one of the key subsets of the related agricultural activities in Sierra Leone. The political districts with well-established farming and pastoralism activities are Falaba, Kambia, and Koinadugu. Perhaps, the unique characteristics of these districts are that they not only share borders with neighbouring Guinea, but also have strong ethnic homogeneity spanning decades, which remains highly esteemed on either side. The border is made up of a landmass, and its proximity created a context where movements into and out of the neighbouring communities were made accessible without any profound hindrance. Admittedly, as in other countries, such as Nigeria or those situated in the horn of Africa where pastoral transhumance activities are seen as income-generating sectors, these activities have been a huge source of income for livelihood support for some rural community members in Sierra Leone. In Sierra Leone, pastoralism is identified with the ethnic Fula tribe. Nonetheless, other ethnic groupings within the same districts also practice it.

## 4. The context of cross-border transhumance activities between Sierra Leone and Guinea

Alongside farming, pastoralism is one of the major occupations of many inhabitants of these communities. For instance, in Falaba District, pastoral activities continue in seven chiefdoms bordering Guinea and are a well-established practice. The region is characterised by a vast arid and semi-arid landmass, with the majority of its area covered by thick forest vegetation. In this district, bordering the Faranah Prefecture in Guinea, there is a considerable spread of savanna grassland over several kilometres and is mountainous in certain locations. This environmental scenery explains, among others, that one of the underlying factors of transhumance and farming activities exists within these locations. In these border communities, the practice of pastoralism, as in other countries, has involved the movement of livestock, mostly cattle, goats, and sheep, in colossal numbers internally across chiefdom and district boundaries, and across the international border with Guinea. In both of these movements, the two critical factors are the search for pastures or markets.

A critical characteristic of pastoralism on either side of the border is the inherent free-range transhumance pattern, particularly during the dry season. Cleary (1986) profiled the nomadic transhumance pattern in the Mediterranean, in which the livestock move from the lowland to upland locations during the dry season in search of pastures as depletion of resources happen in the lowland sites. Davies (1941) echoed the same movement pattern in the European context. Meanwhile, the case of Sierra Leone presents a slightly opposite movement trend, though in the same season. Sierra Leone has two seasons (wet and dry seasons). In the dry season, transhumance pattern is observed largely towards the lowland areas from the uplands in search for pastures. During this period, the lowland ostensibly retains majority of the available food content for grazing (fresh grass and water), while the highland is left completely barren of water and grass. It is also the period in which rainfall is the least.

Meanwhile, this study's unstructured interviews with most stakeholders of these communities from 2022 to 2023 revealed that the dry season has large-scale patterns of transhumance movement not only within the communities but also across the borders of Sierra Leone and Guinea. With the proximity of Guinea, respondents also noted that transhumance movement from Guinea crossing into the border communities of Sierra Leone is common and higher in the dry season than that from Sierra Leone to Guinea. As pastoralism is common on both sides of the border communities, respondents further affirmed that the cultivation of groundnut, rice, and vegetable farming and lodging are similar characteristics of these communities. Thus, these communities not only have access to animal products from livestock but also farm products.

While the transhumance movement between and among these communities is widespread, there is an ostensibly emerging tension between and among cattle herders and crop farmers over two critical issues: the accessibility of land for livestock grazing by pastoralists and security of farmland during and after cultivation. Climate change impacts are also noticeable in these communities such as limited

rainfall, which limits the availability of grazing pastures for livestock, and the large-scale availability of resources such as water for grazing. This is not unconnected to the intense movement in search of water, as noted during the focus group discussion. Further, the limited availability of land, which sometimes has access to water but is widely utilised by farmers, can sometimes push herders to travel far distances to access grazing fields with the grazing resources needed for their animals. In addition, the nature of grazing patterns poses a huge challenge for these fields located near farmlands. In the midst of this internal challenge, the focus group discussion reveals that pastoralists from Guinea, together with their cattle, also cross over to Sierra Leone in these communities in search of grazing land, as well as due to the depletion of grazing land fields and drying up of available water sources. This further complicates the situation.

In addition, according to the respondents, farmers engaged in small-scale subsistence farming activities suffered crop damage during the transhumance period, or sometimes by cattle left to free-range indiscriminately. Within these communities, farms constructed without fencing are damaged by herds of cattle on the move. The construction of fences around farming fields involves hard labour and sometimes is capital-intensive due to the hired labour force. Small-scale farming is performed by women, who largely do not have the resources to hire labour; consequently, their farms are exposed to damage by cattle. Respondents also stated that the level of damage to farmland caused by transhumance-related activities has been a threat. Because of these challenges, the majority of youthful farmers are reorienting their occupational desires away from farming to motorcycle riding, leaving farming to the elderly.

The scale of the movement and massive damage to extensive farm tracts have often resulted in recurrent retaliation from farmers, creating tensions and sometimes even injuries. The interviews revealed that a common accusation invariably levied on herders is the uncoordinated pattern of movements and movement routes. Meanwhile, farmers are accused by herders of obstructing transhumance routes, with farms constructed on routes.

## 5. The sociology and ethnic cross-border homogeneity between Sierra Leone and Guinea

In the locations in the north of Sierra Leone captured in this study, the main pastoral region is in the cross-border communities bordering Guinea, which are ostensibly characterised by an apparent homogeneity underlined by strong identical ethnic affinity. For decades, this sociocultural phenomenon has been a melting point cementing communal integration and collective action, especially on issues of common interests, including trade, security, family, and engagement in cultural activities in the form of weddings, naming ceremonies, cross-border dispute resolutions relating to families, the observance of burial rights across borders, and other socioeconomic concerns. Although the cross-border inhabitants of both communities have different nationalities (Guineans and Sierra Leoneans), and intra- and inter-occupational differences, they have been able to create a strong sense of communal bonds through their

joint activities and have become integrated. For instance, in terms of trade, pastoralists on both sides are intrinsically important, as their livestock is traded for money or other desirable goods in return from within the same communities; this also holds for agricultural products. Respondents noted that in these communities, especially in Sierra Leone, the possession of livestock is a sign of prestige and wealth. Depending on the quantity, the herder can be allotted hectares of land for grazing. Further, herders often have good relations with local authorities.

Beyond the common trade in livestock, another pattern of community cross-border trading often occurs on some specific days within each border community. Specifically, community members act as merchants, trading large amounts of agricultural and other goods, including apparel. These days attract active community participation on both sides of the border. Respondents revealed that the concept of community trading idea developed by the community members was to ensure that goods from within the communities are easily made available and traded with community members; importantly, this has helped forge strong community collaboration and social interactions. On these marketing days, goods from distant urban locations, for instance, are also accessible to the majority of community inhabitants, particularly those who cannot afford to travel to urban locations because of financial constraints. Beyond the internal community-level cohesion, cross-border trade has emboldened the inherent commonalities, social security, and peaceful cohesion. Furthermore, the practices of lowland subsistence farming and pastoralism are significant in these communities mainly for their survival and to meet other basic social needs. Community members across border communities are also substantial participants in these marketing days. These common cross-cutting integrative interests have been integral to their common survival, and have enhanced their bonds and harmony.

**6. The philosophy of cattle herders' and crop farmers' cross-border cooperation**

As observed, cattle herder and crop farmer conflicts have been an ongoing phenomenon, and are even obvious in societies that have not seen cooperation and compromise as an opportunity to improve their area of work  The context of Sierra Leone and Guinea with their border communities largely inhabited by farmers and pastoralists of homogeneous tribes, cooperation, and compromise are unique characteristics that have resulted in their peaceful resolution of tensions and conflicts.

Ethnic homogeneity across borders is characterised by high reverence of elders from both sides of cross-border communities and where decisions from ethnic community elders are solid. The strong understanding of their homogeneity (respect to elders as cultural communal norms) helps forge a strong sense of family ties which are accepted along sociocultural institutions and have remained sacred. Thus, local institutions or structures help in dealing with individual differences, forge cooperation, and help community members live together irrespective of differences. This characteristic ethnic social pattern is at the centre of the homogeneous cooperation through which tensions are confronted, engaged, and

resolved.

Beyond cultural and ethnic homogeneity within these communities, another notable aspect highlighted by respondents was the formation of local transhumance committee. This committee comprises representatives drawn from farmers, herders, chiefs, and other eminent stakeholders from the general communities beyond the village level, with its composition not so much different in different ethnic tribes. The committee meets and discusses common challenges, and develops agreeable resolutions. Given the community's characteristics beyond the village level, its membership represents each community where information is collected, shared, and meeting summons are issued. In addition, a committee is formed at the village level under the supervision of the local chiefs comprising his trusted local authorities. This institution is considered as the highest-level political superstructure within this local jurisdiction which formulates the byelaws to govern all. Under this jurisdiction, a pastoralist wishing to move to another community within Sierra Leone or from Guinea to Sierra Leone with herds of cattle for transhumance in search of grazing land should declare this intent to the local chief. This is then relayed to the community, particularly the time of movement, corridors intended for the movement, and duration of stay. According to respondents, this allows pastoralists to relocate to the new grazing land following general approval. However, the acceptability of a pastoralist not within their usual communal affiliation (a far distant herder unknown to the community communal culture) is hardly granted such access to mitigate unanticipated tensions.

In addition, as part of the initiative, when tensions are observed between the farmer and herder over damage caused by the cattle during grazing or in a period of transhumance, the chief dispatches trusted authorities from the established committee for examination of the extent of damage, and the estimated cost is levied on the perpetrator for compensation. In instances of harm done to livestock by farmers, a similar committee is instructed to examine it. Once compensation is requested, it is unquestionably given.

This pattern of cooperation is formed due to the strong homogeneity built along common interests within and across border communities, and has been significant in conflict management; however, it is not entirely clear that conflicts between farmers and herders do not exist at all in those communities.

## 7. Conclusion

The cross-border farming and pastoral communities in Sierra Leone and Guinea have not been without tension between farmers and herders over the availability of or their competition for the limited resources. The invocation of the local initiative seen through cooperation mechanisms has underpinned the mitigation of outright conflicts which can destroy property, lives, and all economic activities within these two cross-border communities, as often seen in other country contexts. Subsequent research in similar study contexts should therefore attempt to deeply examine how cooperation mechanisms could be realised among actors in heterogeneous communities of different cultural and ethnic distinctiveness.

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# Preliminary Reflections on the Nexus between Food Systems and Climate Change Responses in Central Africa

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**Abstract**

This study analyses the importance of understanding the nexus between food systems and climate change responses in Central Africa. Despite the diversity of agriculture in the region, climate-related challenges such as changing rainfall patterns and increasing natural disasters significantly impact food production and distribution. Climate change responses in the region have focused on improving food systems, including developing climate-resilient crops and agricultural practices, as well as local food storage and distribution systems. These efforts are essential to increasing the resilience of Central African food systems and addressing broader climate change mitigation and adaptation goals. However, significant challenges exist in ensuring that such responses are effectively implemented. These challenges include broader systemic issues related to governance, infrastructure, and trade. Additionally, it is crucial to ensure that climate change responses consider the unique perspectives of different groups within society, such as female farmers and indigenous peoples. Warning systems for food security and basic climate information services are still at an early stage. This study aims to address these challenges by synthesising and analysing the existing literature. Ultimately, the goal is to better understand and address the nexus between food systems and climate change responses in Central Africa.

**Keywords**: Central Africa, Congo Basin, climate change, adaptation to climate change, climate change mitigation, food system, food security

## 1. Introduction

The IPCC (Intergovernmental Panel on Climate Change) Special Report on Land highlights the importance of the global food system to global climate change. Food systems are estimated to be responsible for one-third of global anthropogenic greenhouse gases (GHG) emissions (Crippa *et al*. 2021). Therefore, it is crucial to incorporate this into response efforts focused on reducing global emissions. In addition, the food system is particularly vulnerable to the effects of climate change, including decreased and unstable crop yields. For instance, Anwar *et al*. (2013) found that climate variability is strongly associated with maize yield variations in sub-Saharan Africa's agricultural areas with large mean farm sizes. Given the close link between the food system and climate, understanding their intersection has become a critical aspect of the global environmental agenda.

The food system is a complex and diverse industry that varies across geographical regions and even within the same country, depending on different factors. This system is similar to other sectors in that it involves labour division, where certain regions are highly specialised in producing agricultural inputs, while others excel in producing specific agricultural products. The recent crisis in Ukraine exemplifies how the production and consumption of food occurs in different locations, making food a vital global industry. Not all parts of the world share the same reality regarding food security. Africa continues to struggle with the challenge of achieving food security, having missed out on its green revolution, in contrast to Asia and South America.

While the Horn of Africa has highly publicised hunger issues, other regions on the continent are also facing food insecurity due to low development indicators. Central African countries, specifically those in tropical rainforest zones (the focus of this study), are currently facing agricultural constraints, including limited availability of agricultural inputs, pests, diseases, and inadequate breeding materials. These challenges are further compounded by climate change and the need to increase agricultural productivity while preserving natural ecosystems, such as the Congo Basin, and its ecological services. Additionally, Central African countries rely heavily on inputs from countries outside the continent, highlighting the dependence of their food security on both national conditions and the functioning of international relations and agendas.

Several countries in Central Africa are currently working to develop climate change responses within the United Nations Framework Convention on Climate Change (UNFCCC). These responses include policies such as National Determined Contributions (NDCs), National Plans for Adaptation (PANs), REDD+ strategies, and efforts to conserve biodiversity through the Convention on Biodiversity (CBD). However, these responses have not adequately addressed the issue of food security. It often seems to certain stakeholders that the objectives of climate change responses are pursued at the expense of food security in Central Africa. Little consideration has been given to the vulnerability of food systems to climate change. Thus, food security in Central Africa needs to be addressed by considering the other crises (wars, poverty,

pressure on natural resources, etc.) faced by the region (Jones and Franks 2015). Therefore, this study aims to better understand the link between the food system and climate change, as well as the current responses implemented in Central Africa.

Considering the unique context and realities of each location, it is vital to contextualise the implications of food systems and incorporate them into climate change responses. This study analyses (1) the contribution of the food system to ecological fragility and (2) how food security related to forest management plays a crucial role in both adaptation and mitigation responses to climate change.

## 2. Food systems

Food systems are a complex and multifaceted concept that encompass various aspects of food production, management, and consumption. They go beyond agricultural practices and food processing that bring food from the farm to the table, to the cultural, economic, and political systems that shape how food is distributed and consumed (Rosenzweig *et al*. 2021). The food systems approach theoretically considers all the components, interactions, and related effects in the food system. This holistic approach moves beyond focusing on single sectors, sub-systems, or disciplines, thereby widening the framing and analysis of a particular issue, resulting from a complex web of interwoven activities and feedback (Crippa *et al*. 2021).

Food security is one of the key concepts in the study of food systems, which refers to the ability of individuals and communities to access safe, nutritious, and culturally appropriate foods (Tendall *et al*. 2015). Nonetheless, achieving food security requires addressing issues such as poverty, inequality, and food deserts as well as balancing economic and environmental sustainability. Another related concept is food sovereignty, which emphasises local control over food production and distribution. This approach aims to promote community self-sufficiency and resilience, while also addressing cultural and ecological considerations (Van der Ploeg 2014).

Food justice is an important aspect of food systems. It addresses the unequal distribution of and access to food based on factors such as race, class, and geographic location. This concept aims to address issues such as food deserts, which are locations where residents have limited access to healthy and affordable food, and food insecurity, which refers to the lack of consistent access to food (Meenar and Hoover 2012). This approach to food systems also considers the social and cultural dimensions of food and seeks to promote equitable access to food that is nourishing and culturally appropriate.

Analysing the environmental impacts of food production and consumption is crucial when studying food systems. This includes an examination of the impact of food production on soil health, water resources, and climate. This approach seeks to promote agroecological solutions, such as regenerative agriculture, that prioritise soil health, biodiversity, and ecosystem services (Gosnell *et al*. 2019). Additionally, the economic and political structures that shape food systems at local, national, and global levels must be considered. These include issues such as land ownership, labour rights, and international trade policies.

Hence, food systems are an amalgamation of various endeavours, including the interactions and connections among individuals that exist within a community to convert raw materials into end products and their subsequent utilisation and elimination (Tubiello *et al*. 2021). By understanding these interrelated factors, food systems research can promote food sovereignty, security, justice, environmental sustainability, and economic viability. In theory, within the framework of systems theory, a food system can be seen as an intricate network (Mesarovic and Takahara 2006), as each of its components can be categorised as a subsystem. The study of a food system involves examining the connections and interdependence of individuals and organisations throughout the system to (1) ascertain system effectiveness, (2) measure external effects, (3) comprehend human behaviours, (4) understand the development of food systems, (5) evaluate the impact of changes (such as policies, interventions, or shocks), and (6) identify areas of high risk and points for intervention. Unfortunately, in Central Africa, with its socio-economic and environmental complexities, few studies have conducted a thorough analysis of how the food system is affected by global, regional, and national socio-economic and environmental dynamics.

## 3. Food system in Central Africa

### 3.1. Food systems components

Food systems in Central Africa face a range of challenges including climate change, political instability, and limited resources. In some countries such as the Central African Republic and the Democratic Republic of the Congo (DRC), conflict and violence have disrupted food production and distribution systems, leaving many communities with limited access to food. In other countries such as Cameroon and Chad, climate change and desertification have had a significant impact on agricultural production, leading to reduced yields and increased food insecurity. Despite these challenges, a range of initiatives and programs aimed at improving food systems in the region have been introduced. These include efforts to promote sustainable agriculture, build resilience to climate change, and improve access to markets and financing for small-scale farmers.

Food systems are complex and multifaceted systems that include a range of components involved in production, processing, distribution, and consumption. Different countries in Central Africa have different food systems that reflect their unique cultures, landscapes, and histories. For example, in Cameroon, cassava is a staple crop that is used to produce a range of food products, including fufu and garri. In Chad, millet and sorghum are important crops used to make a range of dishes, including couscous and porridge. There is also significant transboundary food circulation in Central Africa (Nkendah 2013). Beef meat sold in Gabon originates from Cameroon and Chad. Additionally, Cameroon exports food to Congo Brazzaville. As a result, urban cities in Central Africa are familiar with food from neighbouring countries. In these cities, which attract populations from rural areas, traditional food systems (consisting of local/traditional knowledge passed down through generations as part of intangible heritage) coexist with imported food

components and practices. The food system in Central Africa is constantly evolving, reflecting the region's migration patterns and increasing globalisation. In many countries, traditional food systems have come under pressure from changing diets and the availability of processed foods. Efforts are being made to promote traditional foods, improve nutrition, and reduce the dependence on imported food products. These efforts involve a range of stakeholders, including governments, civil society organisations, and international development agencies (Sneyd *et al*. 2015).

In addition to efforts aimed at improving food production and distribution, there is growing recognition of the importance of addressing the broader social and economic factors that influence food systems in Central Africa. For example, poverty, inequality, and inadequate infrastructure can all limit access to food and contribute to food insecurity in the region. These issues are particularly acute in rural areas, where most agriculture occurs and opportunities for employment and economic development are often limited. Addressing these challenges requires a multifaceted approach that includes increasing investments in rural infrastructure, improving access to financing and markets for small-scale farmers, and promoting policies supporting sustainable agriculture and small business development.

Another important aspect of food systems in Central Africa is the role of women. Women play a critical role in the food systems across the region, from farming and processing to distribution and preparation. However, they often face significant barriers to participating in these activities, including limited access to resources, discriminatory social norms and practices, and limited access to education and training. For example, farms managed by women are cultivated much less intensively than male-managed farms because of the limited ability of women to acquire technological input in the DRC, Rwanda, and Burundi (Ochieng *et al*. 2017). Women have less access to rural credit, extension services, and social capital than men. Efforts to promote gender equality and empower women in food systems can help improve productivity and sustainability, reduce poverty and hunger, and promote social and economic development. These efforts include measures to enhance women's access to land, technology, and financial resources as well as to promote more equitable gender relations within households and communities.

Non-timber forest products (NTFPs) are an important component of food systems in Central African countries, providing a range of products such as fruits, nuts, and medicinal plants. Non-timber forest products represent many goods and services with multiple uses that are beneficial for the well-being of populations that are dependent on them (Ngansop *et al*. 2019). Although NTFPs are often harvested from natural forests, they can also be grown in agroforestry systems, providing an important source of income and nutrition for small-scale farmers. However, trade in NTFPs is often informal and unregulated, leading to poor prices for producers and unsustainable exploitation of natural resources. A range of initiatives have been aimed at promoting the sustainable harvesting and trade of NTFPs, including the development of certification schemes and the establishment of community-based forest management programs (FAO and

UNEP 2020). These efforts can help ensure that NTFPs continue to provide benefits to local communities and contribute to the broader goals of poverty reduction and sustainable development in Central Africa.

In Central Africa, 86 million people living in or near forests depend on natural resources for a significant part of their diet (Eba'a Atyi *et al*. 2009). Among NTFPs, the most collected are Marantaceae leaves, *Gnetum* spp. (Eru or Fumbua), *Dacryodes edulis*, caterpillars, mushrooms, fish (smoked and fresh), and bush meat (Nkem *et al*. 2010). Their use varies according to cultural and dietary habits. According to Pagezy (1993), the Ntomba society in the DRC rely on 74 uncultivated plants, which encompasses 26 types of mushrooms for sustenance. In addition, they consume 118 different animals and an assortment of fish. Bahuchet (1985) documented a diverse range of nourishment in the Central African Republic, consisting of nine types of tubers, nine varieties of foliage, 19 types of seeds, 14 species of fruits, and 22 types of mushrooms. In the southern region of Cameroon (van Dijk and Wiersum 1999), nearly 200 animals and 500 plant species are used in 1200 ways as NTFPs. This diversity of products and uses reflects the role of NTFPs in people's diets and can be used as a means of subsistence by the local population, thus contributing to the fight against food insecurity. Sundriyal and Sundriyal (2001) highlighted that wild edible foods are rich in vitamins, protein, fat, sugars, and minerals, and depending upon their availability, can be used in different seasons throughout the year. Year-round availability allows people to have access to food sources, especially during seasons of low agricultural production. De Merode *et al*. (2004) reported that during the lean season, in DRC consumption of agricultural produce declined by nearly 50%, whereas that of wild plants increased by 200%, bushmeat by 75%, and fish by 475%. Although NTFPs are a source of income for people, they are also a source of food and nutrients, and thus, a livelihood that can contribute to the fight against food insecurity. Managed sustainably, they can serve as a framework for climate change responses.

### 3.2. Status of the food system trend in Central Africa

The food system in Central Africa has undergone a rapid transformation over the past few decades. With a population of over 150 million people, the region has experienced significant urbanisation, economic growth, and changes in dietary patterns. Despite these changes, many challenges remain for the food system, including food insecurity, malnutrition, and limited access to markets, particularly in rural areas (FAO and UNEP, 2020). One of the key trends in the food system in Central Africa is the growth of urban areas and the concomitant rise in the demand for processed and convenient foods. This trend has been shaped by a range of factors including changes in lifestyle and work patterns, increased income levels, and the availability of imported goods. However, it has also contributed to the decline of traditional food systems and the erosion of local food cultures as consumers turn to more convenient and readily available options (United Nations Development Programme(UNDP) and United Nations Research Institute for Social Development (UNRISD) 2017).

Another trend in the food system is a growing awareness of the need for sustainable and equitable food production and consumption. This is reflected in a range of initiatives aimed at promoting sustainable agriculture, reducing food waste, and improving nutrition. According to the Food and Agricultural Organization (FAO 2019), there is a growing emphasis on the role of small-scale farmers and agroecology in addressing food security and poverty reduction in the region. However, despite these efforts, many challenges remain in the food industry. Climate change is one of the most pressing issues threatening to disrupt food production and exacerbate food insecurity in the region (Sonwa *et al*. 2014). Moreover, political instability and conflict continue to undermine food systems in countries such as the DRC and the Central African Republic, leading to the displacement of farmers and the disruption of food markets (Sneyd *et al*. 2015, Enenkel *et al*. 2015).

In response to these challenges, a range of initiatives have been introduced, aimed at promoting sustainable food systems and improving food security in Central Africa (Sneyd *et al*. 2015, Ndjouenkeu *et al*. 2010). These include efforts to promote agroecology and sustainable agricultural practices, strengthen local food systems, and improve access to markets and financing for small-scale farmers. In addition, there is growing attention to the need for policies that support equitable and sustainable food systems, such as food labelling and certification schemes, and measures to promote inter-sectoral collaboration and resource sharing. Although the food system in Central Africa has undergone significant transformation in recent years, challenges remain. Climate change, political instability, and economic inequality pose significant threats to regional food security and sustainability. However, there are also opportunities to promote sustainable and inclusive food systems that support small-scale farmers, preserve local food culture, and promote nutrition and health. Addressing these challenges requires a multi-sectoral approach that involves the government, civil society, private sector, and research institutions.

## 4. Food production and ecological consideration in Central Africa

### 4.1. Food crops and biodiversity

Central Africa is renowned for its rich biodiversity, making it one of the most important regions on the continent in terms of ecological abundance (Eba'a Atyi *et al*. 2008). The Congo Basin is notable for its high biodiversity, encompassing a wide range of ecosystems, from coastal to mountainous regions. These include plains, plateaus, inland waters, peatlands, mangroves, savannahs, steps, and semi-dry and humid areas. Numerous species thrive in these habitats, some of which are exclusive to the region. In recognition of Central Africa's diverse agrobiodiversity, several protected areas have been established to safeguard it. However, it is important to note that not all biodiversity in the region is confined to these protected areas. Biodiversity is common in rural landscapes and coexists with areas suitable for food production. The Congo Basin forests are under significant pressure for their biodiversity and biological resources, resulting in forest degradation and deforestation. There are a multitude of causes for deforestation, including logging for

timber, fuel, cooking, and agriculture at both large and small scales. Large-scale commercial and local subsistence agriculture accounted for 40 and 30 % of tropical deforestation between 2000 and 2010, respectively (FAO and UNEP 2020). According to International Union for Conservation of Nature (IUCN) data, agriculture is a major cause of global endangerment and is responsible for the loss of approximately 60% of amphibians and birds and 20% of plants worldwide (Muluneh 2021). In the Congo Basin, an estimated 84% of the forest disturbance areas are due to small-scale, non-mechanised forest clearing for agriculture (Tyukavina *et al*. 2018) and unmonitored forest loss and fragmentation in the region have a direct effect on the habitats of valuable plants (Mbile *et al*. 2006). It has been clearly established that agricultural expansion contributes not only to deforestation and degradation but also to biodiversity loss, notably through the higher use of fertilisers and pesticides.

However, the effects of biodiversity loss vary, depending on the food crop system used. Slash and burn agriculture practiced by local populations has a significant impact on biodiversity that could lead to the extinction of some species, the weakening of ecosystems through weak system resilience to diseases (both animal and plant) and invasive species. Large-scale agriculture has more a noticeable impact. Monoculture systems reduce aerial and underground biodiversity and cause genetic erosion and low food diversity. Palm oil concession areas in the DRC and road infrastructure increased by 34% in the three years between 2011 and 2013 (Yingheng and Wigglesworth 2017). In 2017, palm oil plantations comprised at least half of the area of disturbed forests in all parts of the Littoral Region of Cameroon (Mahmoud *et al*. 2019).

Some studies have reported palm oil plantations to negatively affect the abundance and occurrence of a wide range of taxa, including birds, invertebrates, and mammals (Fitzherbert *et al*. 2008, Yue *et al*. 2015). Indeed, the expansion of agriculture contributes to the loss of biodiversity through the loss of flora which constitute habitats and food sources for wildlife. The fact that the expansion and intensification of agriculture have been major drivers of past biodiversity loss and global ecosystem degradation is beyond dispute (Norris 2008). The food crop system is not only a cause of biodiversity loss but could also be considered a refuge for insects that contribute to the pollination system. Additionally, depending on the type of crop cultivated, agricultural landscapes provide either a source of food for animals (mostly non-tree crops), opportunities for shelter (non-edible tree crops), or both. Although agriculture is a source of many goods and services, it is essential to develop new approaches that would allow farmers to settle while increasing their yield and preserving biodiversity.

### 4.2. Food and carbon emission

Food system activities, including food production, transportation, and storage of wasted food in landfills, produce GHG emissions that contribute to climate change. Climate change is one of the greatest challenges of our era. This escalating issue poses a mounting danger to food systems as its consequences become increasingly apparent. Surges in temperature, alterations in rainfall patterns, and occurrences of severe

weather events, along with other ramifications, are presently diminishing agricultural production and causing disruptions in food distribution. It is projected that by 2050, climate change will jeopardise the well-being of millions of people, subjecting them to hunger, malnutrition, and poverty.

There is a great deal of ambition in food systems. Global conferences in 2021 emphasised the crucial importance of transforming food systems to combat climate change and achieve various development objectives. Efforts to tackle climate change are already in progress; however, they must be expedited by accelerating innovation, revamping policies, adjusting market incentives, and enhancing financial support. Climate change affects food systems and plays a significant role in their development. Recent calculations suggest that food systems are responsible for over one-third of GHG emissions that lead to climate change, underscoring the importance of reducing these emissions as part of any effort to mitigate climate change. Additionally, the agricultural, forestry, and land-use sectors are currently the sole sectors with significant potential to act as net emission sinks, removing more GHGs from the atmosphere than is released by establishing and safeguarding carbon sinks in forests, oceans, and soils. The significance of food systems in global climate discussions and solutions was acknowledged at the UN Food Systems Summit and UNFCCC COP26 meetings in 2021. This recognition signifies a crucial change in prioritising food systems in global conversations regarding the impacts and resolutions of climate change. However, the crisis remains unaddressed because of an inadequate focus on and financial support towards agriculture and food systems.

Food systems have been identified as responsible for one-third of GHG emissions from human activity, consequently putting agricultural yields at risk due to climate change impacts (Dinesh *et al*. 2021). Transforming forests into agricultural land increases GHG emissions. For example, a hectare of forest, which originally stored 308 tons of carbon per hectare lost 220 when transformed into agricultural land in Cameroon (Kotto-Same *et al.* 1997). In a forest of Yangambi landscape in the DRC, 99% of its aboveground biomass is transformed when transitioning to the cropping system(Mangaza et al. 2022). Food systems account for up to 34 percent of the overall GHG emissions derived from farming and land utilisation, preservation, transportation, packaging, manufacturing, retail, and consumption. This negatively impacts global food security levels and Central Africa in particular. Recent calls have increased the need to transform global food systems in response to various challenges, including climate change. This highlights the need for a change in the use of the food system to reduce global GHG emissions. Greenhouse gas emissions are significantly influenced by food systems, and it is crucial to contribute to mitigation efforts by implementing alterations in agricultural practices and land utilisation. Additionally, more effective value chains and decreased food loss and waste are essential. Agriculture plays an important role in climate change mitigation, as mentioned in the NDC documents of Central African countries.

### 4.3. Food and climate change vulnerability

A primary issue in the twenty-first century is reducing the dangers posed by climate change on food systems. The effects of climate change on crop yield are already evident in observable data (Lobell and Gourdji 2012). Central Africa is not a highly polluted region; however, it is vulnerable to the effects of climate change (Sonwa *et al*. 2014, Sonwa and Nkem 2014). The food sector in Central Africa is fully dependent on rain fed agriculture which makes it highly vulnerable to climate change (Molua *et al*. 2023). The repercussions and outcomes of climate change on agriculture are particularly harsh for nations with elevated initial temperatures, regions with limited or already deteriorated lands, and lower levels of development that possess minimal capacity for adaptation (Ngaiwi *et al*. 2023). Climate change has caused vulnerability not only to forest ecosystems, but also to forest-dependent communities (Molua *et al*. 2023). The food system is a collection of dynamic interactions that occur among various components. Food production, processing, distribution, preparation, and consumption occur within the biogeophysical and human ecosystems (Gregory *et al*. 2005). These encompass aspects of food supply (manufacturing, dissemination, and trade), food entry (affordability, distribution, and choice), and food utilization (nutrient content, societal importance, and food security (Meliko *et al*. 2023). Each stage of the system is continuously exposed to climate change.

Non-climate stressors such as population and income expansion, as well as the demand for animal-based products, exert pressure on the food system in addition to climate change. Both climate- and non-climate-related pressures affect four fundamental aspects of food security: availability, access, utilisation, and stability (Mbow *et al*. 2019). The profound impact of climate variability and alteration on food systems is particularly severe and poses a direct and palpable threat to livelihoods worldwide (Loboguerrero *et al*. 2020). The observed alteration in climate has already impacted food security through rising temperatures, altered patterns of rainfall, and a higher occurrence of certain extreme events (high confidence) (Mbow *et al*. 2019). The effects of climate change on food security have global and regional consequences. All nations, whether they are exporters or importers or rely on subsistence farming, will be impacted by climate change's influence on agricultural food systems. Variations in average rainfall and temperature, along with an increase in extreme weather events, have repercussions on farming, livestock production, forestry, and fishing. Numerous consequences such as heightened land degradation and soil erosion, alterations in water availability, loss of biodiversity, more frequent and severe pests, disease outbreaks, and disasters must be addressed across various sectors (FAO 2008). In Central Africa, recent IPCC reports and others have revealed the fragility of the food system under future climate change (Sonwa *et al*. 2014).

## 5. Food and climate change responses

### 5.1. Food and adaptation to climate change

Discussions on adaptation are taking place, particularly in Africa, because food systems are already affected by anthropogenic greenhouse gases and aerosols emitted in the past, with continued emissions exacerbating

these effects (Le Quéré *et al.* 2020). Sub-Saharan Africa, particularly Central Africa, is still on the absorptive end, focusing primarily on adaptation measures. Food systems play a pivotal role in implementing climate change adaptation policies (Molua 2022). Prominent choices for climate change adaptation in food systems have been outlined and rely on proof and familiarity, particularly in Africa. These choices encompass governmental policies and motivating resolutions, the food supply chain, and means of subsistence as well as on-farm and fruitful terrain resolutions. Within this array of choices, the primary areas for governmental investment in Africa can be categorised into five aspects: research and expansion, water administration, infrastructure, sustainable land administration, and climate information services (Ba 2016).

The need for climate change adaptation is pressing yet attainable for food systems. The methods of food production, distribution, and consumption must be modified in response to climate change to enhance rural livelihoods and ensure nutritious diets for everyone, despite the rising demand for food due to population and income growth (Swinnen *et al*. 2022). A 3°C trajectory will cause catastrophic disruption to African food systems within the next 30 years. A trajectory of 1.5°C offers additional possibilities for the adjustment of African food systems yet necessitates immediate measures. The enhancement of African farmers' resilience heavily relies on the crucial involvement of small-scale producers in adaptation investments. Consequently, it is imperative to amplify and direct financial resources towards these farmers, livestock caretakers, fishermen, and small enterprises (Pequeno *et al*. 2021). In nations where the food system not only supplies nutrition but also stimulates the rural economy, it is crucial to contemplate the consequences of transitioning towards nutritious eating habits in relation to the sustenance of small-scale farmers and the impoverished rural population. In such instances, it is essential to handle the adverse effects on earnings and livelihoods with caution as food systems evolve to provide accessible whole diets (FAO *et al.* 2020).

Ensuring access to sufficient food must be seen as a primary factor in determining the success of adaptation efforts at both national and local levels. It is crucial to incorporate food security considerations explicitly into the adaptation strategies of the agricultural, forestry, and fishery sectors in response to climate change and variability. This can be accomplished by increasing the awareness of policymakers, offering incentives, and advocating the implementation of resilient food production systems. In addition, it is essential to prevent or eliminate maladaptive practices when adapting to climate change. Maladaptation refers to measures that inadvertently increase vulnerability instead of reducing it (FAO 2008).

### 5.2. Food and climate change mitigation

Since the adoption of the Paris Agreement at the 2015 United Nations Climate Change Conference (COP 21), there has been a global embrace of more robust efforts to mitigate and stabilise the effects of global warming. Numerous countries have revisited their plans to enhance efficacy or explore alternative solutions. While emission reductions from energy, transportation, and other industrial sectors have received significant attention in GHG emission mitigation policies, the same cannot be said for emissions stemming from food

production. As a result, agriculture has the potential to become the primary contributor to global GHG emissions by the middle of this century. Consequently, it is imperative that the agricultural sector plays its part in addressing climate change if we are to achieve the targets set forth in the Paris Agreement, which aim to limit global temperature increases to 1.5°C or well below 2°C.

Food systems contribute significantly to the release of greenhouse gases and should be involved in efforts to reduce them. This can be achieved by altering agricultural methods and land utilisation, establishing more effective supply chains, and minimising food loss and waste (Swinnen *et al*. 2022). Mitigation options for reducing methane and nitrous oxide emissions from rice and other crops include alterations to irrigation, cropping, and fertilisation. Similarly, changes in manure management, feed conversion, and feed additives can be used to decrease enteric fermentation in livestock. According to the latest report from the IPCC on climate change, there is a comprehensive analysis of GHG emissions in relation to climate mitigation and food security. The report concluded that there are significant opportunities to achieve both objectives simultaneously by adopting diets that align with health-based dietary recommendations, as stated by the FAO (IPCC 2019, FAO *et al*. 2020).

Numerous encouraging advancements and strategies have the potential to address climate change in food systems, enhance productivity and diets, and promote the inclusion of vulnerable groups. These include novel plant types, renewable energy sources, and digital innovations, as well as modifications to trade policies, landscape management, and social protection initiatives. To achieve these goals, it is necessary to substantially increase funding for research and development, as well as other investments in sustainable food system transformation. To stimulate and expedite climate action, it is crucial to implement food system policies that establish improved market incentives, reinforce regulations and institutions, and allocate funds for the research and development of climate-resilient technologies and practices.

The adoption of nutritious and sustainable diets offers significant opportunities for decreasing GHG emissions from food systems and enhancing health outcomes. Examples of such diets include those rich in whole grains, legumes, fruits, vegetables, nuts, and seeds but low in energy-intensive animal-based products and discretionary foods (such as sugary drinks). Additionally, these diets adhere to carbohydrate limits. It is estimated that by 2050, the overall technical potential for mitigating emissions through dietary changes could range from 0.7 to 8.0 GtCO2-eq yr–1[1]. This estimation considers reductions in emissions from livestock and the sequestration of carbon in the soil on spared land. However, the potential health co-benefits were not considered in this study. The actual mitigation potential of dietary changes may be even higher, but its large-scale realisation depends on the choices and preferences of consumers, which are influenced by social, cultural, environmental, and traditional factors, as well as income growth. Plant-based meat substitutes, lab-grown meat, and edible insects have the potential to facilitate a shift towards healthier and

[1] GtCO2-eq yr–1 means gigatons per carbon dioxide equivalent per year. This is a standard unit used in estimating greenhouse gas emissions.

more environmentally friendly eating patterns. However, their environmental impacts and levels of acceptance remain uncertain (Mbow *et al*. 2019).

Addressing the obstacles posed by climate change requires a complete overhaul of our food systems. This calls for significant policy changes, considerable funding, and a supportive atmosphere that encourages and welcomes innovation. The IPCC report highlights six key policy areas that primarily target developing nations that are projected to endure the harshest consequences of climate change but lack the resources to facilitate adaptation and the establishment of sustainable food systems. These policy priorities include investments in research and development to foster innovation, promote healthier diets and more sustainable production methods, strengthen value chains, and implement climate-smart financial strategies.

Food systems have the potential to achieve significant reductions in emissions and carbon sequestration by establishing and safeguarding carbon sinks like forests. In Central Africa, it is crucial to prioritise the promotion of agricultural practices that enhance productivity and reduce emissions in the region. Notably, substantial greenhouse gas mitigation can be accomplished by decreasing nitrous oxide emissions from fertilisers, methane emissions from paddy rice, and enteric fermentation (resulting from the digestion of cattle and other ruminants). Additionally, reducing emission intensity within sustainable production systems and minimising food loss and waste are effective strategies. On the demand side, shifting towards healthy diets has been proven to contribute significantly to emissions reduction. By combining these efforts, we can work towards achieving net zero emissions globally.

## 6. Geopolitics implications on food systems and climate change

Zero Hunger is the second goal of the United Nations 2030 Agenda for Sustainable Development Goals. It seeks to 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture' by 2030. However, since 2015, the percentage of undernourished people increased to 690 million in 2019, up by almost 60 million since 2014 (Laborde *et al*. 2020). This estimate has been aggravated in recent years by the COVID 19 crises, climate change, and, most recently, the war in Ukraine. In total, 130 million people are at risk of hunger (World Food Programe(WFP), 2020). Currently, countries deploy multiple diplomatic strategies to negotiate commodities such as wheat, rapeseed, and sunflowers. Trade is necessary to ensure global food security. Thus, climate change interacts with resource security, health, trade, and armed conflict in its various effects on food security. In the domain of climate variability, strategies can include irrigation techniques, tree domestication, the adoption of techniques and innovation to reduce yield variability, and adjusting crops to new seasonal calendars (Finger *et al*. 2011, Claessens *et al*. 2012).

Seo *et al*. (2008) found that farmers shift the crops they plant to match the climate they face. Indigenous knowledge must be considered, and in this vein, Nyong *et al*. (2007) concluded that the inclusion of indigenous knowledge, which are abundant in regional substances, can enhance the creation of sustainable strategies for mitigating and adapting to climate change. The incorporation of indigenous knowledge adds

value to the development of such strategies. In Cameroon, Tingem and Rivington (2009) argued that adaptation policies might mitigate some of this vulnerability. Maize, sorghum, and Bambara groundnut showed good adaptive capacity, and new cultivars of other crops in the northern region were more suitable.

In Sud-Kivu, the DRC, farmers have shown a willingness to use other practices, such as integrated soil fertility management, to overcome changes (Pypers *et al*. 2011). Moreover, they have been an innovative approach for overcoming food scarcity due to climate variability (Alinovi *et al*. 2007). The National Program of Adaptation (PANA) initiative has brought more hope through the provision of climate information at some pilot sites in the DRC. Deressa *et al*. (2009) argued that the level of education, gender, age, and wealth of the household head could affect adaptation. Access to extension services and credit as well as information on climate, social capital, agroecological settings, and temperature can also play a role in adaptation. Farmers have proven highly adaptable to short- and long-term variations in climate and their environment; they also have a high awareness of climate issues (Mertz *et al*. 2009).

Regarding the food system of Central Africa through a geopolitical lens, a main issue is the apparent tension between the conservation of the Congo Basin Forest and peatland carbon stocks and biodiversity versus the growth of small/big agricultural farming systems. Although the ecological services provided by this forest are useful to humanity, the farming system is viewed as useful by smallholders and the national economy. It generally appears as if the global community wants to achieve ecological goals at the expense of small rural livelihoods and national economies of Central Africa. At the sub-Saharan level, regional water cycling pumped by this forest allows rain beyond the Central African region, leading to climate connections between several countries. While some agricultural products (mainly perennial crops) are exported from the continent, the main imports (fertilisers, pesticides, etc.) are from outside Africa and thus contribute to linking the food system of Central Africa to the global world.

Central Africa experiences geopolitical tensions related to natural resources, particularly in terms of food production. Examples include conflicts between pastoralists and farmers as well as tensions between fishers and pastoralists in the Lac Chad watershed. Additionally, the region is home to several countries, including Chad, the Central African Republic, the DRC, and more recently Cameroon, which are prone to conflict. These conflicts often result in population displacement and hinder the utilisation of arable land for food production. Displaced populations are not only vulnerable to the effects of wars and tensions but also the effects of climate change in their new environments. Furthermore, the abandonment of rural areas and their food production potential in new areas exacerbate socio-economic and environmental pressures on host communities and villages. These emerging pressures must be considered when planning responses to climate change. It is essential to consider climate change in humanitarian responses when addressing the food security of displaced people. Similarly, when framing responses to climate change, it is important to consider the implications for food, and the conflicting nature of certain parts of Central Africa.

## 7. Conclusion

Climate change poses significant challenges to food systems in Central Africa, and climate change responses that focus on improving these food systems are essential for increasing resilience in the face of such challenges. However, implementing effective responses requires addressing systemic issues related to governance, infrastructure, and trade, while ensuring that responses consider the unique perspectives of different groups within society. This study aims to contribute to these efforts by conducting a preliminary analysis of the existing literature to better understand the nexus between food systems and climate change responses in Central Africa. Finally, this study seeks to support efforts to develop and implement effective responses to climate change in this region. This preliminary work needs to be complemented by other studies from the perspective of structuring a climate-smart food system that is useful to both people and nature.

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# Preliminary Reflection on the Opportunities and Challenges of Mangrove Ecosystem Management and Restoration in Cameroon

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**Abstract**

In Cameroon, regressive changes in mangrove cover have been observed in recent decades. The establishment of human settlements through the development of various activities has subjected natural spaces to various pressures, based on the perceptions inherent in each social group. The drivers of mangrove deforestation are urban sprouting, climate change, poor administrative follow-up, population increase, and economic growth. To overcome this degradation and better manage the ecosystem, some facts based on opportunities and challenges must be assessed.

Therefore, some opportunities for mangrove management include the Reducing emissions from deforestation and forest degradation in developing countries (REDD+) policy, the African forest reforestation initiative (AFR100) projects, the Cameroon mangrove ecosystem restoration and resilence (CAMERR) projects, and the presence of capacity building institutions. Various challenges exist such as limited funds, stakeholders not being fully involved, a lack of data dissemination, and no monitoring of the reforestation sites. To overcome these challenges, the community and stakeholders should be sensitised, village management committees should be created to follow up planted trees and reforestation, and research data should be documented and disseminated.

**Keywords**: challenges, deforestation, mangrove ecosystem, opportunities, restoration

## 1. Introduction

Mangroves are aquatic ecosystems composed of trees found in tropical and subtropical regions and are influenced by marine tides. They grow at or above the mean sea level which is tidally inundated no more than 30% of the time (Kjerfve 1990). Approximately 14% (20 100 $km^2$) of highly threatened, salt-tolerant, and sheltered intertidal mangrove forests are found worldwide. African mangroves stretch from the coast of Mauritania to Angola in the Gulf of Guinea, covering approximately one-third of the area within the Niger Delta of Nigeria (Ajonina *et al*. 2018).

Historically, the rate of mangrove degradation posed a serious risk of significant greenhouse gas (GHG) emissions. Since the 1950s, it has been estimated that up to 50% of the world's mangroves have been destroyed, largely owing to land-use changes (Alongi 2018). Despite recent estimates of global mangrove loss slowing to 4.0% between 1996 and 2016 (Richards *et al*. 2020), more than 300 million mg of $CO_2$ was emitted as a result of mangrove deforestation between 2000 and 2012 (Hamilton and Friess 2018). The vast majority of the world's mangrove organic carbon is stored, probably because of the conversion of mangroves to agriculture/aquaculture land (Adame *et al.* 2021). Mangrove conservation and restoration programmes at the national scale have been identified as an efficient means of offsetting GHG emissions (Murdiyarso *et al*. 2015, Taillardat *et al*. 2018, Cameron *et al*. 2019), although the prevention of further forest loss outweighs the gains from restoration (Kauffman *et al*. 2017).

The magnitude of forest degradation often leads to the development of global initiatives such as the Bonn challenge, which aimed to restore 150 million hectares of degraded and deforested landscapes by 2020 and 350 million hectares by 2030 (AFR100 2022). Moreover, 2020-2030 has been declared the UN decade of ecosystem restoration (AFR100 2022); AFR 100, is an initiative which is currently operating with countries committing their surface area to restoration. Cameroon, as part of this process, has several degraded ecosystems that need to undergo proper assessment of the state of vegetation, deforestation, and forest degradation, as well as various opportunities and constraints for restoration. Despite extensive research on the ecology, structure, and function of mangrove ecosystems, limited attention has been paid to their regeneration (Kairo *et al*. 2001). This study is based on a rapid reflection on the challenges and opportunities in managing mangroves. More specifically, a study of a literature review and authors' experience based on: (i) stakeholders of the mangrove ecosystem; (ii) linkage of mangrove management and the REDD+ process; (iii) the importance of mangroves; (iv) the restoration dynamics in Cameroon and linkage to mangroves; (v) the changes in mangrove cover; (vi) the drivers of mangrove deforestation; (vii) preliminary activities to mitigate threats to mangroves; (viii) the urgent need of reforestation of mangroves in Cameroon.

## 2. Importance of mangroves

Some studies have indicated that firewood, fish, crabs, and prawns are collected from mangroves to generate income, such that non-agricultural activities provide 32% of the total income (Aye *et al*. 2019). Moreover, food resources from mangroves have nutritional value such as calcium (Selvam 2007). As such, vulnerable people rely on forests and woodlands for their livelihood because these are their sole income-generating activities (Simon 2018). It is documented that, there has been contribution in the environmental goods and services, however, this is insufficient (Chhetri *et al*. 2015, Aye *et al*. 2019); their significance within forest-dependent communities remains insufficiently explored.

Mangroves provide shelters and nursery habitats for aquatic animals. Aye *et al*. (2019) stated that the importance of mangroves in fisheries is apparent, particularly for the white 'banana' shrimp (*Penaeus merguiensis*). They depend on mangrove forests for shelter during the juvenile stage. Some species, such as tiger prawns (*Penaeus monodon*) and *Penaeus indicus* also depend on mangroves during certain phases of their life cycle. Mangroves provide breeding grounds and life cycles for many fish (Snedaker 1978).

Economically, locals can generate income from mangroves. Furthermore, the chemical compounds and extracts of mangroves are primarily used in traditional medicine. Rhizophora seedlings can cure sore mouth (Bandaranayake 1998). Mangrove extracts are helpful in treating health disorders (Tirupathi *et al*. 2013). *Rhizophora mucronata* and *Rhizophora apiculata* Blume have anti-stringent, anti-diarrhoeal, and homeostatic properties (Bandaranayake 1998). Mangrove extracts have been used for centuries to treat health disorders.

Seventeen mangrove species are found in Africa (Tomlinson 1986), whereas eight species are unique to West and Central Africa, of which *Rhizophora* and *Avicennia* are dominant and require conservation. Red mangrove (*Rhizophora racemosa*) is the most purchased fuelwood (Dongmo Keumo Jiazet 2019).

Moreover, mangroves play an important role in the Douala culture and traditions. They termed this the 'Ngondo' festival. The Douala ethnic group use the mangrove ecosystem as a shrine to conduct sacrifices.

Mangrove ecosystems, if well managed, attract tourists, which will not only lead to an increase in the livelihood of the local people but also an increase in the state budget through ecotourism. Thus, if properly managed using national policies, Cameroon's mangroves will regain their potential.

## 3. The role of stakeholders in mangrove ecosystems management in Cameroon

Cameroon's mangroves are an important part of its rich ecosystems, subject to care by the CBD and United Nations Framework Convention on Climate Change (UNFCCC) (NBSAP 2012) through the existence of institutional bodies such as:

- The Ministry of Forests and Wildlife (MINFOF) oversees the rational management of offshore and wildlife resources.
- The Ministry of the Environment, Protection of Nature and Sustainable Development (MINEPDED) is responsible for monitoring the conservation and protection of natural resources, environmental assessments and inspections, raising awareness, and monitoring structuring projects.
- The Ministry of Livestock, Fisheries, and Animal Industries (MINEPIA) develops supplements and evaluates state policy in matters of breeding, fisheries, and harmonious development of animal industries.
- The Ministry of Mines, Water and Energy (MINEE) which ensures the management of water, hydrocarbons, and marine minerals, assisted this mission through the National Hydrocarbons Company.
- The Ministry of Public Works (MINTP) coordinates the realisation of seaport works or marine infrastructure (construction of pipelines, oil pipelines, oil and gas platforms) in the maritime domain.
- The Ministry of Transport (MINTRANS), including the Merchant Navy, secures travel in rivers and at sea.
- The Ministry of Tourism (MINTOUR) is responsible for promoting tourism in coastal areas.
- Center for Biotechnology with laboratories in tissue culture, microbiology, and genetics.
- The National Committee on Biotechnology handles matters on biosafety and biotechnology and proposes modalities for appropriate national biosafety guideline legislation.

With respect to various cooperation, biodiversity related issues are handled by public and private institutions in Cameroon. These organisations include the WWF, IUCN, GTZ, WCS, CIFOR, BIRDLIFE International, IRAD, CDC, FAO, and ECOFAC. Several international cooperation agreements have been signed with many organisations to enhance the sustainable use of Cameroon's biodiversity. The Ramsar Convention was also considered for ratification. Cameroon ratified this convention on 20 July 2006 and is now recognised as possessing sites on the international wetland list. These sites include the Ebogo wetland, Lake Tchad, Rio del Rey, Waza Logone flood plain, Barombi Mbo Crater Lake, Sanaga River, and Ntem River.

Politically, the government has implemented various policies, such as the Forest Law of 1996. Cameroonian Law on Wildlife: Forestry and Fishery Activities regulate agricultural policy by improving

planting materials and best farming practices. To improve capacity building, the following learning centres have been established:

- Biologists – University of Yaounde I
- Forest Engineers – University of Dschang
- Agronomists – University of Dschang
- Wildlife Specialists – College of Wildlife – Garoua
- Forestry Technicians – School of Forestry, Mbalmayo

There are also local stakeholders regarding mangrove management, such as:

- ACB: Based in Kribi and is in charge of sustainable fish smoking
- Cameroon ecology (CAMECO): Based in Edea and is in charge of creating mangrove community forest
- 'Organisation pour l'Environnement et le Développement Durable' (OPED): Based in Yaounde and is in charge of carbon stock measurement
- Watershed task group (WTG): Based in Douala and is in charge of reforestation
- Hamerkop: in charge of carbon market

Thus, there are many actors and institutions working on the mangrove ecosystem. However, this ecosystem continues to decline and render poor products and services.

**4. Changes in mangrove cover in Cameroon**

Mangrove forest cover is gradually declining owing to human activities. Zogning Lontsi *et al*. (2021) conducted a study in three blocks of mangroves and found that, in 2003, the built-up area was 20.55 ha, whereas in 2012, it increased to 39.9 ha. Similarly, in 2003, agricultural land was 10.91 ha, whereas in 2012, it rose to 39.98 ha; and degraded forest from 168.54 ha to 212.56 ha in 2012.

Statistics for the Tiko-Limbe III mangrove forest, an analysis of satellite image data for a period of 26 years, reveal that intact mangroves and associated coastal forests have decreased significantly by more than 40%, whereas degraded mangrove forests have increased by nearly 30 (Anonymous 2017).

In 1974, dense mangrove forest was 467.11 ha which decreased to 188.99 ha in 2003 and to 74.99 ha in 2012. The statistics are presented in Table I (Zogning Lontsi *et al*. 2021).

Table 1: Statistical dynamics of mangrove in Cameroon

| Main mangroves block/region | Geographical location | Surface area (ha) (2012) | Level of human activities (ha) | Surface area degraded (ha) |
|---|---|---|---|---|
| Rio Del Rey (1994 to 2012) | Bakassi to Limbe (south west region | 118 800 | 467.11 | 74.99 |
| Douala Estuary (1994 to 2012) | Douala and Tiko (littoral region and south west) | 99 000 | 168.54 | 212.56 |
| Ntem Estuary (1994 to 2012) | Kribi (south region) | 2 200 | 7.98 | 18.98 |

Source: Zogning Lontsi *et al*. (2021)

Mangrove areas covering over 200 000 ha are commonly grouped into three main blocks: Rio Del Rey estuary mangroves (54%) within the south west region from the Nigerian coastal border, from the disputed Bakassi to Limbe city having an oil refinery; Douala estuary mangroves (45%) within the Littoral region between Mount Cameroon, Tiko through the Wouri estuary covering the entire Douala, the largest city in Cameroon with a population of over 2 million, and the Sanaga Estuary; and Ntem estuary mangroves (1%) within the south region to the borders with Equatorial Guinea. Cameroon's mangroves are the sixth largest in Africa, the first in Central Africa (Corcoran *et al.* 2007) and one of the largest mangroves in the world (Ajonina 2008). The mangroves of the Rio Del Rey and Ntem estuaries are relatively intact, although increasingly threatened by oil and gas exploration and invasive nypa palm from Nigeria, whereas the Cameroon estuary mangroves are severely degraded by population pressures and impacts from urbanisation, petroleum and gas exploitation, uncontrolled agro-plantation establishment, development projects, and mangrove wood exploitation for processing fishery products, particularly through smoking. These threaten the livelihoods and ecological security of over five million coastal communities (NBSAP 2012).

**5. Forest degradation, the need and commitment to restore degraded ecosystem**

The primary causes of mangrove deforestation are population growth leading to urban sprouting and land grabbing, economic and political trends, climate change, and changes in upstream habitats. The Bonn challenge aims to restore 150 million hectares of degraded and deforested landscapes by 2020 and 350 million hectares by 2030 (AFR100 2022). In Africa, the global dynamics aim to restore 100 million hectares. Cameroon is committed to restoring 12 million hectares of land. Cameroon focused on the semi-dry parts of the countries which fall within the three primary regions (Adamawa, North, and Far North). Thus, Cameroon received funds from the German government to plant trees in the three northern regions to counter deforestation. Other restoration projects are in the Yoko and Dzeng communal areas

with the participation of the local community, who understand the tenure issues related to forest restoration.

Many of these projects are operational in terrestrial ecosystems, however, less attention has been paid to aquatic ecosystems, specifically mangrove ecosystems. This provides scope to lobby for more funding to conduct reforestation in some degraded part of the mangrove of southern Cameroon. Mangrove reforestation has several challenges which are, political, climate, identification of reforestation site and monitoring of the planted seedlings. Therefore, it is necessary to overcome these challenges in future studies. Mainstream mangrove ecosystem restoration can positively impact the current trend of mangrove ecosystem forest cover in Cameroon.

## 6. Drivers of mangrove deforestation in Cameroon

Four key drivers have been identified as principal factors influencing mangrove deforestation and degradation: population growth, economic and political trends, climate change, and changes in upstream habitats (Corcoran *et al.* 2007, Feka and Ajonina 2011).

Various activities have rendered coastal ecosystems more attractive owing to their varied and converted resources (IPCC 2007). Urban extension has led to the cutting down of trees and increasing climate change not only at the national level but also at the regional and global levels (Obiefuna *et al*. 2021). Changes in landscape patterns linked to urbanisation are critical drivers of climatic and ecological changes at the local, regional, and even global levels (Weng *et al.* 2007).

Overexploitation of mangrove resources has become a significant environmental problem owing to population growth around the coast, leading to changes in land cover (Amosu et al. 2012, Mclnnes 2010).

Anthropogenic impacts, particularly land-use change and deforestation, coastal development, various forms of pollution, illegal exploitation, and charcoal production, play a major role in mangrove loss (Hamilton and Casey 2018, Mafi-Gholami *et al*. 2020). Alongi (2018) argued that deforestation and hydrological changes are the most devastating factors for soil nutrient–plant relationships and mangrove productivity.

Tagne *et al*. (2022) conducted a study on the change in mangrove cover in the Monako area of Cameroon and found that settlements in inland forests cause forest degradation. Tagne *et al*. (2022) found that the conversion of certain occupancy classes to other land use categories between 1986 and 2018 was 31.57 ha of inland forest and 17.8 ha of degraded mangrove, which was converted to built-up land. The surface area of the degraded inland forest space increased from 1986 to 2018, to the detriment of inland forests. Nearly 80.18 ha of undisturbed inland forest and 270 ha of undisturbed forest mangroves was transformed into degraded inland forests.

Fish smoking is another contributor to mangrove deforestation. Njisuh and Mario (2008) reported an annual fuelwood harvest for five study sites to be 102,650 m3 (i.e. an amount equivalent to clearing

approximately 205.3 ha of mangrove forests annually). Approximately 62% of this total is used to smoke fish. Similarly, Jiazet (2019) found that traditional ovens require 53 h to smoke 525 kg of fish and consume 1.205 kg of wood at a cost of 6500 FCFA. He explained that a modern cinder block oven requires only 5 h to smoke 160 kg of fish and consumes 122 kg of wood at a cost of 3500 FCFA. This is because the cinder blocks conserve more heat than the traditional open-air oven, and as such, the cinder blocks use less wood.

## 7. Activities to reduce the threats on mangroves stand

### 7.1. REDD+ and mangroves

Reducing emissions from deforestation and degradation (REDD+) provides developing countries with financial incentives to protect their forests and lower GHG emissions. Until recently, REDD+ discussions and preparations centred on terrestrial forests. Mangroves also benefit coastal communities, particularly the fishing trade. However, few carbon certification schemes under REDD+ are open to mangrove forests because of the lack of carbon models for deep sediments.

Thus, reducing emissions related to mangrove deforestation and degradation appears to be an important way to overcome the decline in mangrove vegetation and the related environment. Although it can focus on climate change mitigation actions, its co-benefits include maintaining and restoring the biodiversity of this ecosystem. REDD+ activities can be conducted at national and sub-national levels, supported by the coordination of stakeholders and the appropriate use of policy documents and road maps. Restoring mangroves is important because they fall within the Blue Carbon dynamics.

The REDD+ activities could be handed in many ways:

-1. Mitigation action is a process in which actions are implemented to reduce the negative impact of climate change. These actions include the sensitisation of all stakeholders at the local, national, and international levels.

-2. Creation of a community forest and protected area.

-3. Encourage fish smoking using modern rather than traditional ovens.

-4. Reforestation has been implemented in some projects such as the Tiko-Limbe III REDD+ project.

### 7.2. Attempts to reduce mangrove deforestation

Various strategies can be implemented to reduce mangrove threats in Cameroon. Some of the activities are as follows:

Creation of improved ovens. This activity not only leads to a reduction in the quantity of fuelwood but also improves the social life of the community in terms of fish smoking. Cinderblock ovens are preferable both ecologically and economically, and could be one of the multiple solutions for the sustainable management of mangrove wood resources (PNDP 2018).

Sustainable forest management which can be implemented by:

- Demarcation of less-degraded sites to become a protected area, and therefore, managed by the community which can become a community forest.
- Train farmers living inland in techniques of vegetative propagation, such as macotting, air layering, grafting, and cutting, leading to the construction of a propagator.

Moreover, to encourage ecotourism it is necessary to conduct ecotourism activities to improve ecotourism sites and construct ecotourism towers around beaches. For example, the construction of birdwatching towers has attracted more tourists. Moreover, ecoguards must be trained to accompany tourists to tourist sites.

### 7.3. Activities of mangrove reforestation in Cameroon

To bring back mangrove vegetation which is the chief and most important component of the coastal ecosystem, some preliminary activities have been initiated. Table 2 presents some of these activities.

Based on Table 2, it was noticed that the deforestation rate is not only increasing, but also that mangroves are being exploited unsustainably. As such, some mitigation measures were suggested to curb the action to increase the mangrove cover in the Douala-Edea Reserve, where 4 ha of mangroves were planted (Moudingo *et al*. 2015). Owing to mangrove reforestation activities in the Douala-Edea Reserve, there has been a leakage belt causing mangrove wood exploiters to shift to the Tiko-Limbe III mangroves (Anonymous 2017).

To mitigate the mangrove deforestation and degradation within the Tiko and Limbe III mangrove ecosystem so that it can perform its functions fully, reforestation is one of the activities necessary for reducing emission from mangrove deforestation and degradation (REDD+).

Mangrove reforestation activities were performed in Tiko-Limbe III, where 21 ha of mangroves were regenerated within seven communities for over one year by the ‘Reduction of Tiko-Limbe III mangrove deforestation and degradation through integrated sustainable mangrove and associated coastal forest management’ (PNDP 2018).

Table 2: Chief reforestation projects in Cameroon mangroves

| No. | Name of the project | Location | Surface area targeted | Chief promoter of the restoration initiative | Enabling factor of restoration initiative | Chief constraints | Comments |
|---|---|---|---|---|---|---|---|
| 1 | Douala Edea reserve reforestation project | Douala | 10 ha | CWCS | Community should collaborate<br>- funds | A lack of community sensitisation and awareness | Some strategic measures need to be implemented |
| 2 | Tiko-Limbe III REDD+ project | Tiko - Limbe | 21 ha | AFD/PNDP | -Village management community should be formed<br>-A lack of funds | A lack of village management committee | Some strategic measures need to be implemented |
| 3 | CAMERR | Bonendale, Sodiko and Akwa Nord in Douala | 100 ha | 'Planète urgence' in partnership with CWCS | Ongoing | Ongoing | |

Source: Author

Another ongoing reforestation project is in Mouanko-Bolondo the 'Cameroon mangrove ecosystem restoration and resilience' (CAMERR) under the supervision of 'Planète Urgence'. The Cameroon estuary, in which the Mouanko-Bolondo area is located, is estimated to have around 203,600 hectares of mangrove, associated coastal forests, plantation, habitats and associated non-vegetated lands, including 93,550 hectares of 'pure' land covered by the mangrove. It has been implemented by a consortium of civil society organisations, including the Cameroon Wildlife Conservation Society (CWCS) and Watershed Target Group (WTG). The Cameroon mangrove ecosystem restoration and resilience (CAMERR) project began in 2022, under which 40 000 trees will be planted.

## 8. Challenges of mangroves restoration in Cameroon

Most projects do not attain their targets for several reasons. Nurseries should be constructed in the open rather than in the shade because shade encourages snail activities, as they consume Rhizophora propagules. *Rhizophora racemosa* is found to be a co-inhabitant with other mangrove species in wetter areas and large catchment estuaries of the Atlantic Ocean. The occurrence of *R. racemosa* appears to be restricted to the equatorial estuaries of larger river systems with more continuous freshwater flows (Duke and Allen 2006). Its reforestation should be performed for the management of tides.

Genetic diversity may occur owing to the fact that *Rhizophora racemosa* is the dominant species in the Cameroon mangrove ecosystem and, as such, could not resist or adapt to changes in the environment.

Another challenge encountered during reforestation is land tenure. In some traditions, women do not own land, and it is difficult for them to be implicated in the reforestation process. Therefore, only a few planters were involved in the planting process. Moreover, women are mostly involved in fish smoking to generate quick income.

Another challenge is motivating planters, diggers, carriers, fillers, and propagule collectors. However, project failures can occur in cases where financial resources are limited.

Further, from a political viewpoint, the mangrove ecosystem has been neglected by the government, considering that it only concentrates on fishery resources, leaving out floral resources.

Socially, the local community does not understand the aspects of mangrove reforestation, such that they are convinced that mangroves grow on their own. Therefore, they need constant sensitisation to encourage their participation in mangrove reforestation.

Women, who are the key drivers of mangrove exploitation for fish smoking, usually do not participate in the project. Most local stakeholders, who are villagers (85.83%), often depend on mangroves for subsistence (Pham *et al*. 2022). Thus, there are no opportunities to participate in mangrove reforestation.

Thus, all the aforementioned challenges should be considered in future mangrove reforestation projects.

## 9. Conclusion and future prospects

This study aimed to reflect on the opportunities and challenges of mangrove management and reforestation. Mangrove ecosystems play a vital role not only for the local population but also for the world at large, as it provides food and medicine, generates income, protects the marine ecosystem, helps in ecotourism and climate change mitigation by maintaining important stock of carbon and a shrine for the ‘Ngondo’ festival. Reforestation is one way to properly manage mangrove ecosystems and mitigate the effects of climate change. There is significant opportunity to conserve the ecosystem considering that there have been some reforestation activities such as AFR100, and the presence of local stakeholders and international organisations such as CIFOR and Planète Urgence, and the REDD+ policy. To date, some reforestation projects have been conducted to restore ecosystems that are undergoing degradation owing to urban sprouting, climate change, and deforestation for agriculture and fish smoking. However, this study has identified several challenges. To overcome these challenges there should be more reforestation activities on degraded sites; community sensitisation both on mangrove reforestation and the preservation of the ecosystem against urban expansion or sprouting; the creation of village management committees; stakeholder involvement; the creation of a steering committee, funding, and many other solutions. This provides an important vehicle for Cameroon to achieve international commitments to the United Nations Framework Convention on Climate Change, Convention on

Biological Diversity, and RAMSAR Convention among others. If implemented well, it will enable local and national stakeholders to determine effective solutions to achieve the Sustainable Development Goals (particularly SDG 1, 13, and 15). Thus, this is a way to add to Cameroon's efforts on AFR 100 initiatives and strengthen its participation in the UN decade of restoration.

Thus, this study is preliminary work that needs to be complemented by further studies that will pave the way for future restoration activities rooted in scientific findings. Current policies related to restoration emphasise terrestrial ecosystems which provide room for the development of mangrove restoration strategies and/or road maps that are consistent with the existing national development and environmental policies of Cameroon.

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# Kinship, Spleen Disease Conception, and Management Mechanisms in Cameroon: The Case of Bakwele in the Eastern and Ewondo Communities in the Central Region

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**Abstract**

Spleen disease, although not recognised by biomedicine, is a common ailment among the Bakwele and Ewondo of Cameroon. In their conception, these communities emphasise a correlation between kinship, the genesis of the disease, medicinal resources, and treatments applicable to the patients. Our main objective was to identify the family actors involved in the management of this disease and the nature of the therapeutic resources used. To achieve this goal, 49 informants were interviewed (comprising 20 Bakwele and 29 Ewondo). For the population, spleen disease is a pathology with various origins, including hereditary causes. To eradicate it, kinship through biological or social parents and maternal uncles plays an essential role in these societies in the dissemination of knowledge and care practices. The ancestors participate in the fight through the protection of the living, sanctification and inspiration of medicinal resources, and involvement in the management of complex cases. This article demonstrates the cultural and environmental anchorage of care practices with an emphasis on the relationship between ancestrally, beliefs about the power of environmental and spiritual resources, and therapeutic orientation of patients with spleen disease in their respective communities.

**Keywords**: African traditional medicine, belief, culture, kinship, spleen disease

## 1. Introduction

The WHO African Region continues to pay the heaviest price for malaria. Between 2019 and 2020, this part of the world recorded 95% of malaria cases (228 million cases) and 96% of deaths due to malaria (602,000 deaths), of which 80% of deaths were in children under 5 years of age (Organisation Mondiale de la Santé 2021). Cameroon is among 11 African countries that carry 68% of the global malaria burden: around 7 million cases and 10,000 deaths estimated in 2017. One reason for the persistence of this disease is the cultural representations, which reveal the population's lack of mastery of the genesis of this disease and, consequently, their disaffection with public health policies. In fact, certain aetiological beliefs formulated by populations in Cameroon show their poor knowledge of the causes of malaria, known in Ewondo language as *tsit meki* or an animal's blood disease (Nyam 2020). This can be explained by the fact that people generally adhere to a variety of beliefs relating to health and disease – beliefs that are described as representations or conceptions of health and disease (Ogden 2008). This situation is partly exacerbated by the conflicting interpretation of the causal relationship between malaria and spleen disease in Western and traditional medicine (Mvetumbo *et al.* 2020; 2023).

### 1.1. Relationship between spleen disease and other pathologies

Clinically speaking, the link between malaria and inflammation of the spleen (splenomegaly) has been established in many contexts in Africa (Stein and Gelfand 1985, Greenwood *et al.* 1987, Gentilini 1995, Ouattara *et al.* 2008). In Cameroon, a study carried out in Yaoundé revealed that an imbalance in the level of haemoglobin in a patient is a risk factor that promotes splenomegaly cases (Mbanya *et al.* 2008). In the southern region of the same country, Bernard *et al.* (2001) highlighted the relationship between the existence of splenomegaly and the saturo-weight growth of a population of young children. From a cultural point of view, spleen disease is perceived as a specific condition that manifests itself as excruciating abdominal pain and sometimes presents artificial signs of malaria, a condition that can only be properly managed by practitioners of traditional African medicine. Several researchers have investigated the medicinal plants used by populations in Cameroon against spleen disease (Adjanohoun *et al.* 1996, Brisson 2011, Mvetumbo *et al.* 2020; 2023), as well as in Gabon (UNESCO 2009) and Central African Republic (Thomas 1959).

This conflict of interpretation of the causes of illness and therapeutic choices is not a new subject in medical anthropology. Various studies have been conducted in this scientific field on the relationship between representations of illness and health behaviour (Augé and Herzlich 1984, Fassin and Fassin 1988) or on the nature of therapeutic systems based on aetiological explanations (Fainzang 1986, Parès 2004, Ipara Motema 2008, Mbonji 2009). Kleinman (1980) and Young (1982) highlighted three conceptual dimensions of illness, defining disease as the nosological entity recognised by clinicians, illness as the pathological state experienced by an individual (patient), and sickness as the stage of

deterioration in health socially recognised as an affection. On this topic, this reflexion illustrates the fact that illness and health cannot be interpreted and managed exclusively through the prism of scientific medicine (Clarke 2004).

### 1.2. Folk medicine and the treatment of common illnesses

In many civilisations, different forms of medicine are used to deal with common diseases. In terms of relevance, Anthony Cavender draws a distinction between folk medicine and popular medicine, by pointing out that the former (folk medicine) is 'vernacular knowledge about the cause, prevention and treatment of disease used by a particular social group', while the latter includes charlatans, ramblers, midwives, homeopaths, and other folk medicine professionals (Cavender 2003). The enduring nature of popular medical knowledge and practices based on the use of medicinal species in the Caribbean has been documented (Weniger 1985). In France, there are two main trends in popular medicine based on the Catholic tradition and the Hippocratic medical tradition (Laplantine 1992). In Africa, traditional medicine is recognised as having the capacity to treat common diseases as well as those that fall within the realm of the invisible, using appropriate treatments and rituals (Mbonji 2009). This orientation offers alternative solutions to the needs of people who believe they are suffering from any illness, whether or not recognised by biomedicine.

Among Ewondo community, for example, an exploration of the therapies applicable to ailments such as leprosy, women's diseases, children's diseases, and liver and intestinal ailments had been made by Cousteix. A section of his study focuses on beliefs, with particular reference to healers and fetishists, practices and drugs, not forgetting the relationship between illness and death (Cousteix 1961). In the same cultural universe, Julien Pierre reviewed the various aspects of the interpretation and treatment of illness among the Betsi. Among the Evuzock, a sub-component of the Betsi, to be more precise, he looks at the treatment of around 30 illnesses, including female pathologies and liver and spleen diseases. To deal with them, the author stresses that the bulk of the medical material consists of plants – with nearly 74 used by the healers for this purpose (Julien 1980). There are two ways of avoiding illness: by respecting prohibitions and by seeking protection from undeserved misfortune through the use of fetishes or armour under another name. If these two methods are thwarted by the appearance of an inexplicable illness, it remains to incriminate a principle of sorcery, specific to the Pahouin populations, which can be considered as the spirit of evil in all its forms: *evu* (Cousteix 1961). In this community, the idea is shared that sorcerers are capable of bewitching their victims and casting spells on them: a special illness, the 'thrown worm', consists of a brutal pain felt at any point on the body by the victim of an evil spell. An Ewondo proverb states: 'If you have not yet been accused of witchcraft, then your enemy is not yet dead...'.

In terms of response strategies, fetishism, which is widespread throughout the forest regions, has had

a profound effect on the Ewondo spirit. In their day-to-day conduct, the healers from this culture are no exception, in that they administer their drugs taking into account both their natural and supernatural properties (Cousteix 1961). When a health crisis occurs, such as a simple spleen disease or one that is difficult to treat, these healers set to work, using all the recipes, practices, and powers at their disposal to help the victims. In the eastern region of Cameroon, several discussions have been had on taboos relating to fish consumption among the Bakwele (Oishi 2016), taboos and representations of illness among the Baka (Sato 1998), and the importance of plants and traditional medicine among forest peoples (Betti and Lejoly 1999, Nkongmeneck 2007). This (non-exhaustive) research provides information on the complex and diverse nature of folk medicine used in urban and rural contexts, or used to treat a multitude of illnesses including the usual pathologies as well as those considered by the community to require the intervention of therapists with special healing powers. Spleen disease, a condition not recognised by Western medicine, is a pathology characterised by a set of abnormal abdominal swelling and pains affecting the human body (Mvetumbo *et al.* 2020).

### 1.3. Emerging reflection on perceptions and treatment of spleen disease

The reflection we are initiating here is situated in the continuation of the work begun in my thesis, which focused specifically on the conception and management of spleen disease among the Ewondo. Spleen disease, although unknown or unrecognised by Western medicine, is known and accepted as a specific pathology in the two communities chosen for this research (namely the Bakwele and Ewondo); it is a situation or reality that provides food for thought on the historical relationships between peoples or the links between populations and the natural environment. We initiated this study in order to understand the therapeutic practices used in these cultural groups, which are spatially distant but environmentally close.

The Bakwele and Ewondo share a Bantu identity and have a strong history with the forest and its resources. This suggests that there are similarities not only in the way they perceive illness, but also in their usual therapeutic practices. In terms of the conception of this pathology, the populations of these two communities firstly emphasise its hereditary nature, and secondly, they stress that the ascendants constitute a transmission belt in the sense that their children could suffer the costs of karma (we shall come back to this later in section 3.1). Among these two communities, blood links play an essential role in certain cases between the patient and the choice of therapist to administer care, as well as in the process of transmitting therapeutic practices applicable to people suffering from spleen disease. Despite the difference in the development of health and education infrastructures in the two communities, the Bakwele and Ewondo share the conviction that traditional medicine is the only way to restore the health of a person suffering from spleen disease. The main objective of this work was to understand the significance of spleen disease and to identify the family actors involved in its treatment and nature of

the therapeutic resources they use. We explored the mechanism that leads to the status of 'ancestor', showing how this spiritual entity is involved in the management of spleen disease, and presented the role of ascendants in the transmission of knowledge and therapeutic practices for the benefit of their descendants.

The research focusing on spleen disease is a case study that aims to inform the scientific community and readers about the management of diseases that lead to confusion between the approaches proposed by the various existing medicines. We have focused on a disease the beliefs of which have withstood the test of time (in the sense that it has existed in the past and continues to do so today), with all the changes that are taking place in terms of clinical care, education, and ways of thinking both in urban and rural areas. Using a concrete example, we wanted to understand why the two communities, which do not have the same ease of access (geographically, economically, and culturally) to health services, develop the same considerations about a disease that is not unanimously accepted by health practitioners. Given the limited time and resources available, we have decided to use this single example to explore the cultural management of a certain type of disease in Cameroon. In the future, we can envisage carrying out a large-scale study on the management of a variety of diseases of this nature in the two communities or in several communities in Cameroon and elsewhere in the world.

## 2. Material and methods

### 2.1. Study area

We conducted this research in two localities of Cameroon: Ndongo in the eastern region and Yaoundé in the central region of the country.

#### 2.1.1. Yaoundé city

Yaoundé is the capital of the Mfoundi Division in the central region and political capital of Cameroon. Institutionally, Yaoundé's administrative post was created in February 1889, making it the first relay of German administration in the hinterland (Quinn 1989, Porto *et al.* 2012). The city is located at latitude 3°90 North and longitude 11°50 East (Abossolo *et al.* 2015). The population of the town is estimated at around 4,509,287 inhabitants in 2023, i.e. a growth of 3.83% compared with that in 2022 (World Population Review 2023). The population density was approximately 19,126 habitant/km$^2$ in 2018 (Akowo Kowo 2019).

Yaoundé is a city of hills and valleys, located on the southern Cameroonian Plateau at an average altitude of 760m, a geographical configuration that lends itself to flooding. The Yaoundé station records an average of 1,564.7mm of rainfall per year, divided into four seasons: long dry season from mid-November to mid-March, short rainy season from mid-March to mid-June, short dry season from mid-June to mid-August, and long rainy season from mid-August to mid-November. This city rains an

average of 153 days/year. The annual average temperature is estimated at 23.5°C and the annual temperature range is 2.4°C (Abossolo *et al.* 2015). A mixed vegetation exists in the current urban perimeter of the city consisting of forest relics on the summits and slopes of the mountains, grasses, gallery forests, market gardening crops that line the bottom of the valleys, and banana plantations and fruit trees along the edges of public roads and houses (Nguendo *et al.* 2008).

Historically, there is an inseparable link between the Ewondo, the environment, and the institution of the term Yaoundé. Firstly, the word 'Yaunde' derives from the name of one of the region's four ethnic groups, the Ewondo, a name which the Germans transcribed incorrectly and which has been adopted to this day (Quinn 1989). Secondly, this town is also known as Ongola, which in Ewondo language means 'fence' or 'enclosure', a reference to the military enclosure where the German settlers settled at the end of the 19th century. It is nicknamed the 'city of seven hills' because of its location on a network of mountains. Originally a forest town, Cameroon's political capital has retained the features of this universe or environment in the names of several of its districts, a testimony to the influence of the natural environment (Pondi 2012, Essono 2016). Despite the pace of urbanisation in Yaoundé and the notable changes in the mixing of populations and the coexistence of medicines, the Ewondo remain attached to traditional values when spleen disease strikes a family.

### 2.1.2. Ndongo village

Ndongo is a village situated in the Moloundou subdivision of the eastern region. It is located along the Dja River, which forms the international border between Cameroon and the Republic of the Congo. This village is located at 850 km from Yaoundé, the political capital of Cameroon; 530 km from Bertoua, the capital of the eastern region; and 230 km from Yokadouma, the capital of the Boumba and Ngoko division. The average annual temperature is 24°C and rainfall averages are more than 1,500 mm per year in the area (PNDP 2011). The Ndongo village has four seasons: two dry seasons and two rainy seasons, that is, the short rainy season from mid-March to June, the short dry season from June to mid-August, the long rainy season from mid-August to mid-November, and the long dry season from mid-November to mid-March. The Ndongo villagers belong to more than 10 ethnic groups, including the Baka, Bakwele, Djem, Bangando, Konabembe, Hausa, Fulbe, Kotoko, and Bamileke (Oishi 2016). Statistics from the 2005 census put the population of Ndongo at 340, comprising 168 men and 172 women (BUCREP 2005). In the space of ten years, the population of this area, which has become an excellent agricultural centre with cocoa cultivation in particular, has almost doubled. Its composition is highly diverse because Ndongo inhabitants can be classified into three categories based on lifestyle and ethnic identity: the Baka are hunter-gatherers, the Bakwele are farmers, and the Hausa, Bamileke, and Bamoun are merchants. Their respective populations number around 300, 250, and 50 persons, giving a total population of approximately 600 (Oishi 2016). We focused only on the Bakwele, who are one of

the main groups of the population and have certain similarities with the Ewondo in relation to the conception and treatment of spleen disease.

### 2.2. Data collection method

#### 2.2.1. Focused population

Cameroon is a Central African country made up of a mosaic of peoples, the main cultural groups being the Fang-Beti in the south, centre, and east regions; Sawa in the Littoral, southwest, and part of southern Cameroon; the Grass-Fields in the west and northwest regions; and Sudan–Sahelian in the northern part of the country (Datidjo *et al.* 2021). More than 250 ethnic groups exist in Cameroon, each with their own perception of who is able to contribute to the management of spleen disease. Our research focuses on the Ewondo living in town and the Bakwele living in the rural area, but each has its own cultural values and practices relating to the management of spleen disease.

The focused population for this research consisted of patients or their parents, therapists, and the elders who have experience in the treatment of spleen disease. Regarding the first category, the choice focused on patients and their relatives (patients, parents, accompanying persons). When a case of illness occurs in the community, the patient's entourage mobilises itself to help the patient through this delicate moment in life. This means that, in many cases, the victim does not follow the laid down pattern. The second category comprises health practitioners who recognise this reality as a health problem. These are traditional healers, and any member of the community may master the therapeutic knowledge and apply it to 'spleen sickness' patients. This study was conducted with 49 informants, 20 in Ndongo and 29 in Yaoundé. The difference in number is due to Yaoundé being larger and more populous than Ndongo. Thus, in Ndongo we consulted 10 men and 10 women who belong to the Bakwele community, while in Yaoundé the 29 respondents interviewed were from Ewondo origin. They were made up of 14 women and 15 men. Of the 49 people interviewed, 44 were aged 21 or over and 05 were aged between 18 and 20. They were distributed as follows: 01 patients, 02 caretakers in Yaoundé, 01 caregiver and 01 young therapist in Ndongo village.

Spleen disease is called in Bakwele language *ɛpial-ɛ-tsite* and *ɛpial-ɛ-zock*, that is, 'animal's liver' and 'elephant's liver', respectively. This disease results from the consumption of the animal's liver, and depending on its size, people compare it to the liver of an animal or an elephant (Mvetumbo *et al.* 2020). In the Ewondo language, this disease is known as *ebem koé*. This expression is composed of two words: *ebem*, which means the spleen, and *koé*, which means snail in English. Normally, the spleen (*ebem*) refers to the organ in good working condition. The term spleen disease is used when this part of the body changes into *ebem koé*. Here, people speak of *ebem* resembling *koé*; in other words, the ordinary organ called spleen has undergone modifications or changes due to the intrusion of germs to resemble the mollusc called *koé* (Mvetumbo *et al.* 2023). This reflection lies at the heart of medical anthropology,

which establishes the link between the illnesses from which a community suffers and the remedies to treat them, because there is no society without medicine, simply because there is no medicine without the society that saw it emerge. Just as it would be an anomaly to find a cure without a disease, so it is worrying to have diseases without a cure (Mbonji 2009). A better understanding of non-specialists' representations of the disease can help health specialists make themselves be better understood by patients and their families, and thus improve the dialogue between 'expert' and 'lay' knowledge (Jeoffrion *et al.* 2016). It is clear, necessary, and imperative to explore and compare opinions on what constitutes a mass illness among the Ewondo and Bakwele, with harmful consequences for men, women, and children alike. By understanding the significance of spleen disease and related therapeutic practices, this study will provide new data on the beliefs and medical skills of rural and urban populations in Cameroon.

In terms of therapeutic choices, the village of Ndongo has an integrated health centre run by a nurse. This health centre is rarely used by the local population because of the irregularity of the health provider at his post. It is also because the local people have good knowledge of the therapeutic plants around them, which they use to try and solve their health problems. However, when a case of illness (apart from spleen disease, of course) occurs and requires intensive clinical intervention, the Bakwele, aware of the situation, head for the town of Moloundou or Yokadouma for better treatment. However, when spleen disease is mentioned somewhere in the community, people turn unreservedly to traditional medicine, and if those who discover it are already in hospital, they do not hesitate to seek the same services at the same time. The Ewondo people live in the city of Yaoundé, which has hundreds of health facilities belonging to all categories of the Cameroonian health pyramid, not forgetting the presence of Asian medicines (Chinese and Indian). In terms of therapeutic behaviour, when illnesses other than spleen disease occur, the members of this community first turn to hospital service providers or rely on their personal experience to buy medicines from the street. Traditional medicine is usually called upon here when the ailment being treated resists disappearing, or when the population is convinced that traditional medicine offers a more effective solution, as in the case of spleen disease. This tendency to turn first to Western medicine and local therapy is the result of easy access to modern health services and education, all of which contribute to the growth of medical competence in this population.

The southern and central regions of Cameroon are inhabited by a group of communities closely linked by language and tradition known as the Pahouin, whose sub-components are the Beti (Eton, Ewondo, Bené) around Yaoundé, the Boulou further south (Ebolowa to Sangmelima), and the Fang on the border with and to the north of Gabon (Marguerat 1976). Around the Ewondo clan, there are four lineages: Mvog Atangana Mballa, Mvog Fouda Mballa, Mvog Ebanda Ndzongo, and Mvog Tsoungui Mballa, with its subsets, Mvog Atemengue, Mvog Betsi, and Mvog Mbi (Akowo Kowo 2019). The current marriage system is based on exogamy. The marriage is based on a request for a hand in marriage,

dowry, and the celebration of a traditional wedding. Civil and religious marriages are the last resort, but it should be noted that this phase is more topical in Yaoundé due to the development of mentalities.

### 2.2.2. Data collection and processing

We organised home interviews with the patients, caregivers, and local therapists who have experience of the disease in question and the types of players involved in its management. Respondents were selected using a snowball approach, which allowed us to identify another respondent who met the research criteria operationally. The participants voluntarily agreed to participate in the study. Their answers recorded during face-to-face interviews were kept in notebooks and audio tapes that were used for transcription. The interviews were conducted in French, but we used two interpreters (01 who spoke Ewondo and 01 who spoke Bakwele) to collect the data provided by informants from the two communities who had a low level of education. We then grouped the data around the salient points, using the relevant extracts verbatim. This enabled us to understand the cultural and environmental anchorage of care practices with an emphasis on the relationship between ancestral beliefs about the power of environmental and spiritual resources and therapeutic orientation of patients in their respective communities. The data interpretation was based on the theory of symbolic anthropology, anchored by the notion of ‘social drama’. Social drama is a concept developed by Victor Turner to study the dialectic of social transformation and continuity. At the level of manifestation, this reality can be divided into four acts. The first is a breakdown in social relations, or rupture. The second act is a crisis that cannot be managed by normal strategies. The third is a remedy to the initial problem, or repair and re-establishment of social relations. The final act can occur in two ways: reintegration, a return to the status quo, or recognition of the schism, an alteration in social arrangements (Turner 1980: 149).

From an aetiological point of view, the onset of spleen disease appears to people to have a variety of origins, including family history, mysticism, and the violation of social taboos – a situation that undermines the community’s equilibrium and calls for a response mechanism commensurate with the threat. In the face of voluntary or involuntary transgression of prescribed social norms, the mechanisms for restoring health proposed here and there involve the convening of ritual ceremonies with strong symbolic values, the description of which has enabled us to identify an important part of the medicinal practices dedicated to this pathology. In our research context, spleen disease is seen in part as an organic disorder with enormous social causes and repercussions that need to be dealt with through the use of culturally developed antidotes to facilitate the restoration of damaged health. It is in this sense that the notion of kinship comes into play, with the involvement of living or ancestral members in the management of certain categories of spleen disease among both the Ewondo and Bakwele peoples of Cameroon.

## 3. Spleen disease conception and management mechanisms

### 3.1. Spleen disease: a pathology with a family history

For the Ewondo and Bakwele, the fact that a person, whether young or adult, suffers from similar pathologies to those of their parents is often seen as the reminiscence of germs inherited from their parents and which were just dormant in their bodies. In this vein, the spleen disease at the heart of our research has been widely cited by informants as a largely hereditary condition, i.e. one that is passed on from parent to child. A recent survey revealed that 78.8% of Ewondo informants believed that spleen disease had a hereditary source (Mvetumbo *et al.* 2023). An almost similar trend is mentioned among the Bakwele community. According to this explanatory logic recorded, the entities that cause this condition are encrusted in the blood of parents who, at some point in their lives, have been afflicted by it. As a result, when they give birth to their offspring, they also pass on the rudiments of this 'family disease', which is only waiting for a favourable context to manifest itself with vigour. The high-risk environment revealed by the population may be linked to breaches of dietary restrictions or exposure to the cold for example. In a nutshell, one Ewondo therapist, drawing on her experience as a former patient and as the mother of children who have suffered from this pathology, told us that:

> When you see a child with spleen, if it's not the father, it's the mother who had spleen as a child. When I gave birth to all these children, even I had spleen as a child, even my late husband had it too. All my children, even my great-grandsons, have spleen (Therapist D, Ewondo, April 2017).

According to this view, it is a heavy burden that parents pass on to their offspring on a daily basis. In this vein, many respondents go on to hammer home the point that, even if the status of former patient dates back to early childhood, a couple in which one of the members has suffered from the disease at some point in their lives is likely to pass it on to their children. To get to the bottom of this, one of Bakwele's informants says that the history of the disease in the family of each young patient be questioned if the underlying cause is to be identified:

> Spleen disease is very often transmitted from parents to children. If you have children who suffer a lot from this illness, it means that their mother or father had already had it before. If you dig deep into their lives, you will see that this is where their illness comes from (Informant E, Bakwele, September 2017).

This widely shared opinion gives a clear indication of how the informants view preventive measures. The main idea to emerge from the testimonies in the field is that the disease cannot be prevented if this

principle is adhered to. Those with the relevant therapeutic knowledge believe that this disease is not invincible. They point out that the use of strong medication, the secrets of which only the healer holds, can halt its progress and, thus, protect future generations, provided they conform to social norms such as respect for life and social taboos, sharing, or assistance. Having said this, we must qualify this view of the transmission of the disease. During our time in the field, we heard from some parents, former patients who had given birth to children who in no way suffered from this health problem until adulthood. What can we say about patients whose parents have never experienced this condition throughout their lives? In this context, members of these communities point to another family parameter that could justify the onset of the disease in a child. For the proponents of this theory, the spleen disease suffered by a family member may also be the result of karma arising from offensive acts orchestrated intentionally or unintentionally by the parents against certain members of the community. This is a manifestation of witchcraft, insofar as the informants believe that a member of the community endowed with an evil force is able to harm others by destabilising their health. In this context, spleen disease is seen as a symptom of something that is difficult to cure for as long as the mystery surrounding it origin. If this is the case, the lasting solution lies in repentance and meditation to seek the support of spiritual entities such as the ancestors or God, whom the Ewondo call *zamba*. When the cause of such a health problem cannot be found at the family level, people focus their investigations on the correlation with ailments associated with spleen disease and the transgression of dietary prohibitions.

### 3.2. Kinship as a transmission belt for the spleen disease

The second dimension of the family source of spleen disease is the direct transmission of germs from the parent, particularly the mother (pregnant or breastfeeding woman), to the child. This is, in substance, the result of transgressing the dietary prohibition. For the members of these communities, the final target protected by these multiple dietary restrictions is children, who are considered more vulnerable to spleen disease. Although adults can manage certain signs, this is not the case in young patients. Breastfeeding or pregnant women who violate dietary restrictions may not suffer from the immediate effects of this disease; however, people firmly believe that their infants can develop the disease by ingesting substances through breastfeeding and foetal nutrition. To this end, for the vast majority of the members of this community, anything similar to a snail is automatically prohibited and not recommended for the category of persons mentioned above. This is the case for the *bissonda*[1] which is also said to be capable of inducing *ebem koé*[2] in a person or causing it to persist. This is because of its physical appearance, which is similar to that of *koé*[3]. On a daily basis, every Ewondo who is aware of and shares this vision

[1] *Bissonda* is the Bassa word for clam, a fruit of the sea belonging to the Veneridae family.
[2] *Ebem koé* or snail spleen in English is an expression used by the Ewondo people to describe spleen disease.
[3] *Koé* means snail in the Ewondo language.

of the world takes all necessary steps to ensure that these rules are respected within his or her family. For this category of respondents, not doing so would be tantamount to creating a gateway for eternal repetition. Respondents felt that by complying with these rules, potential consumers implicitly avoided the risk of contracting the dreaded disease. A similar situation has been observed among Bakwele, who believe that spleen disease can be prevented by banning the consumption of snails and snail liver, which is regularly forbidden to children and pregnant and breastfeeding women in this community (Mvetumbo *et al.* 2020).

In general, food is an area where the distinction between what is permitted and what is forbidden, what is pure, and what is impure is fundamental for reasons that are not always clear but where we can distinguish between sanitary and symbolic elements (Clément and Nathan 2017)**.** The existence of food taboos is a general phenomenon observed not only in Cameroon (Oishi 2016, Bell 2019, Mvetumbo *et al.* 2020) and Africa (Zézé Béké 1989, Sato 1998), but also on the scale of all human civilisations (Clément and Nathan 2017). In most cases, the adoption of a forbidden food corresponds to an attitude of gratitude towards an animal or sometimes a plant, which, according to the original myths, would have rendered an appreciable service to an ancestor in difficulty in the early days of the group's life (Zézé Béké 1989). There exist several studies on such food prohibitions in sub-Saharan Africa (De Garine 1962, Gorre 1996). Both the Ewondo of Yaoundé and Bakwele of Ndongo mentioned dietary restrictions instituted by their ancestors to prevent spleen disease. These restrictions were implemented to protect the health of similar victims including nursing mothers, pregnant women, and young children (Mvetumbo *et al.* 2020).

There is a peculiarity here: the Ewondo, like the Bakwele, advise against eating snails, for example, for the people mentioned above, but simultaneously use the same animal as a therapeutic element for spleen patients. In simple terms, the 'harmful' element that has become 'therapeutic' thus changes its role according to the changes made by the populations, the latter relying on endogenous knowledge and experience. This particularity is conceptually similar to the notion of medicine developed by François Laplantine (1986), in which the principle of infinitesimality (or principle of reversal of the action of the remedy according to the dilutions obtained) fertilises the previous one by showing that it is the same medicine (of mineral, vegetable, or animal origin), which, in infinitesimal doses, will cure the symptom that it could otherwise cause if it were in large doses. In the village of Ndongo, Oishi Takanori also noted that Bakwele believed that breaking a food taboo by targeting fish with abnormal characteristics would cause illness in the child. During the treatment process, members of this community always incorporate the offending part of the fish into a remedy intended to cure the child (Oishi 2016). In the same geographical area, the Baka of southeast Cameroon, who believe that the liver of hinds and hares is the primary source of spleen disease for their people, also use this part of the same animal to treat the same condition (Mvetumbo *et al.* 2020).

### 3.3. Transmission of the family therapeutic heritage

In the Bakwele and Ewondo cultures, knowledge of the remedies used to treat spleen disease is a family heritage that ascendants regularly pass on to their descendants. The level of knowledge sharing within families was fairly high among the Bakwele, with all the informants acknowledging this fact. Among the Ewondo people, three of the four informants acknowledged that the phenomenon was deeply rooted in the community. This difference can be explained by the fact that traditional medicine is more prevalent among Bakweles. Nonetheless, therapists from both communities believed that knowledge spreads easily between ascendants and descendants. In the same vein, those who possess the therapeutic knowledge and practices of the Evuzock, a sub-component of the Ewondo, derive the vast majority of their knowledge and practices from their progenitor, herself a renowned healer (Julien 1980).

Each of the therapists interviewed in both communities admitted to having learned something from their parents, but also taught their children or relatives how to treat them. Every family in a traditional society is in a position to possess a recipe or piece of therapeutic knowledge, especially for simple cases, the secret of which is passed down from generation to generation (De Rosny 1981). To perpetuate this process, the habitual participation of the youngest aspirants in care administration sessions develops their aptitude and ability to propose appropriate treatments for patients over time. This mechanism enabled them to gradually assimilate species selection, care procedures, and practices. To this end, one Ewondo therapist explained:

> Everything I'm doing here [...] I can say it's all my father. I was in the village when he went to get the medicine, sometimes he sent my little brother. When there were sick people, my father would call him to go and get something in the bush for the sick people, and that's how we went together to get it. Little by little, that's how I learnt everything I do about *ebem koé* and other children's illnesses (Therapist C, Ewondo, May 2017).

In a similar vein, an informant from the Ndongo village told us that:

> It was my parents who showed me all the plants I use to treat spleen disease. Whenever my father received a case at home, he would show me everything he used to treat the patient. When he realised that I had mastered it, he started to send for me to give it to him, and then from time to time he allowed me to apply the treatment to the patients (Informant J, Bakwele, September 2017).

Within the family circle, Ewondo therapists believe that children who are good at remembering the names of medicinal recipes and those with a spirit of sharing are the main potential beneficiaries of

healing powers in general and spleen disease in particular. The sharing we are talking about here concerns not only property, but also, and above all, the therapeutic knowledge inherited from ancestors. In the field of healthcare, this is manifested by the fact that it is possible to help a relative suffering from a spleen disease without imposing difficult conditions. For many caregivers, this wealth is part of their cultural and economic heritage and should be safeguarded so that, when a case of spleen disease occurs, those who possess it can enjoy the status of experts in society. This explains why some therapists are unwilling to share their expertise with strangers. On this topic, a therapist from Yaoundé emphasised the following:

> The spleen disease remedy that I make is for the family, it's our share of the wealth that our parents left us. I can only give it to my children or to someone in my family. So even if you come and give me 100,000 francs (one hundred thousand CFA francs), I can't sell it to you. I can't sell you that. But if someone next to me is interested in what I'm doing, I'll show it to them without any problem. I don't sell to foreigners, if they come it's simply for the treatment (Therapist B, Ewondo, March 2017).

In the broadest sense, whether it is a spleen therapist or any other pathologist socially known within a community, an initiator who wants to hand over to one of his fellows through the transfer of knowledge and healing power generally takes this reality into account. Anaba Naambow, who conducted an anthropological reflexion on *Nɔ́g pìːli* 'diagnosis' among the Dii of Cameroon points out that:

> Anyone looking for a successor in the exercise of their profession begins by carefully observing the children of their family (in the broad sense) in order to identify which of these young people demonstrates the most aptitudes. This according to the appreciation of the person who judges with the effect that the chosen one will already have elements in common with his mentor and interest (Anaba Naambow 2010: 118).

Such a process enables the therapist to detect and bring to light those souls that bring hope to the patient's entourage, in particular, and to the entire society by extension, which is to reduce the effects of spleen disease to its lowest possible level. Through their motivation and sense of commitment, these beneficiaries take over by getting involved in the care of identified cases and in the dissemination of know-how to future generations. Following the same explanatory prism, Neyambe (2017) does not say otherwise when he states that parents who wish to pass on their knowledge study their children's behaviour to identify who among them might be capable of perpetuating the practice in the family and using power wisely. Among Ewondo, this is a set of formulas for acquiring knowledge that emphasises

the ability to control oneself and keep secrets related to the manipulation of medicinal recipes. Over time, the forms of dissemination of therapeutic practices restricted to members related by blood have become less open to the general public. This is a conservative mode of transmission, in that it reduces the amount of beneficiaries' knowledge, ensures slow evolution, and slows down the emergence of a convergence of practices on a societal scale (Hewlett and Cavalli-Sforza 1986). However, this does not call into question their capacity for action, but what we can be satisfied with in our research context is that, despite this apparent restriction on access to care codes, any member of the community suffering from spleen disease, regardless of their affiliations with this category of caregivers, can benefit from their services, provided they pay the necessary consideration.

### 3.4. Ancestrality and social function

Disease is an 'elementary form of event', like birth and death, in that it is an individual biological event that is inscribed on an individual's body, but whose interpretation, imposed by the cultural model, is immediately social (Augé 1984). Among the Ewondo and Bakwele peoples of Cameroon, life is divided into several phases: birth, earthly sojourn (during which unions and procreation take place), and passage to the afterlife, which occurs through death. While birth and an earthly sojourn usually bring joy and gladness to the hearts of family members and communities, passage to the hereafter is often approached in two ways. First, sadness comes from the void left by the death of a loved one, a situation that becomes more difficult to bear when the deceased does not die at an advanced age or dies without leaving any offspring. On the other hand, there is renewed hope that the illustrious departed will, in the case of merit, enter the divine world, which in our context is that of the ancestors, from where he will shower the living with his enlightenment, inspiration, and protection. To achieve this, it should be noted that, as a general rule, an ancestor in the Bantu context is any family member who died a good death after leading a virtuous earthly life. By a good death following field testimonies recorded, the informants of both research sites excluded deaths by hanging and the disappearance of people following their involvement in reprehensible activities, such as theft, rape, murder, and various forms of assault.

In these communities, the status of ancestors is granted to any person who, by virtue of their social status and leadership, has left a positive mark on their time on Earth. In other words, it refers to a person who, while alive, contributed tirelessly to solving the multifaceted problems of their relatives, a responsibility that they are called upon to continue in the afterlife through protection, sanctification, and inspiration of medicinal resources, and involvement in the treatment of spleen disease cases that are difficult to treat, resisting ordinary therapies recognised by members of the community. If, to attain the status of ancestor, one must pass through the stage of death, it is also appropriate to mention that this is not the only condition to be fulfilled in the two communities targeted by this research. After having had the merit of being an aspirant to the status of ancestor, the living have a duty to accompany the deceased.

Indeed, after death, the complete performance of funeral rites by the living contributes to their canonisation and, through this process, favours their entry into the world of intercessors. By accompanying the deceased with dignity or by giving thanks to them on a daily basis through prayers and rites, people seek to consolidate the links between the living and the dead, and to ensure the continuity of the actions of protection, clairvoyance, and inspiration on their behalf by their ancestors:

> Every head of family, leader or any important person who leaves our world should rejoice in his grave by looking at the quality of the funeral that his loved ones give him. Another source of satisfaction is the respect and consolidation of his ideals, in other words, the perpetuation of his works by those he has left behind. When the ancestors are proud of the living, they do not abandon them when they are in difficulty. Moreover, when they are unjustly attacked, the ancestors are able to avenge them (Informant I, Ewondo, November 2017).

Funeral celebrations involve a number of cultural practices, such as the introduction of the deceased into the land of their ancestors. Among the Ewondo, the *essani* ceremony is a funeral rite, originally a war dance that celebrates fallen heroes (Ambena-Ndono 2020). It is performed exactly at midnight and lasts 15 minutes to the sound of the drums. Young people mime triumphant gestures and victorious sequences from an imaginary battle, paying tribute to the departed elder. The sound of the drum symbolises the key to the other world, the call of the living to the dead to come and fetch one of their own. This cultural event is at once a triumphal dance to celebrate the merits of the warrior who died in battle, a dance of separation, because it is a journey, and a dance of reunion with the deceased ancestors (Ambena-Ndono 2020). The purpose of this operation is to enable them to enter the realm of the dead, a world of wisdom, power, and the duty of assistance to their descendants. In the Beti cultural universe, the idea is shared that the ancestors regularly visit the living at particular times:

> Generally, the ancestors visit the living at night before returning to the realm of the dead at dawn (Otye Elom 2002: 107).

This passage potentially gives them the opportunity to rid their descendants of impurities and learn about their many difficulties, including health problems, including cases of spleen disease that escape human intelligence.

### 3.5. Therapeutic inspiration through dreams

In the path leading to the consecration of the status of healer among the Ewondo, dreams (*biyiyem*)

emerge as a potential means of accessing medicinal knowledge capable of relieving the patient of this disease. Whether there is a link between the ancestor, the spirit, and the living person who receives the message, one thing is constant according to various accounts gathered in the field: namely that the recipes acquired usually bear fruit. In this vein, a respondent who requested anonymity told us that a mother with no family ties to him had come to him in a dream to give him valuable information about a medicine for immediate use, advice which, when he woke up, enabled him to find a solution to the spleen disease suffered by one of his offspring. The respondent narrates as follows:

> One day, I was lying here at home, asleep, when a mother I didn't know came to talk to me in a dream. She told me what I should use to cure him. She told me to take the shrub and massage the child with it. When I woke up, I didn't pay any attention – I wouldn't call it a lack of attention; in fact, it didn't occur to me straight away – and I went and had my beer […] When I got home, I had the same dream again; the same mum came back in the dream to remind me what she'd asked me to do. She almost scolded me for it, saying: 'Didn't you do what I asked you to do? Get up, take this or that, and massage that child with it'. And that's how, in the morning, I went to get what she had indicated and I came to massage my daughter just once and she got better… I'm telling you, just the massage. To this day the child has never had that again. This is one of the recipes I use to date to treat all the people who come to see me (Therapist A, Ewondo, May 2017).

The Bakwele are also familiar with this common practice, using it in times of need to escape the crises caused by certain aspects of spleen disease. On this subject, a member of this community reports :

> Our ancestors can sometimes come and inspire us with a plant that we can use to treat someone. They know the qualities of all the plants in our environment better than we do (Therapist C, Bakwele, Septembre 2017).

This is a process of acquiring knowledge about the usual therapies for treating spleen disease, which testifies to the good intentions of the spiritual world animated by the ancestors towards that of the living, the aim being to contribute to resolving the health problems of members of the community. Among the Ewondo and Bakwele peoples, as in other parts of Cameroon, this method of transferring knowledge in general, and knowledge related to the treatment of common ailments, is also used. Nkongmeneck observed a similar phenomenon among the Baka in eastern Cameroon. In his account, he reports, for example:

> We have dreams in which an ancestor (or sometimes even a stranger) indicates a medicinal plant and specifies the corresponding dosage; there are cases where the informant goes so far as to indicate the procedure; this method is widely used among the Pygmies; many Baka Pygmies [...] have told us that most of the medicinal plants used in their tribes are indicated in their dreams (Nkongmeneck 2007:37).

For the informants who are convinced of this cultural reality and confronted with complex cases of spleen disease, the ancestors can make a gesture by communicating to them, in various ways, a number of medicinal solutions. A set of practices that, if put into practice, are likely to help restore the health.

### 3.6. Sanctification of therapeutic resources by ancestors

Belief shapes and underpins the conception that members of a particular community have of a social reality. In the field of health, this observation ranges from the understanding of illness to the mechanisms of care and the carers themselves. Among the Bakwele, the idea is shared that the ancestor is invested with a power and potency that ensures that whatever they touch or advice can constitute a reliable solution that can be used by the living facing an existential constraint. Clearly, the ancestors sanctify the therapeutic resources available in people's immediate environment. In other words, over and above the potential medicinal substances that trees contain, the ancestors, by virtue of the power they embody, reinforce the effectiveness of the plants used to treat patients with spleen disease. Similarly, the bark of all trees felled by an ancestor is considered a blessed essence in this community and can be used as a therapeutic element against spleen disease. As an informant from the Ndongo village explains:

> To treat the spleen in our community for example, you can take the bark of a tree that an ancestor felled before dying. This bark is crushed and applied to the part of the body that is in pain, after having been scarified (Informant I, Bakwele, September 2017).

Within the same culture, it is also shared:

> The fact that our ancestors inspire us with plants to use at critical times shows that they bestow their blessings and all their powers on these plants, which means that they care about us (Informant H, Bakwele, September 2017).

To put this into practice, all the practitioner has to do is identify the essence in question in order to ensure that it is not a toxic plant and, therefore, prohibited for human consumption, and also scrupulously follow the protocol for use. In practice, the barks of these plants are dried, crushed, and the powder

obtained is applied to the victim's abdomen after scarification. Bark from any type of tree recognised as non-toxic by members of the community can be used. As far as the people responsible for administering the treatment are concerned, they put therapists and maternal uncles first, followed by any member of the community with knowledge of how to treat spleen disease using this particular therapeutic resource.

### 3.7. Maternal uncle and treatment of nephew's spleen disease

The question of disease and its eradication has always been a subject of concern in every society. As a result, it is of as much concern to the sick as it is to the therapists on whom the hope of a cure rests. When illness strikes such as spleen disease, the populations in our two research areas usually know where to turn for an effective solution. Depending on the circumstances and the severity of the illness, this may involve diviners, therapists, spiritualists, and family members with special healing powers or a combination of skills. Among the Bakwele people, for example, the maternal uncle is the last defender who is capable of restoring the health of his nephew, who is suffering from a recalcitrant spleen ailment. One respondent rightly points out that:

> In our community, the child's uncle, i.e. the mother's brother, has the final say on many things. For example, when a child is seriously ill and the parents can't find a solution, they have to call on their uncle, because it's his blood. Sometimes the simple act of talking is the beginning of a solution. When he's informed, he prepares himself and comes to do his bit, and very often it works for the spleen (Informant B, Bakwele, September 2017).

In practice, the mother of a young patient of spleen disease, which is slow to disappear despite having initiated some treatment, must spontaneously call on her biological brother to use the therapeutic powers conferred on him by tradition to relieve his nephew. This is a moral obligation for the nephew insofar as the maternal uncle is socially the guarantor of the safety and well-being of his sister's children, given the fact that they share the same blood. The maternal uncle, on the basis of his therapeutic skills or the graces received from his ancestors, is better placed to restore his nephew's health which has been damaged by spleen disease. The onset of spleen disease in a nephew may require the intervention of his uncle, to whom tradition has conferred healing powers.

> When the maternal uncle learns that his sister's child is in danger, suffering from spleen disease, for example, and doesn't want to leave, the maternal uncle prepares by gathering the necessary items for treatment, such as tree bark or leaves, a razor blade, and when he gets up very early in the morning before doing anything, he sits down on his doorstep to treat his nephew. He does this by saying that my son, you are my blood and it is for this

> reason that the ancestors have given me the power to heal you, you will be healed (Informant E, Bakwele, September 2017).

In terms of the time chosen, the Bakwele believe that the ancestors spiritually charge the maternal uncle during the night so that he can effectively treat the spleen disease that is harming his biological sister's child. To do this, he must perform the therapeutic act at daybreak to avoid any contact with an outside force (through greetings or the crossing of powers) that could prove antagonistic and, consequently, an obstacle to the success of his mission. If, in popular imagery, the maternal uncle has the last word, i.e. he can be called upon in the event of a serious crisis, this means for the members of this community that he possesses the power and authority necessary to carry out essential therapeutic acts which, beyond the practical, may include an incantatory dimension. The words he utters are culturally recognised as the support or the gateway to the choices to be made. The purpose of these words is to communicate spiritually with the ancestors, invoke forces, chase away evil spirits, and give free rein to the remedy to be applied to produce its effects in the patient's body. As Fame Ndongo (1996) points out, for the Negro-African, speech possesses the four fundamental elements of the cosmos. These include water, because without it there is no speech; air, because the lung, which produces sound vibration, carries sound-laden vapour; earth, which is the framework of speech; and fire, which is the heat of speech, as the angry man says to a burning speech. Similarly, the words used by the maternal uncle when treating his nephew with resistant spleen disease, with or without mystical tendencies, are intended in Bakwele culture to seal the spell and put the child out of the suspected ailment's misery.

### 3.8. Testimonials on therapeutic experiences

The first testimonial is the experience of a young patient of spleen disease from Ndongo village, who received multiple treatments from ordinary therapists, a maternal uncle, and finally, a healer with special powers to treat all forms of spleen disease.

> When my child was ill with spleen disease a few years ago, I did everything I was asked to do from the left here in the village, but the treatment didn't work. I'd met the doctors here and there, and then I went back to see my brother, who's her uncle, as he's also a master of herbs, and things seemed to work at first […]. After the child's relapse, a soothsayer who was visiting us made us understand that it wasn't a simple illness. He told us what we had to do before the treatment for spleen disease would work. When we performed the various rites he had advised us to do, the treatment for spleen disease had now worked (Informant E, Bakwele, September 2017).

Another informant from the Ewondo community attributed her child's recovery to the intervention of her late father through dreams, a passage during which he gave her guidance on the nature of the herbs to use or the profile of the spleen therapist she could call upon.

> The ancestors speak to us all the time in various ways, but sometimes because of our lack of discernment, some of us may not pick up the message and the codes they send to help us in times of illness. One time my child was seriously ill, and I was in and out of hospitals as I suspected malaria at first, as were the health workers who consulted him. One day, when I was already tired and confused because my child's state of health was worsening… because in the meantime I had been informed by a neighbour that my child was suffering from spleen disease, my late father had come to speak to me in a dream. He told me to change my ways, to stop following what they say at the hospital. In the same dream, he told me about a herb I should use to treat my child. And that if it didn't work, I should take the road to Mfou to meet a therapist who lives just past Monti College […] I used the herbs to purge and massage the child for the number of days he had indicated. After a few days, the child wasn't always well. So I decided to go and look for the spleen therapist he had pointed out to me on the road to Mfou. Fortunately, I was lucky enough to meet him and the treatment for spleen disease he suggested finally cured my child and everyone around me testified that the child was already doing well (Informant H, Ewondo, November 2017).

The third testimony is the case of a patient who benefited from traditional remedies made from therapeutic resources sanctified by the ancestors before they left for the realm of the dead:

> Ever since I was a child, the remedies our parents used to treat children suffering from spleen disease have always worked. I've suffered from it and also my children on several occasions. And each time, I can say that we use the bark from our fields and forests to our satisfaction – the bark of trees that our ancestors cut down before leaving. When we use these barks, the patient is always cured, as I can testify. The last time I used it was a year ago today, and since then, the child has never fallen ill again […] It can happen that the treatment doesn't work for certain reasons, such as there being a black hand behind it. I haven't personally experienced that yet, but when this kind of situation arises, people know what to do. You have to do something else to remove the black hand, and the rest will work (Informant I, Bakwele, September 2017).

The fourth testimonial relates the story of a patient who benefited from the care provided by both the

native and the clinicians:

> My daughter suffered from spleen disease for a long time and the final solution that restored her health was a sort of mixture of several recipes. At first I suspected malaria and, as is customary in families, I went to buy paracetamol to give her. But those around me soon made me realise that it was more likely to be spleen disease, and that a traditional treatment was urgently needed. As her grandmother is a therapist whose expertise in this disease is well known, she immediately decided to treat her granddaughter. She gave her a treatment involving purging, scarification, and, above all, massage of the abdomen, and guaranteed that the illness would disappear within a few days. But unfortunately, that wasn't the case, because my child's state of health remained static, with periods of calm and periods when he wasn't always doing very well […] As part of the treatment lasted ten days to be precise, I found myself obliged to seek the services of a nurse so that he could also examine and try to treat my child at the same time. After carrying out some tests, he confirmed that the child was suffering from malaria and immediately started parallel treatment. It is in this climate that I can say that my child has recovered (Informant G, Ewondo, November 2017).

For both the Ewondo and Bakwele, the onset of spleen disease is an event that triggers an all-out mobilisation of all the natural and spiritual therapeutic resources available in the patient's environment that are likely to bring some relief. The various testimonies presented illustrate the involvement of therapists of all categories – family members and ancestors – in the adoption of forms of therapy and the actors involved in carrying them out. Not all the experiments resulted in an improvement in the patient's state of health, but the cases of failure are interpreted by the people as being caused or maintained by a harmful external force, which requires perseverance and, depending on the situation, recourse to a variety of therapies.

### 3.9. Christianity, schooling, and therapeutic behaviour

As far as the religious dimension is concerned, before colonisation, the peoples of Cameroon shared animist beliefs characterised by a variety of myths and rituals, but all had one thing in common: ancestor worship (Foutse 2017). Following this contact, changes took place in the orientation given to spirituality in the country's towns and countryside. In terms of religion today, figures from the third general census of the population of Cameroon show that, nationally, the following proportions are statistically represented: Catholics (38.4%), Protestants (26.3%), and Muslims (20.9%); [then] animists [followers of 'traditional African religion'] who make up 5.6%, 'other Christians' (4.0%), and free thinkers (3.2%). In the central region, Catholics account for 65.4% (BUCREP 2005). The remaining 34.5% are shared

between the other religions, namely Protestants, Muslims, and animists. In practice, the fact that the Ewondo practise Catholicism, Protestantism, or Islam does not prevent them from retaining whole swathes of animism, which they use in their daily medicinal practices. The Bakwele are predominantly Christians and Protestant in particular. This confirms the hypothesis that the Bantu of the forest are essentially Christian (Ebalé 2009). In our fieldwork, not one Bakwele respondent claimed to be Catholic or Muslim; the only religious denomination in the locality is the Protestant church. Like the Ewondo, primary animism is still anchored in the daily practices of the Bakwele, who combine Christian faith with exaltation of the forces of nature.

In terms of education, the city of Yaoundé has nearly 166 nursery schools, 62 of which are public and 104 private; 204 primary schools, 118 of which are public and 86 private; 58 general secondary schools; and 32 technical secondary schools and 16 higher education establishments (Onu-Habitat 2007). These figures increase every year as the competent institutional authorities open schools in all seven administrative districts. Also, under the constitution, which recognises two official languages (French and English), Ewondo children have the option of following one or both of these education systems, depending on what is available and their parents' financial resources. In terms of higher education, the capital of the Mfoundi department has several establishments. For example, on one side of Mvolyé, which Pondi (2012) describes as 'the hill of knowledge', there is the University of Yaoundé I (UYI), the Ecole Normale Supérieure (ENS), the Ecole Nationale Polytechnique, the Ecole des Travaux Publics, the Ecole des Postes et Télécommunications de Yaoundé, the Ecole Nationale d'Administration de la Magistrature (ENAM), the Institut National de la Jeunesse et des Sports (INJS) as well as various private higher education institutes (SIANTOU, DISAMBA, ISAM, etc.). Although Ndongo village has a primary school that enables several children to complete their basic education, the drop-out rate is higher in the area from secondary education onwards, as children from this locality are obliged to leave their region to settle in the town of Moloundou, Yokadouma, or even Bertoua for the more affluent or for those with families in town. This is in contrast to the Ewondo, where around four out of five children from the families we met easily complete their secondary education, gaining a baccalaureate in the French-speaking section and a GCA Level in the English-speaking section, before going out into the world of work. For the 2015–2016 school year, the school completion rate (for the primary cycle) was 77.8% in the central region and 66.2% in the east region of Cameroon (MINEDUB 2017).

In both communities, our results showed that the patients'religious affiliation or level of education did not have a significant influence on their therapeutic behaviour following the onset of spleen disease. We mentioned in a recent reflection that the populations of these two localities believe that spleen disease can only be treated effectively by traditional medicine. In fact, out of a sample of 120 people surveyed in these two sites, only two informants from Yaoundé said that their problem had been treated by receiving care in health facilities. Medical competence played a full part in the decision-making

process insofar as the two informants who admitted having received decisive care from clinicians were close to biomedical practitioners. Although they had not initially had any confidence in biomedicine, the degree of deterioration in their relative's state of health led them to opt for a mixed solution in the case of the first informant, and to make a U-turn towards biomedicine in the case of the second. It was in the course of discussions or in a report sent to their close health practitioners that shared insights were formulated. But quantitatively speaking, almost all the informants considered that their health had been restored thanks to the care they had received from therapists (Mvetumbo *et al.* 2020). In conclusion, although the influence of education or Christianity on the therapeutic behaviour of the people questioned in this research is not significant enough, it cannot be ruled out that attitudes may change in the future on this subject in both communities, particularly in terms of perceptions of the cause of the disease and the types of therapy applicable. Changes could come about as a result of the growing number of children born of a cultural mix. In cities, for example, parents are increasingly failing to teach their children to master their mother tongue, which is the reservoir of a people's codes and ways of thinking. It cannot be ruled out that, in the long run, many people will change their minds on the subject if there is a proliferation of successful experiments on the prowess of Western medicine in dealing with presumed cases of spleen disease in the two communities.

### 3.10. Kinship and connectivity between the living and the dead

The kinship system in force defines the community, marriage procedure, type of residence, and nature of the relationships with ancestors. Among the Bakwele, a marriage is only culturally recognised if the dowry is regularly paid by the son-in-law's family to the daughter-in-law's family. This means that the daughter-in-law must move into her husband's home after the wedding. In this case, although the groom is autonomous, he generally builds on a plot of land not far from his parents' home because of the availability of space in the surrounding area. In this community, any marriage that does not obey this rule is a union that has no cultural value, even though free unions are increasingly tolerated in this region. The avuncular relationship observed among the Ewondo is a vestige of the matriarchal era, when the father was not recognised in the said community, marriage did not exist, and the male figure was naturally provided by the mother's brother. With the institution and consolidation of marriage, cultural foundations of which are based on the payment of matrimonial compensation, the Ewondo have gradually moved towards a patrilineal society. This naturally has consequences for the type of residence. After the wedding ceremony, daughters leave their parents' home to live with their spouses in their own homes – and for good reason. One of the qualifications that the Ewondo attribute to young men who wish to take responsibility for themselves is the need to have their own home: a suitable place for him to live his married life and bring up his children; in short, a place where he can build his life and receive the respect of society. However, the intangible nature of the ties between children borne of marriage and

members of the parental families on both the maternal and paternal sides remains just as strong. During dowry ceremonies, for example, parents on both sides gather to collect the bride price and pave the way for their child to marry. In the event of death, the maternal uncle is generally mandated, alongside dignitaries from the maternal family, to symbolically demand an accounting from the paternal family of their missing grandchild, or from the parents-in-law in the case of the disappearance of their regularly married daughter, during a pre-burial ceremony. We need an answer to pass on to our ancestors about the causes of our child's death. This is a manifestation of the relationship between the dead and the living, manifested by the ancestors on the maternal side, represented by the large maternal family and the deceased leaving the world of the dead for the realm of the dead. After death, the connection between the deceased and the living does not cease to function, just like the revelations made in dreams. Whether we are talking about the Ewondo or the Bakwele, the ancestors act or interact with their descendants, who can be found on both their maternal and paternal sides. People measure the intervention of their ancestors in the land of the dead by the responses they receive from this spiritual entity. According to a therapist we interviewed in Yaoundé, these higher beings act without making a fuss; they carry out actions that can be appreciated from the effects experienced by the living who are engaged in a particular quest, such as health:

> When we treat complicated cases of spleen in the middle of the night, we implore the ancestors to come to our aid. They don't respond with words, but with gestures. They witness what we do, and when we bury the illness, they are there spiritually to seal the act. Even if they don't say anything, they act in the shadows and enable the patient's health to be restored (Therapist A, Ewondo, May 2017).

Like Christian prayer, the exchange between the living and the dead has an essentially spiritual dimension, based on the belief in the effectiveness of their interventions or support. In these two contexts of life, the problem or difficulty encountered by a member of the family must be submitted, the codes of good conduct must be respected and the response must be awaited. To better explain the manifestation of the interconnection between the living and the dead, the Ewondo believe, for example, that there is a continuity of life after death, and the disappearance of a person, whether it appears or is experienced as a moment of sadness, is merely a transitional stage between the world of the living and that of the ancestors, full of wisdom, power, and might. In the Betsi context, for example, this is what justifies the continued existence of transitional ritual practices organised as part of funeral celebrations. The ancestors listen to their children, who are their descendants on Earth. Indeed, it is to them that the grievances of families and community dignitaries are directed during these ceremonies, so that they can open the door and smooth the path for the new virtuous deceased. The role of the elders is to welcome

the souls of the recently deceased, so that they can contribute to the stability of the community and the relationship between ancestors and descendants. For our informants, contact between the living and the dead is a living reality that can be measured through interventions in dreams and when dealing with cases of atypical spleen. The ancestors do not need authorisation to intervene in the lives of their descendants, who lead a life of righteousness. Whenever a critical situation arises in the community, the latter, from their position as scouts, have the capacity to intervene by anticipation and action or in terms of projection to facilitate the restoration of the normal or desirable order of things such as health and harmony. The stories told by the Bakwele people are quite similar to those told by the Ewondo. The ancestor exerts a direct influence on the lives of his descendants through his works.

> What the ancestors have left us are these therapeutic plants that they blessed with their hands before leaving – these plants that continue to give us satisfaction and prove that they are there. Every time we use them and get results, we feel that they are with us (Therapist C, Bakwele, September 2017).

This is proof that the ties between ancestors and their descendants are strong and alive. Still on the subject of silent communication, the Bakwele emphasise that the ancestors bring their blessing to the maternal uncle while he sleeps at night, to enable him to effectively cure his nephew's spleen disease when day breaks. In addition to his potential mastery of medicinal plants and recipes, he may receive visits from ancestors who have come to enrich him or strengthen his healing powers. Through dreams too, the exchange between the two entities (the living and the dead) remains lively and above all instructive.

## 4. Discussion and conclusion

### 4.1. Kinship, disease and therapeutic knowledge management

In general, what interests the anthropologist is not illness as an objective category of medicine, but the way in which ordinary people develop their own notion of illness through their own practice, their own experience, and the contacts they have with specialists (Kleinman 1980). It is society that gives meaning to illness and determines the beliefs and representations about it (Abdmouleh 2007). On that point, the explanations received on the causality of spleen disease in the Bakwele and Ewondo communities show the essential role of the notion of Kinship, which in scholarly terms is conceived as a taxonomic process that relates to human beings, sorting out our 'fellow creatures' from others in the set of individuals who are actually or potentially related to each other by birth or marriage (Barry 2008). If hereditary transmission is put forward to justify the strong prevalence of the spleen disease within certain families, it should also be remembered that this hypothesis presents some limits when it was necessary to justify

the cases of sick children with none of the biological parents had never had to suffer from spleen disease in their entire life.

As justification, the Bakwele also believe that eating 'animal liver' is one of the main potential causes of 'spleen disease' in children or their mothers. While the Bakwele advise against eating the liver of all animals, their Baka neighbours believe that only the liver of deer and hare is harmful and a source of spleen disease (Mvetumbo *et al.* 2020). The Ewondo emphasise that snails should not be eaten by children or by pregnant or breastfeeding women (Mvetumbo *et al.* 2020, 2023). Also, the respondents explain that spleen disease may also be the result of a witch attack that needs to be destroyed with force and precision. The informants believe that a sorcerer with ambitions to harm a person can transform an ordinary spleen disease into an illness that is difficult to cure. This is a reality in most African communities, where illness most often originates in the group or in magico-religious considerations (Nzhie Engono and Nsangou 2017). When such a situation arises thanks to the confirmation of soothsayers or former spleen disease patients, a therapist who embodies the power to heal complex pathologies such as *ɛpial-ɛ-zock*[4] cases must be called in. He or she must be mobilised to carry out the 'unblocking', 'release', 'deliverance', and 'unblessing' stages in order to facilitate the recovery of health (Tsala 1958, Mbonji 2009). In fact, the treatments provided by local therapists are designed to neutralise metabolic diseases, psychological dysfunctions, and paranormal anomalies linked to witchcraft (Geschiere 2013). In such circumstances, the support of the maternal uncle of the Bakwele and of other local therapists in the case of the Ewondo are involved in the fight to free the patient from spleen disease.

Apart from the causes, the involvement of the maternal uncle in the treatment of the spleen disease from which his biological sister's child suffers is an illustration of the role of kinship among the Bakwele because the blood relationship is put forward to justify the choice of a family member as a special therapist. Thus, it is the society that sets the standards for illness and health, guides care practices, and distributes roles and statuses between the patient, those around the patient, and the therapist (Stoetzel 1960). As in the case of the Bakwele and Ewondo communities, relating to the dissemination of treatments for spleen disease, the ascendants play a role in the transmission of therapeutic knowledge and practices to descendants in traditional medicine in Cameroon (De Rosny 1981, Mbonji 2009, Anaba Naambow 2010, Neyambe 2017, Mvetumbo *et al.* 2020). It includes a body of knowledge and practices that can be used to treat both the various forms of spleen disease in particular and health problems in general.

### 4.2. Ancestors and therapeutic inspiration

Given the immensity of the role of spiritual entities, access to the ancestor status after death is an

[4] *ɛpial-ɛ-zock* (or elephant's liver) is a word used by Bakwele population to describe certain cases of spleen disease, characterised by inflammation of the patient's abdomen.

important passage for both the Ewondo and Bakwele. Operationally, the traditional function of accompanying the dead to the realm of the ancestors is carried out through dignified ceremonies that obey the habits and customs of the community to which the deceased belongs (Mebenga 2009). The high point in the Ewondo community is the performance of the *Essani* or funeral rite celebrating the earthly passage of the deceased to the world of the ancestors (Ambena-Ndono 2020). This passage enables them to enter the world of the divine and to look after their descendants with care. As far as the Ewondo are concerned, their presence manifests itself in the lives of their descendants through their illumination in cases of despair caused by illnesses that are difficult to cure. Testimonies from the field refer to the inspiration of therapeutic recipes through dreams, or clues as to the location of therapists capable of helping restore the health of those suffering from spleen disease. In the African religious universe, life follows a cyclical trajectory in the sense that individuals come from the world of the ancestors, spend time on earth, and return to the land of the ancestors when they die, which is, therefore, not conceived as a destruction of man but as the passage from one state to another (Ezembe 2009).

During their earthly sojourn, they left the rudiments on which their descendants can rely for their healing. The Bakwele are convinced that the deceased leave them with blessed barks of trees in their hands before they leave for the spirit world. The results we have achieved show the involvement in various ways of the latter at critical moments marked by the occurrence of complex cases of spleen disease in the community. They usually participate through the sanctification of medicinal resources among the Bakwele or therapeutic inspiration through dreams in the two communities studied. About this question, several studies have mentioned them as a source of inspiration for medicinal recipes through dreams among the population of the Bounyebel (Mbonji 2006), Baka (Nkongmeneck 2007), and Ewondo (Mvetumbo *et al.* 2020). In the Beti cultural universe, the idea is shared that the ancestors regularly visit the living at certain times, a passage that enables them to learn about problems, rid their descendants of impurities, and propose solutions to health problems, including cases of spleen disease that escape human intelligence. As mentioned in field testimonies, this can happen among the Ewondo during the day through dreams, but also at night when the people are asleep.

At the end of this reflection, and given the persistence of malaria and related diseases such as spleen disease, the cultural considerations surrounding spleen disease, particularly with regard to the nature of the disease, its causes, and the people involved in its management, are a clue that public health professionals need to decipher in order to find appropriate ways of mobilising the masses around diseases that can lead to confusion.

In a context of accelerated development, further research could investigate on the implications of urbanisation, cultural mixing, advent of new religions, highly westernised conventional education system, and presence of Western, Chinese, and Arab-Muslim medicines on the modes of thought and health practices relative to the treatment of spleen disease among rural and urban communities in

Cameroon.

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# Local Communities' Perceptions of Their Participation in Mountain Gorilla Conservation Around Volcanoes National Park in Rwanda: Case of Kinigi Sector

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**Abstract**

This study assessed local communities' perceptions of their participation in mountain gorilla conservation around the Volcanoes National Park (VNP), Rwanda. Focus groups and one-on-one semi-structured interviews were used to collect data. Participants were purposively selected based on their experience with conservation activities. Data were analysed using qualitative methods. The findings indicate that the people living around the VNP understand their relationship with the park through the benefits that they receive from their involvement in mountain gorilla conservation, education, and tourism activities. They contribute to conservation activities inside and outside of the park, including stone fencing repair, anti-poaching, educating others on mountain gorilla conservation, and morning and evening patrols around the park. They obtain subsequent opportunities such as jobs, markets for their products, networking, and infrastructure development. Challenges that hinder their participation in mountain gorilla conservation include crop-raiding, poverty, culture, and ignorance. Possible solutions include forming cooperatives, improving people's livelihoods, and increasing awareness. This study recommends the formation of appropriate relationships and increased dialogue between park administrations and communities for better VNP conservation.

**Keywords:** local community, mountain gorillas, perceptions, Volcanoes National Park, Rwanda

## 1. Introduction

The uncontrolled degradation of biodiversity and ecosystem services resulted in the creation of the world's first protected area, Yellowstone National Park, in 1872 (Andrade and Rhodes 2012). Since then, reserved conservation land has increased globally to combat diversity and habitat loss (DeFries *et al.* 2005, Naughton-Treves *et al*. 2005). Protected areas have become essential for conserving and preserving biodiversity for current and future generations. Other ecosystem services, such as carbon sequestration, enhance ecotourism and watershed preservation, which benefit local people (Naughton-Treves *et al*. 2005). However, protected areas face intense human pressure, such as poaching, diversity and habitat loss, and land use (Okello and Kiringe 2004). In Africa, protected areas are mainly located in remote areas that have dense pockets of local communities who depend on natural resources from these areas to sustain their livelihoods (Wittemyer *et al*. 2008). High population growth in areas adjacent to protected areas results in high demand for goods and services located in protected areas, such as food and fuel (Basnyat 2009). This human pressure around protected areas affects ecosystems and causes biodiversity degradation (Slingenberg *et al*. 2009).

In Rwanda, high population growth around the Volcanoes National Park (VNP) affects endemic species, such as mountain gorillas (*Gorilla beringei*) (Plumptre *et al*. 2004). The 12 adjacent sectors to the VNP are inhabited by local communities (Bush *et al*. 2010) who conduct prohibited activities to sustain their livelihoods—such as encroachment; poaching; and firewood, water, and honey collection—which ultimately endanger the VNP (Kalulu *et al*. 2016). Accordingly, park managers, conservationists, and the Rwandan government have implemented conservation and development projects to help the local communities to obtain resources from sources other than the VNP (Bernhard *et al*. 2020, Harrison *et al.* 2015). Such projects include water and agricultural programmes to improve their livelihoods, gear their behaviours towards conservation, and reduce their dependence on the VNP's resources (Kalulu *et al*. 2016).

Conservation education programmes have also been established to increase local communities' knowledge and attitudes towards conservation (Bush *et al*. 2010). The 1979 Mountain Gorilla Programme was the first attempt to involve local communities in the conservation of the VNP (ORTPN 2005). As such, activities increased in diversity and scope and were primarily conducted by international nongovernment organisations (NGOs). The community conservation (CC) approach was formally approved as a management strategy in 2005, and the National Parks Service has since coordinated park-wide operations (Bush *et al.* 2010).

The goal of working with communities was to reduce human–wildlife conflicts, including crop-raiding, poaching, and other illegal activities, that could affect the biodiversity of mountain gorillas as well as their habitats (Munanura *et al*. 2019). This was achieved by improving the relationships between the VNP and its surrounding communities and by sharing the benefits associated with the VNP,

including tourism revenue-sharing and investing in community-oriented activities (Munanura *et al*. 2019). Furthermore, pro-poor tourism approaches were used to help impoverished families around the VNP to improve their livelihoods and participate in conservation (Ashley 2007, Spenceley *et al*. 2010).

Tourism revenue-sharing, as a derived benefit from the VNP, has since increased local communities' awareness of the importance of conserving park diversity, especially for endangered mountain gorillas (Plumptre *et al*. 2004). Local communities' perceptions of their participation in mountain gorilla conservation have improved through the formation of park management relationships and communications (Ekise *et al*. 2013). Additionally, ex-poachers have formed local organisations that are supported by the VNP's authorities and their conservation partners. These organisations actively assist the VNP's administration with park protection and law enforcement (Sabuhoro *et al*. 2017). However, over time, the coexistence of gorillas with humans in conservation areas has led to both challenges, such as local communities' participation in conservation, and benefits, such as marketing conservation areas as tourism destinations (Munanura *et al*. 2016). Since local communities' perceptions towards wildlife conservation achievements are based on individuals' perceptions (Ngonidzashe Mutanga *et al.* 2015), positive perceptions are vital for local people to collaborate in forest conservation as they encourage participation (Tesfaye 2017). However, issues such as encroachment have been noticed in some areas, resulting in the need to identify and understand how local communities perceive their participation in mountain gorilla conservation.

### 1.1. Problem statement

Mountain gorilla conservation is important for Rwanda's tourism and economic development. This has led to the introduction of different policies dedicated to improving mountain gorilla conservation and preventing encroachment (Bush *et al.* 2010). Among the implemented policies, the Rwandan government and its stakeholders have established community education and tourism revenue-sharing to improve conservation awareness and communities' livelihoods and ultimately benefit mountain gorilla conservation and coexistence with humans (Munanura *et al.* 2016, Kalulu *et al.* 2016).

Since the implementation of the Tourism Revenue-Sharing Programme (TRSP) in 2005, the government has invested RWF 5.8 billion (USD 5.85 million) into projects in the areas surrounding four national parks: Akagera, Nyungwe, VNP, and Gishwati-Mukura. From 2005–2019, the TRSP invested over RWF 2.4 billion into a range of community development initiatives and community cooperatives in areas close to the VNP (ALU 2021). However, the continued execution of these policies in areas around the VNP has encountered obstacles, such as local people's unsustainable reliance on forest resources, persistent mentality of hunting and poaching for meat, and collection of bamboo for basketry (Kalulu *et al.* 2016). Such obstacles are likely due to the local communities' perceptions of mountain gorilla conservation, which are not considered when developing those policies. Previous studies on the

VNP have focused on tourism revenue-sharing policies, forest dependence, and local community empowerment (Spenceley 2010, Uwayo *et al*.2020). However, the local communities' perceptions about their participation in mountain gorilla conservation are unclear, and there is limited available supporting literature. Therefore, this study seeks to better understand the local communities' perceptions towards their participation in mountain gorilla conservation by examining the associated contributions, opportunities, and challenges, and proposing possible solutions.

### 1.2. Research objectives

This study is guided by the following research questions:

1. How do local communities perceive mountain gorilla conservation around the VNP, and what is the relationship between the VNP and the surrounding communities?
2. What benefits and opportunities do local communities obtain from mountain gorilla conservation?
3. What challenges do local communities face in mountain gorilla conservation around the VNP?
4. What are the possible solutions to the challenges in mountain gorilla conservation faced by local communities around the VNP?

### 1.3. Related literature

Over the past 50 years, nature protection practices have aimed to engage people with places containing much biological diversity. This approach is a dramatic modification of the early stages of nature protection tactics (Infield and Tolisano 2019), which saw conservation practitioners worldwide use a strict nature protection model that evolved in late 19th century America (Western 2000) and extended jurisdiction over natural resources passed mainly to the Western government; this was in response to the effects of population and industrial development on the environment (Western 2000). While modern conservation policies and practices were entrusted to the government, such policies failed to inspire public participation in conservation (Western 2000). Instead of focusing on groups or communities, such policies tended to emphasise how individuals could change their conservation behaviours (Nsabimana 2010). Moreover, the failure of various government-led conservation initiatives in garnering public participation in conservation prompted attention toward the potential for CC (Nsabimana 2010). Other supporting factors for this move included the trend towards community participation, the support for stewardship roles for indigenous peoples residing close to nature, disenchantment with state and market conservation approaches, and increasingly vocal NGOs (Wali *et al*. 2017, Agrawal and Gibson 1999).

Consequently, the concept of collaborating with local communities to achieve conservation goals has become increasingly accepted by conservation professionals, necessitating the expansion of their toolkits to include the work and contribution of social and behavioural scientists (Infield and Tolisano

2019). Moreover, a significant body of theoretical and applied research has emerged on a wide range of CC approaches, including the ways in which to better engage resource users in conservation efforts to reap benefits. CC refers to the variety of processes and agreements that local communities and resource users can participate in to benefit from conservation efforts, including community-based conservation, protected area outreach, cooperative management, co-management, joint management, and community-based natural resource management. This approach views humans as 'the locus of conservationist thinking' (Agrawal and Gibson 1999), and international conservation activities have subsequently expanded.

Furthermore, local communities are key stakeholders in conservation and environmental management. Studies in Ghana (Abukari and Mwalyosi 2020), China (He *et al.* 2020), Rwanda (Bush *et al.* 2010, Nsabimana 2010), and Yemen (Haddad 2009, Hackel 1999) have argued that local people's participation in conservation is better achieved by incorporating them into conservation activities and recognising them as partners. Local people receive economic benefits from being involved in conservation activities, such as infrastructure development and other income-generating projects. This creates awareness and ownership in the local community and helps to accelerate and achieve conservation goals in park management.

## 2. Material and methods

### 2.1. Study area

This study explored local communities' perceptions of their participation in mountain gorilla conservation around the VNP. The selected local communities were those living adjacent to the VNP in the Kinigi Sector of the Musanze District: the most mountainous area in Rwanda and the largest part of the VNP. Moreover, the Rwanda Development Board's (RDB) head office is located in the Kinigi Sector (Uwiringiyimana *et al*. 2019).

Musanze District is comprised of 15 sectors, of which Kinigi Sector is among 4 adjacent sectors to the VNP (Kinigi, Shingiro, Gataraga, and Nyange) (NISR 2012, Ruboneza 2020). This study selected Kinigi as the focus sector because it covers the largest area around the VNP, and its wildlife is under threat from local communities (Munanura *et al*. 2016). Kinigi Sector is comprised of five cells (Figure 1). This study focused only on the four cells adjacent to the VNP: Bisoke, Kaguhu, Nyabigoma, and Nyonirima.

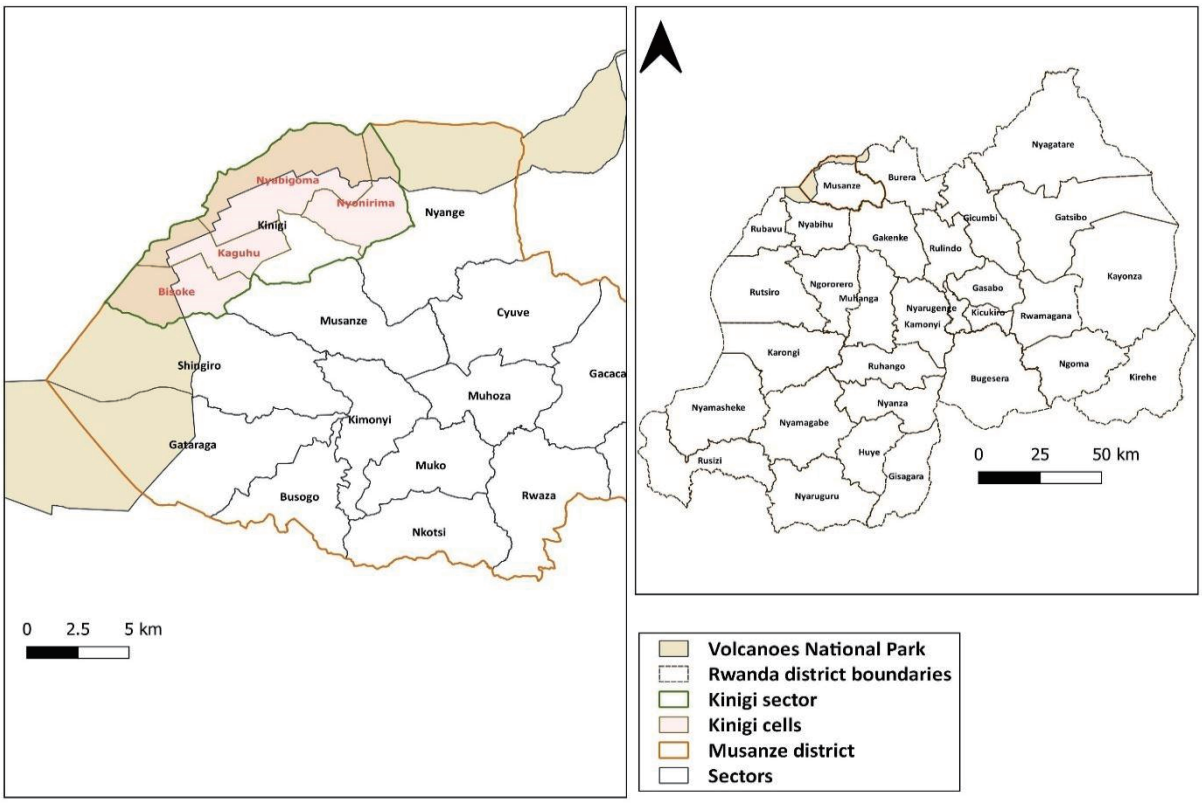


Figure 1: Location of the study area

Source: Self design.

### 2.2. Data collection

This study utilised primary and secondary data sources. Primary data were obtained from semi-structured interviews using an interview guide. Secondary data were obtained by reviewing the related literature on local communities' perceptions of their participation in mountain gorilla conservation from published books, articles, and reports from the RDB's Tourism and Conservation Department and NGOs involved in mountain gorilla conservation around the VNP. The coding scheme, data collection, analysis, and interpretation were guided by the research questions.

The interview guide was based on the research questions (Table 1) and contained entry questions created using participants' feedback. The secondary data sources guided the data collection. This study used semi-structured interviews with open-ended questions to elicit participants' experiences, perceptions, opinions, feelings, and knowledge regarding their participation in mountain gorilla conservation. Data were collected between February and May 2022.

This study selected the participants based on the extent to which they were informed of or experienced in the phenomenon of interest (Creswell and Plano Clark 2011). Therefore, this study used theoretical and purposive sampling. The participants included community members living in the four cells adjacent to the VNP in the Kinigi Sector as well as key informants from the RDB, VNP, and NGOs.

This study targeted male and female adults aged between 18–75 years. In this research, only 24 respondents were selected: 8 suspected poachers who were caught in illegal poaching activities; 9 ex-poachers and their wives, who were members of the community-based conservation cooperative (KAIKI cooperative of ex-poachers); 2 local leaders of cells with high numbers of suspected poachers; 5 RDB and VNP senior staff, namely, community conservation warden, law- enforcement officer, research and monitoring evaluation warden; and 1 from the Dian Fossey Gorilla Fund International/Karisoke Research Centre (DFGFI/KRC), who was responsible for community development and was the country coordinator of the International Gorilla Conservation Programme (IGCP).

This study assumed that a sample of this size would provide sufficient knowledge of VNP conservation based on their past and present experiences. This study chose qualitative interviews to delve deeper into the participants' beliefs or experiences and obtain their feedback on their perceptions of the challenges in participating in conservation efforts.

Table 1: Interview guide

| **Questions for key informants (DFGFI, RDB, and VNP staff, and cell leaders)** | **Open stimulation questions for community members** |
|---|---|
| How do local communities perceive mountain gorilla conservation around the VNP, and what is the relationship between the VNP and the surrounding communities? | Tell me about the changes in your life since the VNP was designated as a national park, and how you feel the park has affected your daily activities. Additionally, describe the role that the park has played in your life. |
| What benefits and opportunities do local communities obtain from mountain gorilla conservation? | Tell me about your experiences with the park, its significance in your life, and your contributions to its preservation. I have heard that the communities around the park benefit from it. |
| What challenges do local communities face in mountain gorilla conservation around the VNP? | In your opinion, are there any issues or difficulties that individuals residing near the VNP suffer from? |
| What are the possible solutions to the challenges faced by local communities in mountain gorilla conservation around the VNP? | In your opinion, what do you suggest in response to such problems? |

Note: Designed by the authors.

Table 2: Participants' characteristics

| Informants | Age (years) | Status | Sex | | Education |
|---|---|---|---|---|---|
| | | | Male | Female | |
| Focus group interview 1 | 37–51 | Ex-poacher and wives of ex-poachers | 7 | 2 | Primary |
| Focus group interview 2 | 34–73 | Suspected poacher | 8 | | Primary |
| Case A | 41 | Community conservation warden (RDB/VNP) | 1 | | Master's degree |
| Case B | 49 | Research evaluation and monitoring warden (RDB/VNP) | 1 | | Master's degree |
| Case C | 58 | Law enforcement officer (RDB/VNP) | 1 | | Bachelor's degree |
| Case D | 49 | DFGFI/KRC Community development programme manager | 1 | | Master's degree |
| Case E | 54 | County coordinator of the IGCP | 1 | | Master's degree |
| Case F | 42 | Executive secretary, Kaguhu Cell | 1 | | Diploma |
| Case G | 43 | Executive secretary, Bisoke Cell | 1 | | Diploma |
| **TOTAL** | | | 22 | 2 | |

Note: Designed by the authors.

This study has the following limitations. First, the youth category was not included owing to their absence during the data collection. These youths tend to move to cities to seek income-generating activities and jobs. Second, the sample sizes of some groups were small, such as the park staff and NGO participants. However, the study purpose was not to generalise the findings but rather to create a theory

that could be quantitatively verified using large sample sizes.

## 3. Results

### 3.1. Local communities' perceptions towards mountain gorilla conservation around the VNP

The findings reveal that the local communities around the VNP are aware of their relationship with the park. This is due to their collaboration with the RDB and its conservation partners, and their participation in different conservation activities to derive benefits. For example, the communities said that they positively perceived mountain gorilla conservation because they gained many benefits from it. Moreover, their livelihood improved in the process, so they considered it their responsibility. This was supported by key informants (Cases B, C, D, E, F, G) from the RDB's Tourism and Conservation department, local leaders, and conservation NGOs, who said that: 'The local communities' perceptions about mountain gorilla conservation have been positively changed, as indicated by the reduction of illegal activities inside the park and the communities' collaboration with park authorities on different community projects'. Such initiatives fall under the implementation of the 2005 TRSP, which directed investments to the regions surrounding Rwanda's numerous national parks and ensured that 10% of the parks' incomes were distributed to local communities to assist in their projects. Through these initiatives, residents of three national parks—Akagera National Park, Nyungwe National Park, and VNP—have access to clean drinking water, health facilities, and classrooms.

### 3.2. Local communities' roles in mountain gorilla conservation around the VNP

The findings reveal that the local communities living adjacent to the VNP are in favour of protecting mountain gorillas through the different activities that they undertake inside and outside of the park and by collaborating with the park authorities, such as the RDB and its conservation partners. These activities include cleaning and removing invasive plants inside and outside of the park, conducting morning and evening patrols around the park to protect mountain gorillas' habitats, tracking for mountain gorillas that might have strayed outside of the park, and monitoring people who enter the park illegally (Focus group interviews 1, 2). Moreover, they prevent suspected poachers from entering the mountain gorillas' habitats and inform the park authorities about such persons. These findings were supported by key informants (Cases B and D).

The findings also reveal that the ex-poacher cooperatives assist in the localisation of other poachers; help to remove snares; distribute poaching materials, dialogue, and exchange ideas on the conservation of the VNP with help from the local administration; actively promote tourism possibilities in the VNP; inform park administrators about persons responsible for park damage; and attend conferences to discuss VNP conservation. Local youth help in the park's conservation by repairing stone fences, contributing to anti-poaching by informing the park authorities about suspected poachers, teaching other local

communities about conservation, and cleaning waste in the areas in which mountain gorillas might be found to avoid disease transmission. They also conduct patrols to locate animals who might be outside the park, including mountain gorillas. A participant from the Focus group interview 2 stated that: 'No one is allowed to enter the park, since it is extremely protected, and our job is to serve as the park's eye. Together with park employees, we conduct joint controls inside the park, learn about its conservation procedures and the benefits of mountain gorillas, and then impart our knowledge to others in the neighbourhood. Additionally, the Gorilla Naming Ceremony has encouraged us to protect the VNP because we benefit from its conservation'.

### 3.3. Local communities' benefits derived from mountain gorilla conservation around the VNP

The findings reveal that local communities living adjacent to the VNP obtain different opportunities through the park and mountain gorilla conservation that improve their livelihoods. Such opportunities include domestic animal husbandry; jobs; infrastructure development (schools, health centres, houses, clean water canals, and roads); cooperative funding through tourism revenue-sharing, health insurance; school fees for their children; and markets for their products, which include handicraft and agricultural products (Cases A, D, and E).

These results were supported by key informants from the RDB's Tourism and Conservation department, local leaders, and conservation NGOs, who stated that local communities living adjacent to the VNP in the Kinigi Sector had more opportunities to increase their livelihoods, since this sector has higher tourism activities compared to other sectors due to the number of mountain gorillas contained therein. This sector also has many hotels that provide job opportunities for local communities as a result of mountain gorilla conservation (Cases D, E, F, F).

### 3.4. Challenges faced by local communities in mountain gorilla conservation around the VNP

Building physical barriers has been funded as a way to mitigate human–wildlife conflicts at the VNP. Indirect methods of assisting peripheral populations of the VNP include compensation, tourism revenue-sharing, restricting access to limited forest resources, and community outreach initiatives. However, the results reveal that crop-raiding continues to impact the communities, and residents complain about socioeconomic and livelihood losses, food insecurity, lack of time for crop-guarding, deteriorating health, and the use of children for crop-guarding. The findings further reveal that the rigorous compensation requirements, complicated compensation methods, denial of compensation claims, reduced payments, irregular payments, and payment delays are reasons for the local communities' dissatisfaction with the compensation plans. Moreover, victims of crop-raiding abandon their compensation claims because the process is expensive, time-consuming, and often delayed. These findings advocate for the improved management of compensation plans to prevent human–wildlife

conflicts (Focus group interviews 1, 2).

These findings were supported by key informants from the RDB's Tourism and Conservation department, local leaders, and conservation NGOs, who stated that local communities were unhappy about the ways in which their damaged crops (which were damaged by animals from the park) were refunded. Specifically, when animals leave the park to crop-raid, they can damage up to five tonnes of the farmers' harvests; however, only two tonnes can be refunded. The farmers spend time and money and travel long distances to receive compensation for their damaged crops, which discourages them from positively perceiving the park's conservation. Some families still preserve the culture of relying on forest resources, such as bush meat and honey collection, which are illegal inside the park. Finally, some local communities are unaware about the roles that they can play in the conservation of the park and mountain gorillas; instead, they consider the RDB and its conservation partners to be responsible (Cases A, C, D, E).

### 3.5. Possible solutions to the challenges faced by local communities in mountain gorilla conservation around the VNP

The findings show several possible solutions to the challenges faced by local communities in mountain gorilla conservation. Local communities living adjacent to the VNP can conduct different activities to face these challenges and participate in conservation efforts, such as joining and forming cooperatives, developing their awareness of the park's conservation and its benefits, education programmes, training related to mountain gorilla conservation, and the implementation of supporting projects (Focus group interview 2). Furthermore, getting the local communities to join cooperatives can help the poorest families. Accordingly, park authorities must review the tourism revenue-sharing provisions to ensure that they reach the communities directly, not indirectly (such as through infrastructure development), and the compensation fund office must be moved nearer to the local communities living adjacent to the park. The compensation fund office staff must work with agronomists to evaluate local farmers' crop damage. They must also conduct follow-ups to ensure that they are being quickly refunded. Finally, law enforcement must be strengthened for those who enter the park illegally (Focus group interviews 1, 2).

## 4. Discussion

Local communities' participation in wildlife conservation is influenced by how individuals' perceive the advantages and disadvantages of conservation efforts in terms of their livelihoods (Mogomotsi *et al.* 2020). Meanwhile, local communities are viewed as possible collaborators and partners in the conservation and sustainable development of wildlife areas (Brown 2002). The results reveal that local communities participate in different conservation activities inside and outside of the park in collaboration with the RDB and its conservation partners, thereby contributing to the conservation of

mountain gorillas and the VNP. Specifically, they participate in conservation by removing waste and invasive plants inside the park, conducting anti-poaching activities, and raising local awareness of the conservation of the park and mountain gorillas. Local communities also broadcast messages to other communities and suspected poachers informing them not to enter the parks illegally (Vodouhê *et al.* 2010, Munanura *et al.* 2016). The attitudes and behaviours of communities living adjacent to the VNP play a central role in the conservation outcomes of mountain gorillas both today and in the future. Such community involvement has had a significant impact on the park's conservation, to the point where former poachers are now dedicated wildlife protectors (Vodouhê *et al*. 2010).

Protected areas in developing nations are becoming increasingly attractive as travel destinations for wildlife enthusiasts, and tourism has the potential to produce long-term local benefits that encourage residents to cherish and preserve their animal heritage as a livelihood source (Goodwin and Swingland 1996). Previous studies have noted that national parks and their resources offer a range of products and services to nearby communities, thereby improving their quality of life. This applies to all protected areas (Balikoowa 2008), as local communities obtain opportunities from conserving biodiversity, including jobs, education programmes, and community services (Vodouhê *et al*. 2010, Munanura *et al*. 2016). The current study's findings are supported by those of Mulindahabi (2017), whose study of Nyungwe National Park reveals that the local communities receive direct payments, compensation for wildlife damage, employment opportunities, and support for income-generating projects and ecosystem services. Moreover, the benefits to communities and households include the provision of classrooms, health clinics, clean water, income-generating activities (such as park employment, tourism-related activities, and livestock), clean air, climate regulations, conservation education and training, and funding opportunities (Mulindahabi 2017).

This study's results also reveal that the local communities living around the VNP have access to opportunities due to the presence of mountain gorillas in the park, which strengthens the communities' positive perceptions of mountain gorilla and park conservation. Opportunities include tourism revenue-sharing, domestic animal husbandry, jobs, climate regulations, infrastructure development (schools, health centres, houses, clean water canals, and roads), health insurance, school fees, and markets for products (handcraft and agricultural products).

The findings also reveal the challenges faced by local communities living around the VNP that hinder them from participating in mountain gorilla conservation. These include poverty, lack of awareness about mountain gorilla conservation, ignorance, unemployment, culture, lack of cooperative membership, and crop-raiding. Sah and Heinen (2001) conclude that a range of factors, including poor education level, lack of awareness of environmental issues, and lack of participation, may lead local communities to express anti-environmental sentiments. Furthermore, living in proximity to predators that harm or kill domestic animals, damage fields, and destroy crops increases communities' related

expenses as well as resentment levels, which, in turn, endanger conservation efforts (Bulte and Rondeau 2005). Negative opinions on animal protection efforts are created by human–wildlife conflicts, such as crop-raiding and restricted access to natural resources (Rohini *et al*. 2016). Park–community interactions have significantly deteriorated, resulting in a decline in community support for conservation and biodiversity loss. Consequently, many endangered species are facing serious survival threats in the VNP, especially rare mammals (Mardaraj and Sethy 2015), such as mountain gorillas and golden monkeys.

Meanwhile, poverty contributes to biodiversity loss because of environmental degradation through the overuse of natural resources for survival. Household poverty makes it difficult for people to improve their current means of subsistence, forcing them to adopt unsustainable and environmentally harmful coping mechanisms. For instance, due to poverty, people do not have enough money to buy or employ agricultural inputs to boost crop yields, resulting in increased farmland conversion and the death of wild animals due to food insecurity (Wittemyer *et al*. 2008, Tolbert *et al*. 2019). Moreover, household poverty restricts the access to and use of electricity as an energy source. According to Ramos and de Albuquerque (2012), firewood and charcoal are the most popular and dependent fuel sources for cooking and heating. In the Akagera National Park, lack of food poses a significant threat to residents' continued existence; as a result, they frequently hunt in the park and look for firewood, as most residents use firewood for cooking (Nsabimana 2010). The VNP faces similar challenges as it is also surrounded by impoverished communities (Munanura *et al*. 2016). Ignorance is another challenge faced by local communities living around the VNP, as such communities are highly vulnerable to educational issues due to their cultural and historical backgrounds (Tolbert *et al*. 2019).

The possible ways to address the challenges that the communities are facing around the VNP include joining and forming cooperatives to enhance their working spirit and help them learn from each another, receiving more training on mountain gorilla and park conservation, increasing the park fencing, obtaining more employment opportunities, having greater conservation awareness, and improving tourism revenue-sharing. These solutions are supported by the studies of Munanura *et al*. (2016), who conclude that local communities can greatly benefit from being grouped into associations and cooperatives, and Mogomotsi *et al*. (2020), who assert that community involvement in park management through Village Associations for the Management of Wildlife Reserves can reinforce communities' positive perceptions of biodiversity conservation. The 2005 TRSP was a solution established to help local communities living around protected areas, including the VNP, by aiming to improve the living conditions of local communities around national parks and motivate former poachers to participate in park protection. Its implementation has significantly changed former poachers' behaviour towards wildlife conservation in protected areas, particularly around the VNP, and many of them, including 45 members of the Gorilla Guardian Village, have become wildlife conservation advocates (Kalulu *et al*. 2016). As another solution, the current study's results suggest the need to review tourism revenue-

sharing to ensure that it reaches the community directly (instead of indirectly, such as via infrastructure) or through cooperative funds only.

This study's results reveal that the local communities perceive human–wildlife conflict as a challenge to their participation in wildlife conservation around protected areas; therefore, there is a need to construct fences to reduce such conflict. In the VNP, a buffalo wall stone was constructed around the park as a solution to the conflicts between local communities and buffalos, which usually come out of the park to crop-raid and sometimes cause injuries and death. However, the participants revealed their need for strong electric fences or high fences to reduce crop-raiding by mountain gorillas, golden monkeys, and buffaloes that destroyed stone fences. Communities around protected areas experience wildlife conflicts due to crop-raiding by park animals. The introduction of a special guarantee fund to compensate victims of wild animal damage may be a potential solution and measure to increase the positivity of local communities' perceptions towards the conservation of wildlife in protected areas (Uwayo *et al*. 2020).

This study's results suggest that the compensation fund must be revised so that community crop damage can be more easily refunded and in less time. As such, cooperatives have been formed around protected areas in Rwanda to improve the adjacent local communities' socioeconomic conditions. These communities receive benefits from the park as funds to help them create jobs, including cooperative beekeeping and handicrafts, that increase their livelihoods and decrease their dependence on resources from protected areas. This was established as a solution to poverty which was a major challenge faced by local communities in conservation around protected areas. Communities and youth receive increased opportunities for education on environmental issues, their perceptions towards conservation improve, they develop a deeper appreciation for conservation initiatives, and they are more likely to participate in natural resource management and conservation (Bush *et al.* 2010). Changing local communities' perceptions through education will help to increase their awareness of wildlife conservation, which is expected to be transmitted to the next generation and guarantee sustainable conservation in the future. This study's participants indicated the need for a follow-up investigation of available cooperatives to help other community members, reduce the high membership cost, and create many other cooperatives. Poverty eradication through employment creation plays a significant role in the success of community-based conservation efforts. Authorities' efforts towards protected area conservation give rise to many subsequent opportunities through increased marketing and advertising, enhanced tourism activities, eco-tours, and hotel creation. Such activities increase the livelihoods of communities living around protected areas through the eradication of unemployment, which is likely to positively affect communities' perceptions of wildlife conservation (Kalulu *et al.* 2016). Successful wildlife conservation requires knowledge of biodiversity structures and functions (Hammond *et al.* 2008). The current study's results are supported by those of Munanura *et al.* (2019), who find that local communities' perceptions of

biodiversity conservation are influenced by education as well as the direct or indirect benefits that they obtain from their wildlife conservation efforts. For example, Virunga National Park provides local communities with benefits from park and mountain gorilla tourism through tourism revenue-sharing, infrastructure development, and employment. This concurs with Munanura *et al.*'s (2019) suggestion that focusing on the aspects of livelihood constraints that contribute to forest dependence now will benefit future tourism, as communities' involvement in park management efforts increases their awareness of conservation. Many studies have confirmed this correlation between the benefits and positive perceptions of biodiversity conservation (Mehta and Heinen 2001, Bauer 2003, Baral and Heinen 2007). Improving local communities' park benefits is a powerful incentive to increase their willingness to participate in biodiversity conservation (Vodouhê *et al.* 2010). Communities that receive benefits from wildlife conservation tend to support conservation more than those that do not (Mulindahabi 2017). The current study confirms that local communities have positive perceptions towards mountain gorilla conservation because of the benefits that they receive, as revealed by a key respondent (Case A), who stated that: 'Local communities are satisfied with the small- and medium-sized enterprises that were created to prevent people from entering the park to search for resources, such as meat, bamboo, animals, and other products. The income-generating activities created have been beneficial to local communities, and now they can satisfy their basic needs'.

## 5. Conclusions and recommendations

This study assessed local communities' perceptions of their participation in mountain gorilla conservation around the VNP. The results show that these communities are aware of the VNP's role in their lives due to the direct and indirect benefits that they obtain from conservation. Communities living adjacent to the VNP contribute to mountain gorilla conservation through different activities conducted inside and outside of the park in collaboration with the RDB and their conservation partners. They also access different opportunities through park and mountain gorilla conservation, which improve their livelihoods. However, the communities face challenges that hinder them from participating in conservation, such as poverty, lack of wildlife conservation awareness, and crop-raiding. They perceived possible solutions to these challenges to include animal husbandry, crop compensation, and forming and joining cooperatives.

Based on the findings, this study suggests the following recommendations for sustainable mountain gorilla and park conservation. First, to minimise the local communities' perceived challenges in mountain gorilla conservation, such as crop-raiding, policymakers should establish clear standards for determining farmers' compensation. Moreover, the compensation system should be easy to implement and should not be delayed. Second, poverty-related challenges hindered the communities from participating in mountain gorilla conservation. Accordingly, policymakers should establish more

strategies for reducing communities' forest dependence through different income-generating projects. Furthermore, communities and youth should gain access to opportunities to receive education through training, workshops, and seminars on environmental issues, so as to improve their perceptions towards conservation, develop a deeper appreciation for conservation initiatives, and be more likely to participate in natural resource management and conservation. Finally, policymakers should work closely with the local communities to determine the use of tourism revenue-sharing for different projects that are planned, designed, and implemented, since the active involvement of local communities creates ownership and sustainability in park conservation.

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# Exploring the Nexus between Natural Resource Management and Poverty Reduction in Rwanda

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**Abstract**

Poverty is a challenge that affects the citizens of third-world countries. Nearly 1.1 billion people earn less than USD 1 per day and face multiple challenges that make daily life risky and complicated. Such is the case in Rwanda, where 38.05% of the population lives below the poverty line. The establishment reduction and implementation of different policies and programmes have significantly reduced the prevalence of poverty in both rural and urban areas. Additionally, various national programs and plans that recognise the nexus between natural resource usage and management issues must be formulated. This study explored the connection between rural livelihoods and natural resource management in Rwanda through a systematic review of different search databases and an analysis of the existing literature, and official reports focusing on two case studies, namely, Green Gicumbi and Nyandungu. This study provides insights into how natural resources are changing the well-being of communities while also preserving ecosystems. Therefore, there is a need for further research to analyse or measure the impact of green projects on social cohesion.

**Keywords**: natural resources, management, poverty reduction, Rwanda

## 1. Introduction

### 1.1. Development paradigm

National development entails various scopes (e.g. sociocultural, economic, technological, and political), with additional critical proportions that align with a country's agenda, long-term vision, and objectives. Nevertheless, managing natural resources highlights the need for well-organised manufacturing and utilisation of natural endowments, sensitisation, and efficient talent utilisation. In addition to development, it prioritises physical, economic, and environmental resources. Therefore, natural resource management is inextricably linked to each nation (Uma *et al*. 2017).

Various categories of natural resources can be distinguished, such as physical resources, water, energy, labour, climate, minerals, forests, and wildlife. Collectively, they constitute the cornerstone of a nation's prosperity and a means of supporting and safeguarding it. Natural resources are products and features of the Earth that can be used in various ways to encourage national development (Van Noordwijk 2019). Sustainable economic growth does not involve environmental or natural resource degradation; hence, effective management of natural resources can lead to progress, while the opposite results in poverty. For Rwanda to develop, establishing a clear correlation between poverty and the environment is crucial. This involves improving natural resource management by considering vulnerable populations, preventing further environmental degradation, and upholding the integrity of ecosystem services. These measures are vital for achieving long-term recovery, human security, and the sustainable development of the Rwandan people.

This study aims to investigate the link between natural resource management and poverty decline in Rwanda. Specifically, it highlights the connections between natural resource management and poverty reduction and ecosystem restoration, with an emphasis on two case studies: green Gicumbi and Nyandungu ecotourism. The successful practices observed in Rwanda can serve as lessons or case studies for other regions.

## 2. Study background

Globally, the rate of extreme poverty has decreased significantly over the past two decades. Several geographical areas, notably sub-Saharan Africa, East Asia, and the Pacific, are experiencing this trend. Poverty reduction rates differ among countries. Additionally, it is important to note that absolute poverty reduction should not be conflated with relative poverty, which remains a pressing issue for many developed economies. Since the 1990s, the global share of people residing below the $1.90 per day extreme poverty threshold has decreased, falling from 35.6% (1.9 billion) in 1990 to 10.0% (736 million) in 2015 (World Bank 2018, Ishola 2020). In this context, the aim of eliminating extreme poverty by 2030 has gained momentum among international development initiatives, bilateral development organisations, and various nations. The specific objectives are to completely eradicate poverty (United

Nations 2014) and reduce global extreme poverty to 3% (World Bank 2015).

These objectives have become a focal point in the aims and objectives of many bilateral development organisations such as the United States Agency for International Development (USAID) and the Department for International Development (DFID). Similarly, the topic of inequality is increasingly at the centre of development policy discussions in nations across the globe (Fantom and Serajuddin 2016). Consequently, the pursuits of eradicating poverty (SDG1) and decreasing inequality within countries (SDG10) have been incorporated into the Sustainable Development Goals Global Agreement. More than 50% of those living in extreme poverty in 2015 resided in sub-Saharan Africa, where an increasing number of impoverished people are living in severe poverty. Projections also show that by 2030, almost nine out of ten people living in extreme poverty will be in sub-Saharan Africa, while poverty rates in all other regions will rapidly decline (Filho *et al.* 2021, Lakner *et al*. 2022).

Natural resources are an essential component of a country's development. A direct relationship exists between the quality of natural resources and the methods used to manage them (Ugoani 2020). However, in many developing countries, natural resources are misappropriated by individuals and corporations due to inadequate community management, thwarting national development (Ode *et al*. 2014, Abasilim 2020). Despite the availability of abundant natural resources, this situation has resulted in impoverished citizens, as evidenced in the Democratic Republic of the Congo (DRC) and Burundi in the East African Community.

With the recent increase in public debt, Rwanda's public sector-led approach to development has demonstrated certain limitations. The high level of public spending (13% of gross domestic product (GDP) in 2019) has resulted in large budgetary gaps financed by external loans. Most notably, the increase in borrowing requirements due to the pandemic resulted in an increase in debt to 56.7% of GDP in 2019, up from 19.4% in 2010. The World Bank (2021) has estimated that the debt is likely to reach 71.3% of GDP in 2020.

According to Reddy (2016) and Manasseh *et al*. (2023), natural resource management involves the appropriate allocation and sustainable use of water, forests, minerals, fisheries, fauna, and flora, which leads to the provision of essential livelihoods in the form of community goods, services, and consumption for people's well-being. Poor management of natural resources results in poverty at both the community and national levels (Van Noordwijk 2019).

## 3. The theoretical relationship of connectivity

Natural resource management, a term that is sometimes used interchangeably with 'environmental management', is concerned with the control and conservation of plants, soil, water, land, and animals, with a focus on administrative strategies that affect the quality of life of current and future generations (Epstein 2019). It is organised in ecological systems where humans and biological diversity interact.

Land use consolidation and planning, water resource management, landscape and biodiversity conservation, and efforts to ensure the future sustainability of agricultural activities and the forestry, mining, aquaculture, and tourism sectors are all part of natural resource management. The environmental, social, and economic benefits of restoring and managing forests, croplands, and rangelands are enormous (Palmer *et al*. 2022).

Poverty is defined in terms of income and expenditures. However, Alkire *et al*. (2015) claim that poverty is multi-dimensional and that financial metrics frequently overlook important non-monetary indicators of scarcity, such as the availability of healthcare, education, accommodation, sanitation, electricity, and water. A multi-dimensional approach amalgamates important dimensions for which data exist into a single measure (Mansour 2020); thus, management of natural resources can contribute to poverty reduction as communities can sustainably utilise natural resources for their livelihoods, which can boost incomes and improve overall living standards. In addition, proper management can reduce environmental degradation and provide long-term benefits. Therefore, implementing effective natural resource management strategies should be a priority for poverty reduction efforts (World Bank 2016, Filho *et al*. 2021).

Poverty is a ubiquitous phenomenon that has persisted throughout history, affecting individuals worldwide. In the past 30 years, remarkable strides have been taken in diminishing the number of individuals living below the poverty threshold. Nevertheless, the utter eradication of poverty is an arduous challenge (World Bank 2016). In 1990, with the proclamation of the Millennium Development Goals (MDGs), roughly two billion individuals, or 37% of the global population, lived below the global poverty line (i.e., earning less than $1.90 per day) (World Bank 2016). However, MDG 1, which aims to reduce the proportion of people living in extreme poverty by half by 2015, was successfully achieved in 2010.

According to the World Development Indicators 2017, approximately 0.8 billion people (approximately 10% of the global population) still lived in extreme poverty in 2013. People living in poverty are forced to endure daily risks and hardships that threaten their survival. Different communities engaged in development efforts, such as government institutions, banks, micro-financial agencies, and non-governmental organisations (NGOs), aim to enhance the living conditions of individuals living in poverty through strategies that reduce poverty.

Almost all countries endeavour to address the underlying causes, multiple dimensions, and consequential effects of poverty among individuals trapped in its vicious rotation. However, poverty remains a multifaceted problem with various aspects (USAID 2006). There is a significant and practical correlation between poverty and natural resources. Natural resources play an important role in the lives of the poor, both directly and indirectly, and many people rely on fisheries, forests, and agriculture for employment opportunities (Fagbemi *et al*. 2019). Throughout human history, society has been

dependent on ecological processes and healthy ecosystems for day-to-day survival. Our reliance on nature is multifaceted and intense and takes various forms at different stages of life. Additionally, poor individuals residing in rural areas are considerably more reliant on external assistance than their urban counterparts. In numerous African nations, over 70% of impoverished individuals reside in rural areas (Raggl 2017).

Humans engage in myriad activities that rely on resources, including minor farming, raising animals, fishing, hunting, small-scale mining, and logging. These activities serve as the primary source of income for many poor people. Combating poverty is currently the main focus of the global development agendas. All countries, particularly those in the developing world, have pledged to eradicate poverty by 2030. Owing to their reliance on natural resources for their development, the resources and benefits derived from the environment play an unavoidable part in freeing impoverished individuals and nations from poverty and empowering them. Poverty and the management of natural resources are interconnected with the utilisation of natural resources (Sun *et al*. 2020). There is a complicated, ever-changing, and varied connection between the management of natural resources and poverty. To effectively incorporate natural resources and poverty alleviation into development programs and strategies, it is imperative to consider the following overarching factors (Khan and Sultana 2020):

### 3.1. Factors for integrating natural resources and development programs to alleviate poverty

**(a) Significance of natural resources for disadvantaged individuals:**

As mentioned earlier, the majority of impoverished nations and societies rely on natural resources in their surroundings for daily sustenance (Gao *et al*. 2020). In low-income countries, natural capital constitutes 25% of the overall wealth (Khan and Sultana 2020). In rural regions, the main sources of income for most financially disadvantaged people are soil, water, fisheries, forests, and minerals.

**(b) Identification of natural resource management capacities, challenges, and opportunities for poor rural households:**

The poor require a combination of human, social, and natural resources. Pro-poor strategies prioritise valuable resources. Strategies aimed at helping the less fortunate aim to enhance the earnings of impoverished individuals and profits generated from natural resources. The asset-based approach, which focuses on supporting low-income households to be more self-sustainable, emerged with the work of Khan and Sultana (2020). Thus, rural areas should play a role in natural resource endeavours, such as ecotourism within the Nyandungu urban wetlands in Rwanda.

**(c) Improving the use of natural resources for poverty-oriented economic growth:**

Growth for the poor refers to the pace and pattern of growth that improves the ability of impoverished individuals to participate in, contribute to, and benefit from growth. Sustainable development can be achieved by using natural resources to improve the income of the poor and reduce poverty. Improving

natural resource management is essential for long-term pro-poor economic growth. Resource management has become even more urgent owing to the economic dimensions of natural resource management. Most notably, renewable and non-renewable natural resources are fundamental to economic activities.

**(d) Generating a wide range of positive externalities in local, national, and global contexts via natural resources:**

The main topic of conversation thus far has been the utilisation of natural resources to manufacture products that can enhance individuals' quality of life. Moreover, functions can be derived from natural resources. For example, the functions offered by wetlands relate to the purification and filtration of water, whereas watersheds play a crucial role in regulating the water cycle. The process of carbon capture by forests or soils, which aids in reducing the impact of climate change, is considered a crucial and relevant contribution to natural resources (Khan and Sultana 2020).

**(e) Pro-poor economic, policy, and institutional frameworks for natural resources:**

The productivity and production of the poor can be hindered by economic systems, policies, and institutions. Unfavourable policies can decrease productivity when it comes to utilising natural resources. Consequently, it is crucial for an impoverished population to have opportunities to access and regulate processes that convert natural resources into prosperity. Equal distribution of growth opportunities is particularly important (Gao *et al*. 2020, Khan and Sultana 2020).

**(f) Enhancing policies to effectively and advantageously manage natural resources:**

Economic and environmental policies play a vital role in promoting overall societal progress. Thus, it is necessary to examine distinct programs and policies related to market conditions, credit access, land and property rights, and asset insurance. Enhancing the efficiency of natural resource management policies can increase the benefits derived from natural resources. Gao *et al.* (2020) found that effective handling of natural resources can help alleviate poverty and foster economic development.

### 3.2. Association between poverty and natural resources management and Sustainable Development Goals

There has been a significant focus and discussion on the sustainable development goals (SDGs) of eliminating poverty and effectively preserving natural resources. SDGs are generally presented and understood as a collective strategy for ensuring the well-being of humanity, the environment, and economic growth. All countries and stakeholders who agree to this plan are dedicated to working together to execute it over the next 15 years in a cooperative manner (Gao *et al*. 2020; Khan and Sultana 2020). A quick look shows a clear connection between poverty and SDGs, as seen in Goal 1, 'No Poverty', which aims to eradicate all forms of poverty. Additionally, the term 'natural resource' is

mentioned in Targets 1, 4, and 5.

In the SDGs, the top global priority is to completely eliminate all forms of poverty, reflecting the primary objective of SDGs is to eradicate poverty in all manifestations and locations by 2030. According to Gao *et al*. (2020) and Khan and Sultana (2020), this goal includes five specific targets that require all signatory countries to eliminate all types of poverty and discrimination associated with poverty by 2030.

Extreme poverty refers to individuals or communities with daily incomes of less than US $1.25. Countries have committed to eliminating this type of poverty worldwide and to cut in half the percentage of individuals living in poverty within a specified timeframe. Furthermore, every nation must establish a sufficient social safety net and ensure equal rights for impoverished and susceptible populations. In conclusion, countries are recommended to enhance the abilities of at-risk impoverished individuals to minimise their vulnerability to climate change and various societal, economic, and environmental disruptions by 2030 (Gao *et al.* 2020, Khan and Sultana 2020). Achieving the objectives set out in Goal 1 depends on securing substantial funds (with a focus on the economical and effective utilisation of natural resources) and implementing effective policy frameworks at the local, national, and international levels. Goal 15 aims to alleviate poverty by effectively managing natural resources.

The aim of Goal 15, known as ‘Life on Land’, is to protect and restore terrestrial ecosystems, effectively manage forests, combat desertification, prevent soil deterioration, and stop biodiversity loss. By 2030, every country that agrees with the SDGs should aim to protect and responsibly utilise all their natural resources, such as forests, ecosystems, and biodiversity. Nine distinct goals were established to accomplish this objective. Certain goals are predicted to be accomplished by 2020, whereas others are projected to be completed by 2030. By 2020, it is important to guarantee the responsible utilisation of all terrestrial and inland ecosystems, preservation of various types of forests, rehabilitation of degraded land and soils, and the protection of endangered species at risk of extinction.

By 2030, nations must guarantee the preservation and protection of their mountainous ecosystems. In addition, the nation program highlights the importance of countries incorporating ecosystem and biodiversity values into national and local planning and aims to promote development and alleviate poverty. In addition to Goals 1 and 15, Goals 13 and 14, which involve combating climate change and conserving marine resources, are connected with poverty reduction through sustainable resource management. These goals are crucial for reducing poverty, as observed by the 2015 United Nations Development Programme (UNDP).

## 4. Conceptualising Rwanda’s natural resources

Rwanda is included in the East African Community (EAC) and the African Great Lakes Region and is regarded as one of the smallest countries in mainland Africa, with a population of 13.3 million (NISR 2015). Rwanda’s economy suffered greatly as a result of the 1994 genocide against the Tutsi people.

This tragic event caused extensive loss of life, widespread looting, destruction of infrastructure, and disregard for important economic activities, such as agriculture.

In 2021, Rwanda experienced an economic growth of approximately 11% due to the successful implementation of measures specifically aimed at overcoming the challenges posed by the pandemic, allowing economic activities to progress smoothly. The challenges necessitate additional external funding and are projected to decrease to pre-crisis levels by 2022–2024. According to the African Development Bank (ADB 2022), Rwanda's growth rate is predicted to reach 7.8% by 2023 and increase further to 8.1% by 2024. On the other hand, the collective impact of rising food and energy prices is projected to lead to a 23% increase in extreme poverty by 2022. Successfully reducing poverty and enhancing quality of life hinges on whether agricultural production is properly managed and environmental resources are prudently utilised. Another important aspect is ensuring the restoration of damaged landscapes through social-ecological strategies, which involve including and fostering social cohesion among the communities residing in a restored area (Maniraho *et al.* 2023).

Rwanda has a total land area of 26,388 $km^2$, and its natural resources include land, water, air, minerals, fisheries, forests, wild plants, and animals (Republic of Rwanda 2023). Arable land, which constitutes the basis of agriculture, serves as a fundamental element in sustaining people's livelihoods. The overall area of agricultural land currently stands at approximately 2,300 million ha.

At total of 750–800 million ha of land were made available during 2000–2007, which is relatively low compared to 1,700–1,740 million ha available during 2008–2014 due to various policies and actors' initiatives and community mobilisation (World Bank 2021).

The years 2015–2020 saw a remarkable decline in the amount of available agricultural land, which shrunk from 1,230 million ha to 1,100 million ha; major reasons for this include, but are not limited climate change (e.g. drought) and the recent global pandemic (World Bank 2021). The government of Rwanda is now investing considerable effort into irrigation systems while also providing agricultural inputs and subsidies to farmers engaged in agriculture. For example, in 2022, the government provided free inorganic fertilisers to those under the land use consolidation program.

Rwanda possesses a variety of mineral resources extracted from the land, including tantalum, tin ore, tungsten, gold, coltan ore, cassiterite, wolfram, peat, and nickel. Furthermore, the nation has reserves of valuable gems and rocks such as amphibolite, granite, quartzite, volcanic rock, clay, sand, and gravel (World Bank 2021). Despite lacking coastal access, Rwanda has a multitude of lakes, rivers, and wilderness areas (Reardon *et al*. 2021). Rwanda's mining industry commenced operations in the early 1930s and has experienced a significant transformation over the years, eventually emerging as the second largest generator of export revenue in the country. According to Cahan (2020), the industry produced $373.4 million in foreign currency in 2017.

Natural resources have significantly contributed to Rwanda's GDP since the 1970s. The 2016 World

Development Report highlights that, regarding natural resources' contribution to GDP, (i.e., forest, mineral, and total natural resources rents), the minimum was 7% in 2015 and the maximum was 33% in 1994.

## 5. Natural resource management practices in Rwanda

Environmental resources, including agriculture, forests, and minerals, continue to play a crucial role in fostering national development. By dedicating significant financial resources to environmental preservation, countries such as the US have attempted to safeguard the environment and enhance the quality and quantity of their natural resources. Rwanda, a nation blessed with favourable weather conditions for farming and abundant mineral resources, is currently striving to protect the environment and enhance management of natural reserves in line with national development goals. In the last ten years, the Rwandan government has placed a significant emphasis on poverty reduction as the main objective of its development efforts, both at the national and local levels. In her study, Sara (2000), discussed various approaches to combating poverty using natural resources, including collaborating with impoverished individuals to enhance the productivity of their natural resources and seizing economic opportunities by jointly investing in on-farm resources. Khan and Sultana (2020) also recommend promoting agricultural technologies with positive environmental effects.

Further, it is necessary to encourage the cultivation of low-risk perennial crops in disadvantaged and marginalised regions, enhance impoverished individuals' access to natural resources to support their livelihoods, and involve them in efforts to promote a healthy environment in areas where economic incentives are lacking. This can be achieved by compensating the poor for the conservation and management of resources that are important to others as well as by involving them in initiatives to improve public natural resources. This approach, known as socio-ecological restoration, involves incorporating the perspectives and inputs of local communities during landscape restoration (Maniraho *et al*. 2023). Natural resources contribute to economic growth, which, in turn, benefits the poor, thus illustrating the complex links between natural resource environments and poverty reduction. With the right mix of entrepreneurship and investment, coupled with policies at the national and international levels, economic opportunities can be created for people to move beyond traditional farming.

### 5.1. Community-based natural resources management: The Green Gicumbi Project in Rwanda

Because of its landscape, Rwanda is frequently referred to as the 'land of a thousand hills'. The presence of natural disasters, such as landslides, floods, and droughts, makes this hilly terrain particularly vulnerable. Various climate-related events have had severe consequences for communities throughout the nation, leading to crops being destroyed by floods and landslides. In 2018, the Gicumbi District had

the most significant exposure to climate hazards and was the second most sensitive to climate-related impacts. According to Fund for Environment and Natural Resources for Rwanda (FONERWA)'s 2021 report, Gicumbi District is situated in the Northern Province of Rwanda. The project FONERWA being conducted there has directly impacted 150,000 residents and benefited over 380,000 people that it hired in six sectors of the Gicumbi District: Kaniga, Rubaya, Rushaki, Shangasha, and Mukarange.

The project tests strategies to enhance the ability to withstand climate change, promote the adoption of eco-friendly technologies, and generate jobs in the environmental sector. More importantly, it aims to stimulate rural development by reducing poverty and fostering economic growth. Its primary goal is to extend the effective adaptation and mitigation strategies accomplished within the project's implementation regions to the entire nation. To that end, it has worked to restore the Muvumba watershed sub-catchment and assisted small-scale farmers in adopting practices that are resilient to climate change. Communities have been encouraged to implement sustainable forest management practices and adopt more efficient cooking methods to minimise the risk of fire. Human habitats are being established or altered to enhance their ability to withstand and adapt to climate-related challenges. Enhanced administration of land and forest territories has gradually led to decreased emissions, a heightened ability to adapt to climate change, and minimised vulnerability to climate-related hazards. This innovative project, which spans six years, represents one of the most significant investments in sustainable development in Rwanda. In addition to the $32.8 million grant received from the Green Climate Fund (GCF), the FONERWA contributed $147,000, the Gicumbi District allocated $107,000, and the Wood Foundation donated $106,000.

Climate change has already negatively impacted rural households in the Gicumbi District, resulting in food and income insecurity due to droughts and heavy rains and damage to infrastructure and property. Water shortages are a common issue, and in some extreme cases, lives are lost. These effects are worsened by land overuse, excessive logging, and the limited ability to store water. The project implemented an integrated watershed management method due to the fact that a large number of individuals in Gicumbi rely on natural resources and rain-fed farming. To address climate change at different levels, a variety of interventions (e.g. watersheds, communities, and households) must be implemented. For this reason, the project emphasised four main priority areas, discussed below.

The first priority is *Watershed Protection and Climate Resilience.* The Green Gicumbi Project has successfully revived and improved the natural environment in a specific area of the Muvumba Watershed. This was accomplished by empowering communities to effectively replenish and responsibly oversee forest resources, helping small-scale farmers embrace agricultural methods that can withstand climate challenges, and implementing protective measures for the preservation of riverbanks, roads, and slopes. The project has implemented climate-smart agricultural techniques in collaboration with tea cooperatives in Mulindi, such as planting practices that consider future climate change, and

offered weather and climate services to tea and coffee farmers. The goal is to enhance productivity and minimise any potential losses.

The second priority is *Forest Management and Sustainable Energy.* The Green Gicumbi Project has sought to promote sustainable investments in forestry and watershed management. This is achieved by revitalising and supervising damaged woodlands and increasing the community's ability to offer forest-related goods and services. To tackle deforestation, it has implemented energy-saving measures, such as promoting biogas and efficient cooking stoves. These efforts aim to reduce the Mulindi Tea Factory's reliance on firewood and minimise its negative impact on forests.

The third priority is *Climate-Resilient Settlements*, which has been accomplished by effectively controlling the flow of surface water from communities to decrease the frequency of erosion, flooding, and landslides. In addition, environmentally-friendly housing projects have been built in Kaniga and Kabeza, decreasing the number of at-risk families residing in vulnerable areas. The project helps reduce the effects of year-to-year rainfall changes by improving the collection and storage of rainwater.

The fourth priority is *Knowledge Development, Transfer, and Mainstreaming.* The effectiveness of the Green Gicumbi Programme can be determined by its contribution to climate-resilient development throughout Rwanda. This involves using the knowledge gained from its implementation to facilitate awareness, promotion, and advocacy of replication in other regions of the country. The project's goal is to enhance the ability of local organisations and communities to maintain investments in watershed preservation products and eco-friendly communities, which has been achieved by integrating climate-resilient methods and energy efficiency into the forestry, tea, and coffee expansion programs.

### 5.1.1. Project outcomes

The main project outcome was the restoration of watershed functions that support the majority of the rural population of Gicumbi District. In addition, the project increased climate resilience among those most vulnerable to climate change through investments in climate-resilient agriculture. It also supported smallholder farmers and improved the management of forest resources using best practices, thereby facilitating a shift away from subsistence farming on marginal lands towards more productive and sustainable livelihoods. Green Gicumbi has benefited 15,000 vulnerable people in the project intervention areas (FONERWA 2021).

The project encompasses 252 villages in nine sectors of the same district, totalling approximately 250,000 individuals. Since its inception in October 2019, it has achieved various outcomes in four aspects. These include creating 400 and 410 ha of root and advanced terracing, respectively; providing training to 1,500 local officials and community representatives on the project's goals and climate change; constructing 4,700 check dams; restoring 747 ha of deteriorated woodland; producing and planting 20 million fruit tree seedlings; installing three automated weather stations; and generating 21,000

environmentally-friendly jobs. Regarding terraces, assistance is provided with tree planting and agricultural activities. In the past, these areas experienced significant damage due to soil erosion. The implementation of terracing has increased agricultural productivity and improved food security. Furthermore, the well-being of the local community, which primarily consists of agricultural workers, was enhanced (Mwesigye 2023, IUCN 2023). Based on the project results, it seems to have made a positive contribution. However, because this project is new, data from other researchers are not available, indicating the need for empirical research that measures the impacts of the Green Gicumbi Project to confirm its positive and/or negative implications for the community's development and ecosystem restoration.

### 5.2. Ecotourism in the Nyandungu Urban Wetlands

#### 5.2.1 Status of wetlands in Rwanda

Wetlands are categorised based on soil type, plant life, water systems, and climate zone attributes. Floodplain wetlands located near large lakes (e.g. Cyohoha, Rweru, Mugesera, and Nasho) and rivers (e.g. Nyaborongo, Akanyaru, Base, and Nyabugogo) are the largest and most significant. Some wetlands in Rwanda are threatened by improper agricultural practices, such as the use of unregulated fertilisers and pesticides (Nyandwi *et al.* 2015). Soil erosion, peat extraction, illegal mining, illegal infrastructure, and industrial wastewater discharge containing pollutants (e.g. organic waste, pathogens) and heavy metals also threaten these wetlands. The deterioration and contamination of wetlands has a notable effect on the amount and quality of water. The decreasing ability of wetlands to offer important environmental benefits has led to an increase in flooding, which has damaged infrastructure and negatively impacted people's lives, decreased productivity, and led to an accumulation of sediment in water bodies (Nabahungu 2012, REMA 2023).

The threat of climate change, compounded by population growth, is endangering wetlands and freshwater resources. Therefore, increasing importance has been placed on sustainable measures that prioritise wetland health, ensuring that they fulfil their roles and provide essential resources for human survival. Rwanda's commendable efforts to tackle wetland degradation and unsustainable water use include the implementation of concrete measures.

#### 5.2.2. Wetland conservation in Rwanda

Rwanda acknowledges the significance of its wetlands and the necessity of actively overseeing their management. For example, existing laws categorise wetlands as fully protected or unprotected. The second category is further classified into two groups: those that can be used only under certain conditions and those that can be used without any restrictions. These conditions are recorded in the Official Gazette

of the Prime Minister's Order of 2017, which includes a comprehensive list of swamp lands along with their properties, limits, and guidelines for utilisation, growth, and control.

### 5.2.3. Nyandungu Wetland Ecotourism

The Nyandungu Urban Wetland Ecotourism project involves transforming a deteriorated wetland located in the centre of Rwanda's capital city into an educational and recreational eco-park. The wetlands in Kigali have been negatively impacted by the fast-paced growth of the city and various actions of its residents, leading to their degradation. Efforts have been made to transform these areas into ecotourism parks. Wetlands across the country have suffered degradation, resulting in a decline in biodiversity. Encroachment has led to downstream flooding and increased pollution caused by sewage discharge (Zingiro and Njenga 2022).

In response to the challenges faced by Rwanda, in 2016, the government implemented the Nyandungu Restoration Project to showcase how wetlands can help mitigate pollution and decrease the likelihood of flooding in urban regions. Nyandungu Urban Wetland Ecotourism Project (NUWEP) has made progress in rejuvenating a deteriorated region in Nyandungu by introducing native trees and reinstating natural habitats for land and water creatures, thereby enhancing biodiversity. The restoration project spans an area of 121.7 ha. Restoration of the Nyandungu Wetland highlights strategies for managing and adopting environmentally-friendly technologies in secondary cities in Rwanda, demonstrating that these approaches can be applied to other wetlands and serve as valuable blueprints for future conservation efforts. NUWEP's transformation of this wetland into a recreational park demonstrates how the conservation of wetlands can be advantageous to the people of Kigali, Rwanda and tourists by offering economic, social, and environmental benefits. The park has not only proven that native and indigenous trees and plants provide greater biodiversity than non-native species but has also indicated that conserving biodiversity can result in financial benefits for local communities and the nation.

### 5.2.4. Key achievements

The Nyandungu Wetland has undergone effective conservation measures and been transformed into an eco-park that provides educational and recreational opportunities. It has also been used as a model for conserving other wetlands in Kigali and throughout Rwanda. Gardens filled with healing plants and affiliated with a pope, ponds for water conservation and leisure activities, a centre with valuable information, a dining room, and paths for walking and biking were established. Additionally, 70 ha of wetlands and 50 ha of planted forests were restored. The initiative resulted in the creation of approximately 4,000 environment-friendly employment opportunities specifically targeted at young individuals and women. Thus, the surrounding community benefited from ecosystem restoration,

educational centres, and jobs. However, there is a need for an empirical study of the project implications from independent researchers to scientifically analyse the project outcomes and whether this approach can be used in other countries as best practices.

## 6. Practical implications

In most African nations, development plans prioritise the eradication of poverty, achieving sustainable economic growth, and ensuring environmental sustainability. There is a broad consensus that natural resources, such as land, soil, water, forests, biodiversity, vegetation, renewable energy, climate change, and ecosystem services, play a crucial role in enhancing people's lives and achieving sustainable development. This is particularly true when the poor have access to emerging market opportunities that allow them to enhance the value of goods and services obtained from natural resources. However, achieving the simultaneous objectives of poverty reduction, economic growth, and environmental preservation is a difficult task that poses significant challenges with respect to research, education, development initiatives, community involvement, and policymaking. To properly understand and tackle this intricate problem, participants with different perspectives, knowledge, and skills are required to adopt innovative, inclusive, and comprehensive approaches, thus enabling socially fair, economically effective, and environmentally-friendly development. Effective public administration plays a vital role in safeguarding the financial resources necessary for the progress and prosperity of a nation as well as in fostering strategies to alleviate poverty and enhance the welfare of people of all age groups by the year 2030, with practical examples from Rwanda, even if there is a gap in conducting empirical research to scientifically confirm the results of these projects.

## 7. Conclusion

This desk review investigates the relationship between managing natural resources and reducing poverty in Rwanda. Many countries possess abundant natural resources, and Rwanda can serve as a real-life illustration of how an inclusive strategy incorporating both rural development and management of natural resources can benefit impoverished people. Research has revealed that natural resources play a positive role in reducing poverty by addressing the country's specific requirements, such as landscape restoration and sustainable management. It is important to gather the expertise of local residents to ensure that they feel that they are active participants in efforts and not being forced to adopt new practices. Additionally, they should understand that they and their children will benefit from these changes as they also have some responsibility for them. The primary approaches to addressing poverty and enhancing the environment involve ensuring that impoverished individuals have greater access to natural resources, improving the efficiency and output of their natural resource assets, and encouraging

local community involvement in finding solutions to public natural resource management challenges. The Nyandungu and Green Gicumbi projects in Rwanda serve as real-life illustrations of a strategy that positively impacted people's lives and helped preserve biodiversity. Other developing countries can adopt this approach, which involves increasing community involvement to effectively manage natural resources and bring benefits to both the nation and its people. However, empirical research is needed to scientifically assess the outcomes of these two projects as the available data came from the government.

**Disclaimer**

The opinions stated in this article belong to writers and do not reflect the opinions of the Rwandan government.

**Declarations**

The authors state that they do not have any conflicts of interest.

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