

SIGNS OF WATER: COMMUNITY PERSPECTIVES ON WATER, RESPONSIBILITY, AND HOPE

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Community-Based Natural Resources Management in Sub-Saharan Africa: Barriers to Sustainable Community Water Supply Management in Northwest Cameroon

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Natural resources (NRs) remain essential to rural livelihoods and well-being across Sub-Saharan Africa (SSA) (Prager et al., 2005; Roe et al., 2009). However, these local communities face a number of dynamic processes, including increasing population, climate variations, and change. Drought and environmental degradation, for instance, have combined to result in increasing demand for NRs (Khanal, Santini & Merrey, 2014). These processes largely threaten the NR base, on which communities depend for their growth, livelihoods, and sustenance (Borrini-Feyerabend, Kothari & Oviedo, 2004). Writing in the context of Natural Resources Management (NRM)¹ and poverty alleviations, Prager et al. (2005) argue that the decline of natural systems through soil depletion, deforestation, overexploitation, and pollution represents a direct threat to nature-based income and contributes to increasing poverty. Thus, understanding and managing the dynamics of, and changes in NR use and availability at the community level is considered a challenge to sustainable development. This has been

further supported by Cash et al. (2006), emphasising that sustainable development and resource management “at all levels” is a fundamental problem for commons management. A major concern, however, as observed by Cheru (2002), is that African countries have for too long lacked good governance, which is a fundamental condition in any form of NRM and Community Development (CD).

Centralised and top-down approaches to NRM have been a common feature in most SSA countries (Ivory Coast, Cameroon, Ethiopia, Madagascar, Sudan, Niger, Mali, and Guinea Conakry), placing very little attention on the importance of private agents and rural communities (Roe et al., 2009). These centralised management systems were thought to manage effectively NRs and promote industrialised development (Ribot, Agrawal & Larson, 2006). Ako, Eyong & Nkeng (2010), for example, observed that water resources in Cameroon have been managed from centralised systems with the Ministry of Water Resource and Energy (MINEE) and other related ministries and public agencies, and this has resulted in the marginalisation and disenfranchisement of rural communities where the majority of the poor reside (Njoh, 2012). This exclusion of rural communities in resources management, as argued by Amungwa (2011), has resulted in illegal access and destruction. However, there has been a shift in policy interventions towards adopting pro-community approaches in resource management (Tantoh & Simatele, 2017). This shift from the predominantly centralised NRM towards more decentralised approaches is known very broadly as Community-Based Natural Resource Management (CBNRM) (Stone & Nyaupane, 2014). CBNRM has, thus, been promoted by national and foreign governments as a promising approach to facilitate linkages between biodiversity conservation and community livelihood improvement (Borrini-Feyerabend et al., 2004). This approach to NRM has also developed in response to significant inefficiencies of centralised management systems and pressures from international institutions, as well as to the marked inertia of developing countries and rural communities to have a say in the management of their NRs (Jérôme Ballet, Kouamékan & Koffi, 2009).

It is within this context that CBNRM has been promoted and encouraged as being a promising alternative to neoliberal philosophy and a liberating model with emancipatory potential for comprehensive sustainable

NRM (Dörre, 2015). This is because CBNRM is one of the reasonable and workable strategies for pursuing biological conservation, socio-economic objectives, and rural development, particularly in developing countries (Roe et al., 2009). This is also due to the realisation that rural resource users must be responsibly involved in the management of their NRs, combined with the fact that Community Based Institutions (CBIs) have better knowledge of local needs and, when endowed with powers, are more likely to respond to local aspirations and be more easily held accountable by local populations (Barrow, Gichohi & Infield 2000; Tantoh & Simatele, 2017).

Chadwick (1949) notes that community involvement in CD initiatives in the Northwest and Southwest of Cameroon has a long history, which, dating back to the late 1940s and early 1950s, was the main form of rural development in the 1960s in this part of the country (see also Njoh, 2003). Recent trends in community participation have led to the re-emergence of Village Development Associations (VDAs) and Community Based Organisations (CBOs) in rural development projects owing to the economic downturn which Cameroon and many other SSA countries experienced in the late 1980s (Njoh, 2012). As a result, community members are increasingly assuming the adverse effects of the economic recession that plagued the country and the growing inability of the state to provide economic and social development by initiating and organising self-help organisations in the quest for improving their standard of living (Fonchingong & Fonjong, 2003). A major concern that often arises is how to encourage grassroots communities and strengthen CBOs to manage effectively their NRs to meet the needs of the increasing population and those of other sectors in the economy.

Musingafi & Chadamoyo (2013) have, for example, argued that the awareness of effectively managing Common Pool Resources (CPRs) has risen in prominence in recent years and resonates strongly in low-income countries, where conventional approaches for water resource management have been inappropriate, while many countries and communities are looking for ways to improve on current governance strategies. Recent research has suggested that SSA countries face a wide range of NR development and management challenges, such as conceiving the laws, regulations, and institutions required to manage NRs in a more economically productive,

socially acceptable, and environmentally suitable manner, while implementing and enforcing the laws (World Bank, 2006; Sun, Asante & Birner, 2010). Many scholars hold the view that the crucial challenge in effective NRM in many parts of rural areas in SSA is how to dismantle the fortress of centralised management institutions and replace it with an all-inclusive system that is not the only protector and supporter, but also an enabler and liberator (Matarrita-Cascante & Brennan, 2012). It can, therefore, be argued from this standpoint that for any NRM system to succeed, new power-sharing relationships between communities, the state, and other actors must be worked out and established.

Despite the role and importance of rural communities in NRM, increasing debates over local communities' ability to manage sustainably their lands and NRs are a part and parcel of broader struggles over political and economic power in SSA countries (Njoh, 2002). Barrow et al. (2000) observe that grassroots communities involved in resource management are mostly regarded as passive beneficiaries of benefits generated in areas not under their control and collaborative management efforts, where power shared between state agencies and local people is largely inadequate. Roe et al. (2009) argue that the limited capability among CBOs to perform varied management is because of the predominance of a highly centralised approach to development planning, conditioned by government policies of the colonial and post-colonial eras. In the same light, establishing institutional arrangements that will ensure that facilities are provided and maintained in an efficient, equitable, and sustainable way is another challenge to sustainable water supply (Sun et al., 2010). The central question in this broad field is how to manage efficiently Water Resources in a way that meets the increasing needs of the rural population (for domestic uses and sanitation), while still conserving the local environment.

The more specific question this chapter addresses is how to achieve this balance in a context where a series of issues (top-down management, inadequate finance, and environmental factors) have multiplied both the range and uncertainties affecting the livelihoods and wellbeing of grassroots communities.

Solving all these issues simultaneously is unlikely, so this chapter argues that (a) grassroots communities must be consulted and fully involved in decision-making processes and given the opportunity to

determine their own modes of management; and (b) defining clearly the roles of all interest-driven stakeholders is a necessary condition to realise sustainable water supply management in Northwest Cameroon.

Methodological Approach

This chapter uses empirical evidence collected in Northwest Cameroon between November 2015 and January 2016 through the use of methods inspired by the tradition of participatory research. The research was conducted in three rural districts: Mbengwi, Njinikom, and Ndu (Figure 7.1) in Northwest Cameroon. These rural districts were selected based on the availability of a community water supply project, the presence of a Water Management Committees² (WMC), socio-economic and geographic information such as age, gender, employment, and distances to water sources. These communities are also noted for initiating and realising CD projects through VDAs and CBIs. The Northwestern part of Cameroon is typified by common cultural and traditional attributes such as language and cultural norms and structures of community leadership as well as social NR use and management. The system of community governance and administration is through local chiefs, known as “Fons” in the Bamenda Grassfields.³ Water supply management is community-based by WMCs and is administered through a gravity-led technique (a system where water is channelled from a watershed through springs and piped down to villages).

It was purposely decided to draw two communities from each rural district using a technique of allocation concealment, and this resulted in the selection of Tugi, Zang-Tabi, Baicham, Muloin, Njimkang, and Ngarum (Figure 7.1). A confidence level of 40% was further employed to draw a sample population and this resulted in a total of twelve households from each of the six villages. This gave a total of 72 households that were considered before being included in the study. A systematic random sampling procedure was then applied to the six study locations.

The first households in all locations were purposely selected and then specific intervals were applied to select the actual households based on their concentration. Where houses were very close to each other, the tenth household was selected; where they were moderately spaced, the sixth household was selected; and where the houses were widely spaced

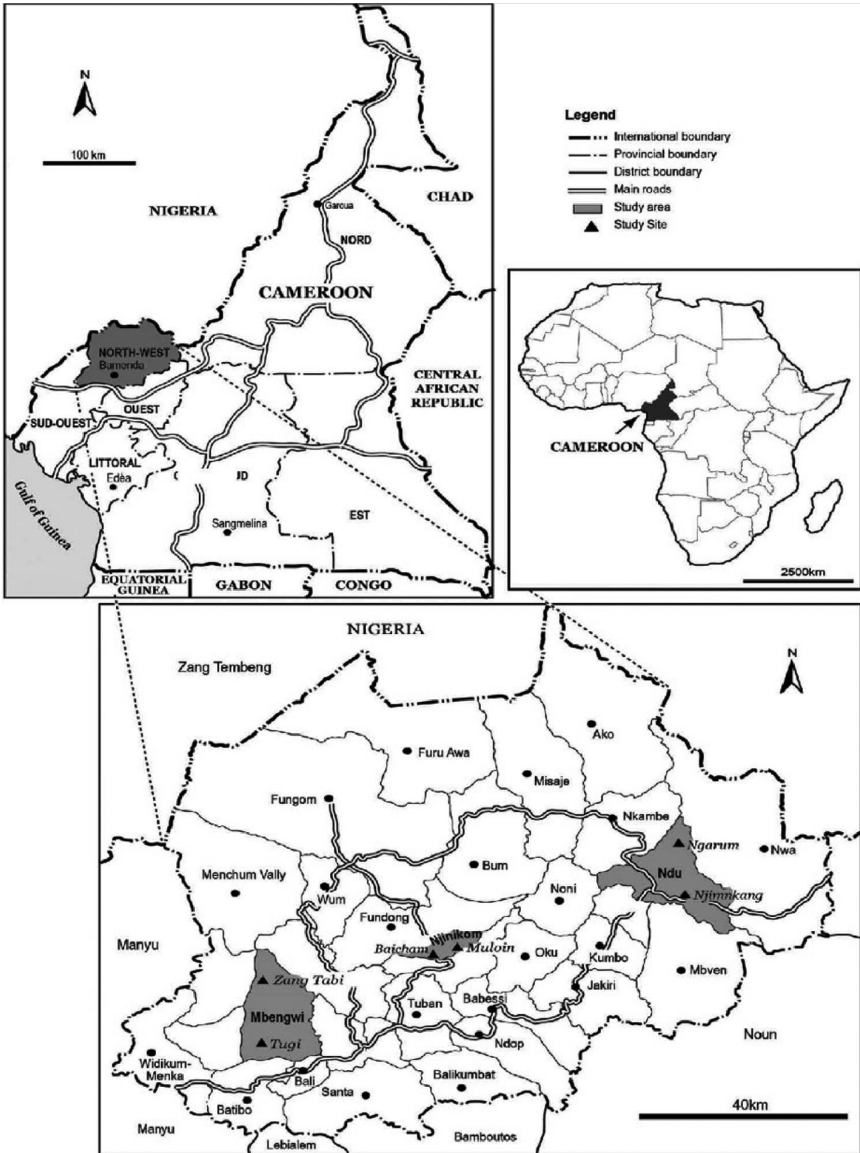


FIGURE 7.1. The Map of Cameroon and the Study Sites in Northwest Cameroon. From Cartography Unit, 2016, School of Geography and Environmental Studies, University of Witwatersrand, South Africa.

from each other, the third household was selected. In addition to this, the snowball technique was applied to identify and engage with key players involved in water resources management within the rural district.

In-depth interviews and discussions using semi-structured and open-ended questions were administered with focus groups and informed water specialists, WMCs, and other stakeholders. These include the officials from the MINEE, the Ministry of Agriculture and Rural Development (MINADER) as well as regional departments operating under these ministries in Northwest Cameroon. Furthermore, council officials, traditional leaders, and other Non-Governmental Organisations (NGOs) operating within the study sites were equally interviewed. In addition to this, 18 questionnaires (three for each of the six villages) were designed and administered to the WMCs to assess the management practices, financing aspects, decision-making processes, and the management of watersheds. To determine the level of community financial contributions towards the Operation and Maintenance (O&M) of the water system, a questionnaire was administered, and this process yielded information on household incomes and frequency of financial contribution to water supply management. In total, four officials from the different government ministries and three regional officials were included in the study. Interview conversations with the six members of CBOs were also conducted. Discussions with personnel from six WMCs were also carried out to understand the role and degree to which community leaders and community members participate in water supply and management issues. The aim of engaging with the various actors was to assess the institutional, policy, and management structures as well as management practices that exist in rural water supply in Northwest Cameroon. The empirical data were complemented by reviewing existing literature on the governance of NRs, CBNRM, and rural water systems.

Exploring CBNRM Discourses in SSA: A Literature Review

NRs are an essential component of communal livelihoods and they serve as a source of sustenance, especially in rural settings where they are obtained as CPRs (Nelson & Agrawal, 2008). Unfortunately, increasing population, rapid urbanisation, rising incomes, and changes in human behaviour as observed by Roe et al. (2009) have exerted pressure on the NRs,

resulting in astonishing levels of environmental challenges and diverse management strategies. Although contemporary discussions would have us believe that the manner in which the natural environment is utilised and appreciated has significantly changed over the years, socio-economic and environmental processes have been the major drivers of these changes (Gruber, 2011). These developments have unfortunately occurred, particularly in the developing countries, where institutional and policy frameworks, as well as legislation, are ill-equipped to address the challenges that arise from these global processes (Ribot, 2002; Koppen et al. 2007). The resultant effects have been the continued downgrading and exclusion of grassroots communities from accessing their NRs and sharing in the benefits therein (Stone & Nyaupane, 2014).

Borrini-Feyerabend et al. (2004) contends that NRs have always been managed by grassroots communities through customary management practices with active community participation before colonisation. Fonchingong & Fonjong (2003), for example, argue that genuine community participation could be seen in the construction and maintenance of palaces, village to farm roads, inter-village roads, and shrines before European imperialism in Cameroon. With the advent of colonisation, Indigenous management systems were replaced with centralised, top-down management approaches (Rihoy & Maguranyanga, 2007). It has been argued that most central governments in SSA countries often view NR governance as a top-down affair with centralised approaches of environmental decision-making that place NRs under the control of state bureaucracies, and this marginalises local actors who are often dependent on the same resources for their livelihoods and wellbeing (Bartley et al., 2008). They further argue that a resilient central government was more competent in restricting community's demand, access, and use of NRs, which, if unrestrained by the central powers, would ultimately lead to its over-exploitation and destruction. This has been further supported by Cheru (2002), Simatele, Binns & Simatele (2012) who offer contradictory findings that most central government authorities are better placed than uneducated rural residents to make strategic decisions on environmental management and rural development. These observations, as argued by Nelson & Agrawal (2008), affirm the NRM strategy during the colonial era functioned to extend European administrative control into rural

African landscapes, which alienated the grassroots communities from participating in policymaking over the management of their resources.

Findings of centralised NRMs, for example (Amungwa, 2011; Ribot 2006), contradict that the best method for governing NRs to ensure its efficient use was transferring ownership and responsibility to national governments (Nuesiri, 2015). They argue that centralised management systems often have faulty designs, significant inadequacies, and sometimes favour corruption. A major challenge of the centralised management systems is the inability to devise rules that are effective in a variety of local circumstances, including different local peoples' needs, norms, problems, knowledge, and resource use characteristics (Rihoy & Maguranyanga, 2007). By the end of the last century, however, an increasing number of scientific studies have challenged the centralist view of NR governance advocating the managerial involvement of resource users (Prager et al., 2005; Tantoh & Simatele, 2017). Contemporary research suggests that a move from the top-down NRM system, which often had corrupt practices and significant inefficiencies, to a more devolved model known broadly as CBNRM (Community Based Natural Resource Management) will lead to sustainable outcomes (Roe et al., 2009).

According to Gruber (2011), CBNRM is one of the most talked about concepts in development literature in contemporary NRM chronicles, particularly in SSA. Hence, an increasingly theoretical and practical literature has developed, showing a plethora of different views for working with grassroots communities, together with the means and mechanisms by which NR users can be better involved in, and benefit from, NRM (Bartley et al., 2008; Rihoy & Maguranyanga, 2007; etc.). More recent arguments advocating CBNRM programmes have been elaborated by Stone & Nyaupane (2014) and Gruber (2001) on the basis that local populations are better positioned to: respond and adapt to specific socio-ecological conditions representing local interests and preferences; be well-informed about the intricacies of local ecological processes and management practices; be better able to mobilise local resources, both human and material, through locally adapted or traditional forms of access and management; be more accountable for their NRM decisions and actions, given the relative importance of the NR to their livelihoods and their proximity to the people they represent; and be more capable of adopting ways of managing their

NRs in a sustainable manner. Furthermore, local communities have greater knowledge of the intricacies of local ecological processes and practices, and are better positioned to manage effectively their NRs through local or traditional forms of access than distant managers (Ostrom, 1990).

The experiences of CBNRM over the past decades have, for example, demonstrated that community conservation approaches have been associated with various forms of decentralisation of power and authority (Ribot, 2002). Campbell & Shackleton (2001) make the same observations when they argue that the local people must have the power to decide over their NRs in order to encourage sustainability. Community-based Management (CBM) as used in water resources management, for example, is seen as a participatory approach to development whereby members of the community largely determine the ways and the means to control the O&M of their water system (Harvey & Reed, 2007).

It can, therefore, be argued that public participation is an essential attribute to all forms of CBM and CD initiatives supported by community members through subsidies either in cash or in-kind. The involvement of local populations gives rise to a great need for coordination between CBIs and the other related actors responsible for the governance of NRs (Jérôme Ballet et al., 2009). This process leads to the formulation and modification of the management rules within the framework of collective decision-making, which Njoh (2003; 2012) and Fonchingong & Fonjong (2003) describe as self-governance. They also note that community involvement and management have been considered by the international community as an important tool to enhance public engagement and ownership, a toll that evades the disarray of state bureaucracy in the management of NRs. The notion of CBNRM has, therefore, spread widely over the past few decades: it received extensive acceptance across most sectors in international development planning and management, including the management of rural water supplies in Africa (Harvey & Reed, 2007). A major question that arises is how to manage NRs effectively and efficiently in order to meet the needs of the rising population.

Despite the notable local and national achievements of rural community's involvement in NRM, fundamental challenges to CBNRM remain. Top-down control over NRs continues despite universal modification in the rhetoric over water, land, forest, and wildlife management. Nuesiri

(2015), for instance, argues that the decentralised community forest in Cameroon is still under the control of the government, as only managerial rights are transferred to the communities still closely supervised by the forestry department. In Zimbabwe's Communal Areas Management Program for Indigenous Resources (CAMPFIRE), moreover, powers were transferred to District Development Committees, but the committees were largely under the control of the central government (Mutandwa & Gadzirayi, 2007). Njoh (2002) holds the view that the problem of local tyrannies usually crop up since not all self-organised resource governance systems will be organised democratically or rely on the input of users. Some will be dominated by local leaders or elites who only change rules for their own advantage. Similar challenges, however, apply at the local level when local governance institutions are not downwardly accountable to the community and benefits are disproportionately captured by local elites (Tantoh & Simatele, 2017). Often, CBNRM interventions, as argued by Rondinelli (1991) and Ribot (2002), are not accompanied by the type of long-term investments in capacity-building required to ensure both broader participation and accountability of local community leaders.

However, McCord et al. (2016) point out that the polycentric⁴ approach to NR governance could be a more practical, efficient, and effective method of NR governance. This is because successful institutional designs generate information that allows interest-driven actors operating at all levels to learn from other experiences. For instance, polycentric governance practices in the upper Ewaso Ng'iro River basin of Mount Kenya eventually encouraged active participation, capacity building, and decentralised powers among local actors, a process that led to allocating and coordinating water fairly while avoiding conflicts. Orchard & Stringer (2016) further observe that polycentric governance can foster the necessary relationships between and among actors who have a stake in the resource at multiple scales. This has been further supported by McCord et al. (2016) arguing that polycentric governance enhances inclusive decision-making from disparate groups, between and among multiple centres of authority and scales of governance. However, Orchard & Stringer (2016), on the contrary, note that no single level of governance can provide sustainable incentives for users to safeguard the long-term delivery of a variety of services, while imparting management of NRs to external experts. Supporting

this assertion, McCord et al. (2016) emphasised that there is no blueprint governance or a one-size-fits-all model, as all human efforts to govern NRs face the problem of creating rules that make sense of the particular social, biophysical, and institutional context in which the resources exist.

The complexity of NRs at local, regional, national, and global levels requires nuanced governance systems involving input from local resource users in diverse fashions (Orchard & Stringer, 2016). Despite the pitfalls of polycentric NR governance, it is still a useful approach for encouraging flexibility, inter-linkages, adaptation, and resilience through the development of structures and processes to match the multi-scale nature of NRs.

Given these imperfections, it is crucial for policy analysts, decision makers, and CD practitioners to acknowledge that no single structure is more advanced relative to the other. The possibility of any given governance structure is likely to depend on a series of context-specific factors: the nature of the resource to be governed; the extent to which local resource users are organised to create, monitor, and enforce the rules for resource use and management; and the degree to which actors who are subject to these local organisational arrangements interact and collaborate with other actors who are external to the community (Bartley et al., 2008).

Institutional Framework of Water Governance in Cameroon

Cameroon is endowed with abundant water potentials; it is the second country in Africa after the Democratic Republic of Congo in terms of quantity of available water resources, estimated to be 322 billion cubic meters (Mafany & Fantong, 2006). This gives available water annually per inhabitant 21,000 cubic meters in Cameroon, three times the world's average (7,000 m³); but potable water supply still remains a scarce resource because of inadequate management practices (Ntouda et al., 2013). The water resource is a public good in Cameroon and the institutional framework of Cameroon's water sector is characterised by the central role played by MINEE with conventional sectoral approaches in the hands of many other ministries and specialised institutions (Table 7.1).

Table 7.1 shows that Cameroon's water sector is also highly fragmented due to the centrality of the water resource in socio-economic development: many other ministerial departments and public institutions

TABLE 7.1. Ministries and Agencies Responsible for Water Management in Cameroon

Organisation	Ministries and Structure	Activities
Executing Agencies	Ministry of Energy and Water Resources (MINEE)	Central role in the management and protection of water resources at the institutional level.
	Ministry of Territorial Administration and Decentralisation (MINATD)	Intervenes in the field of water and sanitation through decentralised communities; develops disaster response strategies through the direction of civil protection.
	Ministry of Urban Development and Housing (MINDUH)	Intervenes in sanitation as part of the implementation of the national policy on urban development and housing.
	Ministry of Economy, Planning and Regional Development (MINEPAT)	Responsible for the preparation of general guidelines and development strategies, and coordinates the implementation of spatial planning studies.
	Ministry of Domains and Land Affairs	Manages the public and private domains of the State; prepares implements and evaluates the land and cadastral policy of the country.
	Ministry of Transport (MINTRANS)	Responsible for the politics of sea transport.
	Ministry of Industry, Mines and Technological Development	Intervenes in environmental problems related to pollution and sanitation inherent in industries.
	Ministry of Finance (MINFI)	Through the direction of the treasury, it intervenes as the Banker of the State for the financing of projects in the Public Investment Budget (BIP).
	Ministry of Agriculture and Rural Development (MINADER)	Responsible for agricultural hydraulics policy in relation to other organisations concerned; Responsible for rural community development projects.
	Ministry of Towns (MINVILLE)	Responsible for the politics of domestic water supply.
	Ministry of Livestock, Fisheries and Animal Industries (MINEPIA)	Intervenes in the management of water resources through its pastoral hydraulic service.
	Ministry of Environment and Nature Protection (MINENP)	Responsible for the development, planning the management of the environment, combating pollution and proposes measures for the sustainable management of natural resources.
	Ministry of Public Health (MINSANTE)	Health surveillance of communities, promotion of environmental health and hygiene, standardisation and regulation of spills in relation to the organisations concerned.
Ministry of Commerce (MINCOMMERCE)	Responsible for the politics of commercialisation of water resources.	

TABLE 7.1. (continued)

Organisation	Ministries and Structure	Activities
Technical and Advisory Bodies	National Water Commission (CNE)	It is the steering committee of the Project Management Team for the elaboration of the Integrated Water Resource Management (IWRM) plan. It is a consultative body of the government that helps to define and put in place water policy in Cameroon.
	National Environment Committee	Responsible for impact assessment of development actions on natural resources; raises public awareness for sound environmental management.
Water Management & Operations Organizations	Cameroon Water Utilities Corporation (CAMWATER) & Camerounaise des Eaux (CDE), Energy of Cameroon (ENEO)	CAMWATER/CDE is responsible for the production and commercialisation of the water resource. They operate only in urban areas and city centres. ENEO supplies hydroelectricity within the country.
Water Management & Operations Organizations	The Urban and Rural Land Development Mission (MAETUR)	Responsible for putting in place water supply and sanitation systems in low cost housing estates.
	Industrial Zones Development and Management Authority (MAGZI)	Responsible for the creation and management of industrial zones. It is also responsible for the design, construction, and management of secondary structures (water sanitation, etc.).
	Cameroon Real Estate Corporation (SIC)	Management of housing areas.
Funding Organizations	Ministry of Finance, International aid Organisations, Non-Governmental Organisations	Finance development projects in the domain of water resources.
Research Organizations	State Universities, Higher Education Institutions With Specialised Laboratories, Scientific Research Institutions	These organisations, which are generally under the supervision of the Ministry of Scientific Research and Innovation, carry out research in the water and sanitation sector.
Non-Institutional Actors	Non-Governmental Organizations (NGOs) Civil Society Organizations (CSOs), Community Organisations, Traditional Authorities	They work in the field of water and sanitation. They equally finance projects, provide technical assistance and advise rural communities in the management of rural community development initiatives.

From “Objectifs du millénaire pour le développement en Afrique,” by K.K. Guy-Romain et al., 2006, *Cas du Cameroun*, 7, pp. 1-9; “Water resources management and integrated water resources management (IWRM) in Cameroon,” by A.A. Ako, G.E.T. Eyong, and G.G. Nkeng, 2010, *Water Resources Management*, 24(5), pp. 871-888; and “Access to drinking water and health of populations in Sub-Sahara Africa,” by J. Ntouda et al., 2013, *Comptes-Rendus – Biologies*, 336(5-6), pp. 305-309.

do interfere in the water sector. The Cameroon Water Utility Corporation (CAMWATER) and Camerounaise des Eaux (CDE) (which replaced the state-owned National Water Company of Cameroon [SNEC] after its privatisation in 2005) is the largest water-supply company in Cameroon and provides potable water only to urban centres where they are guaranteed higher returns, leaving rural communities to their fate (Njoh, 2012). Unfortunately these institutions, as Ntouda et al. (2013) point out, are unable to adequately supply drinkable water to the urban population despite the abundant water resources. This observation, as argued by Guy-Romain et al. (2006), is based on regulation and legislative lapses, as well as poor development and management of water resources, in addition to inadequate political will and commitment. The rural communities with increasing population and high levels of poverty are in the hands of CBOs, which seldom have financial capabilities and the technical know-how to adequately provide potable water to the inhabitants (Tantoh, 2011). It has been further argued by WHO & UNICEF (2014) that about 51% of the rural population do not have access to potable water supply; connection rates are also very low with only 14.5% of the rural population with individual access to drinking water in their premises. This has compelled rural communities to initiate and realise rural water systems to provide drinkable water to their inhabitants and improve their standards of living. The government further enhanced alternative cost-saving public service policies and strategies for supplying potable water, particularly in rural spaces (Njoh, 2003). This state of affairs has, therefore, mandated CBM initiatives to spearhead rural water supply in Northwest Cameroon.

Community Based Water Supply Management (CBWSM) in Northwest Cameroon

CBM and CD policies have a long history in Africa (Page, 2003). Fonchingong & Fonjong (2003) argue that genuine community participation in CD initiatives could be seen in rural spaces through communal work in Cameroon prior to colonisation. This approach to development was intensified by the British colonial masters in Anglophone Africa from the mid-1940s to 1960 and has become a common feature in CD in Northwest and Southwest (former British territories of) Cameroon (Chadwick, 1949; Page, 2003). A concerted effort towards CBM initiatives

has, therefore, been under way in SSA since the early 1980s. The British introduced mass education and CD initiatives through compulsory unpaid labour and foreign subventions as a way to develop rural areas (Chadwick, 1949). This approach was not only intended to steer rural community's self-help projects, but also to be a piece of colonial propaganda (Page, 2014). It is no surprise that Village Development Projects (VDPs), realised through popular participation, are relatively common, well-managed, and successful in this part of Cameroon (Njoh, 2003). Although the post-independence period witnessed an increase in local participation, mostly in the execution of government initiated and sponsored projects, the 1990s saw an unprecedented increase of self-reliant projects through enthusiastic and committed local participation within the Grassfields (Fonchingong & Fonjong, 2003). Hence, CBM initiatives developed partly because of the inability of the government to provide basic amenities to rural communities, including potable water supply, but also because of the increased acceptance and recognition of the benefits of engaging the community in VDPs (Rondinelli, 1991). With the arrival of the colonial administrators, customary management strategies replaced the traditional management systems, cultural institutions, and practices with technocratic and centralised state management systems in the exploitation of NRs (Amungwa, 2011). This resulted in the degeneration of Indigenous knowledge systems, creating a disconnect between Indigenous and contemporary management methods (Roe et al., 2009).

Moreover, the changing context steered by the economic crisis that Cameroon experienced in the 1980s and the Structural Adjustment Plan (SAP) in the early 1990s created new challenges for the centralised management system (Fonchingong & Fonjong, 2003). Carmordy (2007), for example, further notes that the SAPs of the World Bank and the International Monetary Fund (IMF) have not enabled recovery, but rather speeded economic decline because of theoretical flaws in the underlying neo-classical economic model and a misreading of Africa's geographic and politico-economic context. As a result, many communities are being transformed by the eagerness and commitment of the local people led to action in organised village or farm communities. It is in this context that CBWSM has been recognised as a promising alternative to the top-down systems of management in Northwest Cameroon, coupled with

the inability of the government to realise and sustain successfully water networks over extensive areas without involving grassroots communities (Njoh, 2003; Tantoh, 2011).

CBWSM has thus underscored the virtue of self-reliance, which emerged from the traditional method of NRM. This assertion was confirmed during interview discussions with community leaders in Northwest Cameroon on the importance of community participation in VDPs. The village chiefs from Njimkang and Ngarum, for example, stated:

It is obligatory for all the sons and daughters in and out of the community to contribute to the realisation of any village development venture. This is usually coordinated by the Village Development Authority often mandated to visit major cities where members of the kindred reside to lobby for funds. (Interview, November 2015)

Interview discussions with focus groups in Baicham, Zang-Tabi, and Ngarum, comprised mostly of women, revealed that

Potable water supply has been a major problem in the community considering the long distances covered to get water from streams which are of doubtful quality. The time spent by women and children in this exercise could have been channelled to other lucrative activities. So we have a duty to make all the necessary sacrifices to contribute both in-kind and in cash so that our community can be served with pipe-born water. (Interview, January 2016)

The above views underline and re-emphasise the importance of community participation in CBWSM. This observation, as argued by Tantoh and Simatele (2017), is premised on the basis that CBM has the potential and tendency to encourage the full participation of local people in any development venture. It has been argued by Njoh (2003) that community participation is crucial in the realisation of rural water supply systems through participatory modes such as enlistment, cooperation, and consultation. This is because residents feel a sense of ownership of the project

through participation. This situation is evident in the Ndu, Njinikom, and Mbengwi rural districts in the Northwestern part of Cameroon where the contribution of community members in the realisation and management of the various community water systems in cash and in-kind have instilled a sense of proprietorship. The sense of ownership served, and continues to serve, to motivate residents to contribute in VDPs. Community participation was, however, possible with the help of CBOs in collaboration with VDAs to promote VDPs and foster development. In this regard, women were charged a minimum of 1500 FCFA (US\$3) and men 2000 FCFA (US\$4). These contributions were complemented with compulsory manual labour such as supplying sand, cement, stones, and digging water distribution channels, which were conducted in turns by the different quarters and coordinated by village quarter heads. A promising strategy in the water sector, therefore, comprises communities mobilising and assuming control of their own water systems.

Community self-help has also been successful through the support and cooperation from public and private agencies in collaboration with CBIs. This partnership has become fundamental in the management of NRs, which involves sharing responsibilities between communities and supporting agencies subject to established norms. For example, national and international NGOs and other public institutions such as The Swiss Association for Technical Assistance/Swiss Association for International Development (SATA-HELVETAS), The Netherlands Development Corporation (SNV), Plan International Cameroon (PLAN Cam), Special Council Support Fund For Mutual Assistance (FEICOM), Water Supply and Sanitation Programme in Rural Areas (PAEPA-MRU), National Community Driven Development Program (PNDP), the Strategic Humanitarian Service (SHUMAS), and Grassfield Participatory and Decentralised Rural Development Project (GP-DERUDEP) have been involved in promoting CD projects in Northwest Cameroon. Their involvement is remarkable in the area of rural water supply and sanitation, protection of watersheds, and financial and technical assistance. These structures work in tandem with VDAs, CBOs, and WMCs in adopting and designing VDPs. Government agencies have sometimes served as catalysts for organising the community to participate in training local leaders. These functions are vital to initiating and sustaining community

participation. Rondinelli (1991), for example, argues that even when services are provided entirely by public bureaucracies, some degree of community participation is crucial for informing public officials of the needs and desires of local residents and for improving the effectiveness of water delivery. Thus, public participation in CBWSM highlights the importance of the use of local experience as the inhabitants can easily offer vital ideas and suggestions that could lead to applicable and attainable solutions to water-related problems.

Effective CBM, therefore, depends on establishing operational processes for CBIs and WMCs regulating the water system, for effective O&M, and for evaluating performance. This is because engaging all the stakeholders correlates with community empowerment and sustainability outcomes and impressions. It has, therefore, become evident in policy platforms informed by the debate of sustainability whereby participation, responsibility, stewardship, and duty of care together constitute decisive factors in sustainable CBWSM initiatives. Despite the promising story of CBWSM approaches in Northwest Cameroon, results in practice have often been unsatisfactory, both in respect to organisations with executive authority and, in some instances, segments of the community.

Factors Affecting Effective CBWSM Initiatives in Northwest Cameroon

The water crisis that many communities face is progressively about how people, as individuals, and as part of a collective society, govern the availability, usage, and control of water resources and their benefits. The crisis that most communities and countries face has not only resulted from natural restrictions of water supply or the lack of financing and suitable technologies, though these are serious constraints; rather, the crisis comes from multifaceted failures in water management and governance structures (UNDP 2004). As water becomes an increasingly scarce resource—threatened both quantitatively and qualitatively—and as competing demands between different uses and users become steadily sharper, communities are devising coping strategies and adopting water resource regulations to address in detail the challenges facing the water sector. Results from the case study show that the roots of the water crisis in the Northwestern part of Cameroon can be traced to poverty, top-down

TABLE 7.2. Monthly Average Income, Contributions, and Water Collection Rates in Northwest Cameroon Fieldwork materials, 2016.

Occupation	Monthly Income			Monthly contributions for O&M			Collection Rate	
	Frequency	Monthly income (US\$)	Percentage (%)	Private connection (US\$)	Public stand taps (US\$)	Frequency	Percentage (%)	
Civil service	10	≥300	14	2	<1	8	80	
Retired	6	100-150	8	2	<1	4	66.7	
Business	5	100-150	7	2	<1	3	60	
Carpentry/ Building	8	≤100	11	2	<1	4	50	
Wine tapping/ Weaving/Hunting	13	≤100	18	2	<1	6	46.1	
Farming	17	≤100	24	2	<1	5	29	
Animal husbandry	7	≤100	10	2	<1	3	42.9	
Others	6	≤100	8	2	<1	2	33	
Total	72	n/a	100%	n/a	n/a	35	n/a	

management, uncoordinated national development policies, as well as the lack of technical know-how and skills.

Table 7.2 shows that the prevalence of poverty is one of the major factors hampering effective CBWSM in Northwest Cameroon. This is because a greater proportion of villagers are engaged in seasonal agriculture (26%) with average monthly revenue of \leq US\$100. Considering the fact that these activities are periodic and unstable, it is difficult for those involved to have a steady source of income throughout the year.

Also, those involved in wine tapping, weaving, hunting, carpentry, building, animal husbandry, as well as persons with no stable occupation comprise 46% of the sampled population, generating an average income of \leq US\$100 a month. These unstable activities thwart the systematic contributions towards the O&M of the water systems. The remaining 18%, including government employees, pensioners, and small business owners, have steady incomes of US\$100–300, but cannot solely handle the operating cost of the entire water system. Such low levels of income make it difficult for any inhabitant to promptly and regularly contribute $<$ US\$1 a month for the O&M of public stand taps and US\$2 for private connections (Table 7.2). For example, only 35 of the 72 sampled populations, making 48.6%, could steadily pay the monthly O&M fee (Table 7.2). It becomes difficult for the WMCs to effectively manage the water systems and even to motivate the water caretakers. This situation, in turn, has led to the abandonment of some stand taps (Figure 7.2), with little or no rehabilitation of existing schemes. This observation has been supported by Harvey & Reed (2007), emphasising that one out of every four rural water facilities is poorly functioning in rural communities in the developing world due to poor O&M. It can, therefore, be argued that the poverty and the low levels of income of the population have an impact on the functioning and sustainability of rural schemes.

Another drawback to effective CBWSM initiatives in Northwest Cameroon is the disjointed water policies among many ministries and agencies (see Table 7.1) that do not communicate with each other (Guy-Romain et al., 2006). For example, the national water laws, policies, and regulations are defined by MINEE and other related ministries and applied throughout the national territory, with little consideration of the realities, especially in rural communities. Since many ministries are involved in



FIGURE 7.2. Dilapidated Water Catchment Tank and Abandoned Stand Tap Due to Poor Management in Ngarum-Ndu Municipality, Rural North-West Cameroon. Photo by Henry Bikiwibili Tantoh.

water management in Cameroon with each having its own management policy, effective implementation and enforcement become an issue. This is because information on interventions carried by one of the sectoral ministries in a region on a project is seldom disseminated and remains unknown to other ministries and users of the resource (Ako et al., 2010). Although the concept of CBM was often directed effectively in distinct projects, it has time and again been lost in the process of scaling up and, ironically, disrupted by centralised administrative approaches that failed. It would not be wrong to argue that water management reform has paid little attention to community-based water laws in rural areas within developing countries.⁵

In the same vein, uncoordinated water policies and legal frameworks have frustrated the application of the rules and regulations that govern CD initiatives, particularly water supply projects. Interview conversations with public officials in all the research sites revealed that CD initiatives are shaped by local norms and customs with support from the government departments. Based on discussions with the regional delegate of CD in Bamenda, in Northwest Cameroon, for example, the following was stated:

The division of services within the department of community development has hampered collaboration between grassroots communities and public authorities. Most community development projects have been commissioned to private consultant companies, leaving the department of community development as animators [grassroots communicators and facilitators working for change]. Elected mayors do not also know how to make use of the resources and personnel at their disposal leading to unnecessary expenditure. (Interview, January 2016)

It is evident from the above discussion that the lack of collaboration between government departments (Departments of Community Development-DCD and Department of Rural Engineering-DRD) under MINADER and between the Council and the communities they are meant to serve is the main cause of unsustainable CBWSM initiatives. For instance, the division of the DRE from the DCD and the lack of co-operation between

them have threatened the sustainability of rural water supply projects. The DCD is supposed to be responsible for project identification, feasibility studies, mobilisation of communities, and participatory diagnosis in preparing the communities for the execution of projects, while the DRE is charged with technical issues. However, the DRE singly executes VDPs when contacted by CBOs without consulting the DCD. This has resulted in the degeneration of collaboration between the communities and public authorities leading to flawed community projects. A classic example is the rehabilitation of the Zang-Tabi piped-water supply system that was contracted by the Mbengwi Council to Premier et Yoshim Entreprises (PEYE)⁶ without consulting the VDAs and the WMC. Besides, this company has little or no understandings of the scenario of the community, their needs, challenges, or their preferences since the community was never consulted and a thorough feasibility study was never conducted. The community protested on several occasions, but their concerns were neglected as council encouraged the company to continue with the renovation. It is evident that some malpractices were involved in the award of the contract. The mayor and council officials who are supposed to enforce good governance principles are, on the contrary, perpetrating unorthodox management practices. This is a demonstration of power rivalries between public and local managers, with top-down management leading to lack of trust and corrupt practices. Several months after the handing over of the project to the community, leaks around the water tanks and ruptured pipes were common along the network.

Moreover, the notion of decentralisation, which is to facilitate the delegation of NRM to grassroots communities, has not been supplemented by the provision of adequate financial resources and the improvement of their capacities to empower them to take on these tasks. Top-down management, on the contrary, views communities as passive recipients to be led, not efficient actors whose dynamisms could be harnessed through empowerment. Such an approach sees central experts as knowledgeable, whereas only local people could know the exact nature of their problems and possible solutions. In light of recent events in community-based conservation, it is becoming extremely difficult to ignore the importance of watersheds in sustainable water supply. Interview discussions with the mayors of Ndu and Mbengwi municipalities, for example, revealed that

We face increasing problems conserving watersheds, particularly as the villagers depend on the environment and natural resources for subsistence. The watersheds are time and again encroached by cattle especially during the dry season because it is always flourishing with vegetation coupled with uncontrolled fires from agricultural practices. Also, the growth of eucalyptus at catchment perimeters, though an important economic activity within the municipality, has adverse effects on the water resource coupled with the effects of droughts. (Interview, December 2015)

The above sentiment speaks to the argument that, if community water supply in Northwest Cameroon is to be effective, there is the need for the water sources to be adequately protected by applying laws and regulations governing watersheds. This is because watersheds are the main sources of water that supply the community through the gravity-fed technique. Thus, it needs to be protected to assure sustained water supply. However, most of the watersheds within the study area are prone to environmental degradation. The watersheds are threatened by adjacent communities, which continue to affect the quality and quantity of the water resource. This has also been caused by increasing demands for food, leading to the encroachment and conversion of watersheds into farm and grazing lands. This generational occupation connected with high unemployment, low literacy, and high overall community poverty employs 26% of the economically active rural population. As a result, the predominantly poor rural population that depends almost entirely on land for livelihood and their economic activities have far-reaching effects on the water resource.

Conclusion

This chapter was designed to examine the barriers to effective and efficient CBWSM in rural Northwest Cameroon. The most obvious finding to emerge from this study is that inadequate finance, top-down management, uncoordinated policies, and environmental issues are some of the factors affecting the unsustainable supply of potable water. The findings of this study suggest that the different stakeholders are seen as a potential catalyst for addressing water supply problems within the communities,

and a way of ensuring that various groups, including those traditionally marginalised from development, can contribute to effective management. CBWSM, therefore, provides an opportunity for communities and all the other interest-driven actors to engage in the management with roles and responsibilities clearly defined alongside those of the regulating authorities. A recurring lesson from experience is that problems of implementation and sustainability arise frequently when project designers either do not know about or simply ignore local conditions and consumers' preferences. Community participation and management are identified repeatedly in evaluations of water supply projects as primary factors affecting sustainability. The following conclusions can be drawn from the present study: for CBWSM to be effective, there must be increased motivation of local groups to (a) adopt water supply systems and to maintain them; (b) contribute regularly for O&M; (c) motivate WMCs to regularly monitor breakdowns and repair them; (d) improve the capacities of the WMCs for water systems maintenance and for implementing other types of community development activities; and (e) allow people to express their needs more effectively to central and local government officials, rather than telling them how to go about management.

NOTES

- 1 For all acronyms, see the Appendix at the end of the chapter.
- 2 Water management committee members are selected within the communities. They make major decisions concerning water management and are responsible for the implementation of certain tasks, such as the collection of maintenance fees and the organization of manual work in their communities.
- 3 The Bamenda Grassfields with Bamenda as the provincial capital represents most of the Northwest Province situated in the Western Highlands of Cameroon. It is called Grassfields because a greater proportion of the area is covered by grassland.
- 4 This is an approach to governance with multiple centres of decision-making and overlapping authority.
- 5 This is a set of mostly informal institutional, socio-economic, and cultural arrangements that shape community development, use, management, allocation, quality, control, and productivity of water resources.
- 6 This is a private construction company.

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Appendix

List of Acronyms

Cameroon Water Utility Corporation	CAMWATER
Camerounaise des Eaux	CDE
Civil Society Organizations	CSOs
Common Pool Resources	CPRs
Communal Areas Management Program for Indigenous Resources	CAMPFIRE
Community-Based Institution	CBIs
Community-Based Organisations	CBOs
Community-Based Water Supply Management	CBWSM
Community-Based Management	CBM
Community-Based Natural Resource Management	CBNRM
Department of Rural Engineering	DRD
Departments of Community Development	DCD
Energy of Cameroon	ENEQ
Central African Fanc	FCFA
Grassfield Participatory and Decentralised Rural Development Project	GP-DERUDEP
Industrial Zones Development and Management Authority	MAGZI
Ministry of Agriculture and Rural Development	MINADER
Ministry of Commerce	MINCOMMERCE
Ministry of Economy, Planning and Regional Development	MINEPAT
Ministry of Environment and Nature Protection	MINENP
Ministry of Finance	MINFI
Ministry of Industry, Mines and Technological Development	MINMIDT
Ministry of Livestock, Fisheries and Animal Industries	MINEPIA
Ministry of Public Health	MINSANTE
Ministry of Territorial Administration and Decentralisation	MINATD
Ministry of Towns	MINVILLE
Ministry of Urban Development and Housing	MINDUH
Ministry of Water Resource and Energy	MINEE
National Community Driven Development Program	PNDP
National Environment Committee	NEC
National Water Commission	CNE
Natural Resource	NR
Natural Resources Management	NRM
Non-Governmental Organisations	NGOs
Operation and Maintenance	O&M
Plan International Cameroon	PLAN Cam
Premier et Yoshim Entreprises	PEYE
Special Council Support Fund for Mutual Assistance	FEICOM
State-Owned National Water Company of Cameroon	SNEC
Strategic Humanitarian Service	SHUMAS

Structural Adjustment Plan	SAP
Sub-Saharan Africa	SSA
Swiss Association for Technical Assistance/	SATA
Swiss Association for International Development	HELVETAS
Netherlands Development Corporation	SNV
Urban and Rural Land Development Mission	MAETUR
United States Dollars	US\$
United Nations International Children Emergency Fund	UNICEF
Village Development Associations	VDA's
Water Management Committees	WMC
Water Supply and Sanitation Programme in Rural Areas	PAEPA-MRU
World Health Organisation	WHO
World Bank and the International Monetary Fund	IMF