

DOI: 10.21625/archive.v7i1.930

The Challenges of Building Sustainable Cities in Cameroon: Health Issues Associated with a Rapid Urban Population Increase in Buea Municipality.

Eyole Nganje Monono, Ph.D.¹ and Tatenda P. Zinyemba, Ph.D.²

¹ Department of Sociology and Anthropology, University of Buea – Cameroon. Email: eyole.nganje@ubuea.cm

²United Nations University - MERIT. Email: zinyemba@merit.unu.edu

Abstract

Rapid urbanization compounded by urban poverty is one of the main challenges facing many Sub-Saharan African countries. The municipality of Buea is the 10th largest municipality in Cameroon and equally faces such problems brought about by unplanned development in the past four decades. In 2020, the population growth rate in Buea rose to 42% compared to 5.6% in 2005, especially in the peri-urban areas. This resulted in direct and indirect pressures on available resources. Since 2019, Buea has been hosting close to 100,000 internally displaced persons (IDPs) fleeing from the conflict between the defense and security forces and the separatist groups operating in the South West and North West Regions. Consequently, this expansion of urban agglomerations in Buea brings about challenges for the urbanites whose standard of living within the urban space is affected. This article seeks to qualitatively examine how this rapid urbanization has contributed to this recurrence of cholera outbreak since 2019 and the effects on the healthcare system and measures that are in place to mitigate this outbreak. In addressing these issues, the study administered in-depth phone Interviews with medical practitioners at Buea Regional Hospital, which is the main Treatment Centre in Buea. It also conducted in-depth phone interviews with public health experts at the South West Regional Delegation of Public Health and Buea Council personnel in charge of hygiene and sanitation. The study also made use of direct observation of the researcher in the field during sensitization campaigns in the affected communities in Buea. Based on the results, the influx of IDPs has stressed the already existing sanitation resources and exacerbated the shortage/rationing of water in the municipality. The study also found that in addition to inadequate sanitation and water issues, governance and cultural issues were equally associated with the recurrence of cholera outbreaks in Buea.

© 2022 The Authors. Published by IEREK press. This is an open access article under the CC BY license (<https://creativecommons.org/licenses/by/4.0/>).

Keywords

Cholera; Buea Municipality; Rapid Urbanization; Internal Displaced Persons (IDPs)

¹ Department of Sociology and Anthropology, University of Buea – Cameroon. Email: eyole.nganje@ubuea.cm

² United Nations University - MERIT. Email: zinyemba@merit.unu.edu

1. Introduction

Globally, more people now live in urban areas than in rural areas. About 55% of the world's population is now residing in urban areas (UNDESA, 2018). It is projected that by 2050, 83% of the world's population will be living in urban areas as compared to 30% in the 1950s (ibid). For the period of 1950-2018, Africa's urban population has increased by over 16 times (from 33 million to 548 million) (ibid). By 2050, Africa is projected to contain 22% of the world population (ibid). Currently, about 58% of Cameroonians live in urban areas (World Bank, 2022). Moreover, Cameroon's capital city Yaoundé is ranked the 20th fastest growing urban city in the world (UNDESA, 2018). However, following the ongoing Anglophone crisis that started in 2016 that was escalated by economic and political marginalization of the Anglophone minority group in Cameroon, the Northwest and Southwest regions have been experiencing population changes (Agbor, 2019).

Due to this armed conflict that included burning of villages and property destruction, at least 246,000 people in the Northwestern and Southwestern regions have been displaced (ibid). Buea, the largest urban city in the Southwest region has had about 100,000 new inhabitants (OCHOA, 2018). Since Buea is already vulnerable to cholera outbreaks, the rise in population is likely to further increase cholera recurrence in the city. While some studies have examined the factors that influence cholera outbreaks, the impact of this disease on the healthcare system in Buea is unclear. For the period of 2020-2025, Cameroon is projected to have a fertility rate of 4.3 children per woman (UN Data, 2022). This is slightly higher than that of low-income countries (4.2) and more than double that of high-income countries (1.7) (ibid). Hence, the health issues associated with an increased population density in Buea urban areas are also likely to continue.

Since November 2019, Cameroon has been continuously reporting cholera cases (WHO, 2020). Cholera is a diarrheal infection of the small intestines caused by ingesting food or water contaminated by the bacterium *Vibrio cholerae*. For the first time, as of November 2022, Cameroon will likely be declared as one of the cholera-endemic nations.³ Though Cameroon has experienced cholera outbreaks before but these episodes have not been continuous. The last cholera outbreak in Cameroon was between 2010 and 2011. This epidemic recorded 10,714 cases and 650 deaths nationally (Nsagha et al., 2015). In the first three days of the recent outbreak, over 400 cases and 12 deaths were reported in Fako Division, South West Region of Cameroon (WHO, 2020). Since the inception of this outbreak, the infection rates have been increasing exponentially. This is exemplified by the fact that between March 6, 2022 and March 27, 2022, weekly cholera cases in Cameroon rose by over 6 times (from 200 to 1,262) (WHO, 2022). As of August 2022, 10,300 cases had been reported (Africa News, 2022). These figures may be an underestimation due to lack of surveillance and underreporting (Khan et al., 2022). Given that this disease has been manageable in the past, it is important to investigate why this time it has been difficult to eradicate in Cameroon.

Currently, the Southwest region of Cameroon is the most affected area with 4,617 cases recorded as of April 2022 (WHO, 2022). Buea, the capital city in the region, is at the epicenter of this epidemic. The issue of water access, poor hygiene, and infrastructural issues have been highlighted as the major issues that need to be targeted to address these outbreaks (Nsagha, 2015). However, new issues related to a rapid increase in population and consequently poorer sanitation may have exacerbated the health issues in the city. Compounded with the depletion of water, sanitation, and hygiene (WASH) resources during the COVID-19 pandemic, the city may be in a crisis that it is too big to handle. This article seeks to qualitatively examine how this rapid urbanization has contributed to this continuous cholera outbreak and the effects on the healthcare system and the measures that are in place to mitigate this outbreak. The study will rely on phone interviews from medical doctors at Buea Hospital and local government officials. The next sections in this paper will discuss the literature, the methodology, the results and conclusions of the study.

³ The World Health Organization declares an area as cholera-endemic when confirmed cholera cases have been detected during the last 3 years with evidence of local transmission, with cases not imported from elsewhere.

2. Literature Review

Urbanization in sub-Saharan Africa (SSA) has been on the rise, bringing about some health risks such as waterborne diseases (Zerbo, Delgado, Gonzales, 2020). Zerbo, Delgado, Gonzales, (2020) conducted a systematic literature review on urban risk factors associated with cholera outbreaks in SSA. They found that densely populated areas in coastal cities, regions with several lakes and rivers, informal settlements without proper sanitation and environmental/rainfall patterns to contributing risk factors. In a recent study conducted in Cameroon, Musa et al., (2022) examined the challenges related with addressing the cholera outbreak. The study highlighted lack of access to drinking water, open defecation in rivers, and overcrowding as the challenges to addressing this issue. However, the contributions of other attacks on the health system issues in the Southwest region of Cameroon from COVID-19, measles, and conflict have not been studied (UN OCHA, 2022).

Musa et al., (2022) and Amani et al., (2022) also showed that that in March 2022, a vaccination campaign. With the help of organizations such as the World Health Organization (WHO), 4,8 million doses of the oral cholera vaccine have been donated and hundreds of thousands Cameroonians have been vaccinated (Amani et al., 2022). The authors mention that the government has been revising the national cholera plan that will include preventative campaigns. Government officials have been visiting homes, disinfecting toilets and public water sources. However, it is still unclear whether these measures have been useful. Current reports still show that the new cases are still being reported (Africa News, 2022). Amani et al. (2022), also studied the challenges, best practices, and lessons from the mass vaccination campaign in Littoral region of Cameroon. They found that there was a 66% uptake among females and a 60% uptake among males the vaccination campaign of 2021. Refusal was the main reason for not taking the vaccine. The mechanisms that influence this refusal were not necessarily outlined.

Cultural dynamics, shared beliefs, values, customs, and behaviors, can potentiate and influence infectious disease transmissions like cholera (Alexander & McNutt, 2010). Louis et al., 1990 carried out a study in Guinea and reported that people who attended funerals were more likely affected by the outbreak that ensued than those who did not. This study complements these recent studies by examining what municipal officials and medical doctors have observed during this ongoing pandemic and whether measures are in place to address this ongoing disease.

3. Methodology

This article adopts a descriptive research design. It specifically uses a qualitative approach to understand the additional factors that influence the perpetuation of cholera in Buea *vis a vis* rapid urbanization. The study administered in-depth phone Interviews with medical practitioners at Buea Regional Hospital, which is the main Cholera Treatment Centre in Buea. The study also conducted in-depth phone interviews with public health experts at the South West Regional Delegation of Public Health and Buea Council personnel in charge of hygiene and sanitation.

The study also made use of direct observation conducted by the researcher in the field during sensitization campaigns in the affected communities in Buea. The personal and physical presence on the field helped in structuring the questions and confirming some of the views of the city officials and health experts. The administrative authorization for this study was obtained from the Regional Delegation of the Ministry of Public Health for the South West Region. The interviews were conducted in English and French. The interviews lasted for at least an hour. All interviews were recorded and transcribed in English.

The results were analyzed using a narrative analysis. The study allowed the interviewees to construct the stories and narrate their personal experience. The allowed the researchers to understand what has led to the recurrences of cholera and the measures adopted at various levels to tackle the outbreak.

4. Results

The results mainly pointed to the fact that the recurrences of the cholera outbreak was as a result of the stress put on the available resources due to a conflict-induced migration caused by the confrontation between separatists and the Cameroonian defense and security forces. Rapid and unplanned population growth in Buea is continuously on the rise due to this conflict-induced migration. This growth rate has mounted a lot of pressure on available resources (health care and hygiene and sanitation) especially in the peri-urban areas of Buea. The current cholera outbreak and

it recurrences paint a clear picture of the health-related challenges of Buea amidst its population increase. Because the disease has been previously manageable, some medical doctors suspect that there could be mutations of the disease. There are some respondents who also believe that the individuals who are being treated may also not be living in the city. That is, it is probable that the infections are occurring in areas where medical treatment is not easily accessible, which makes it seem as though the infection rates in the city are continuous.

“.....we have observed some differences between the present outbreak of cholera and the previous ones that lasted just for two to three months and they were contained. Personally, I think that we are dealing with a new strain of cholera which is resistant to treatment or has a high infection rate in the community because we have been observing recurrences of cholera for about two to three years now”.

“This cholera outbreak as compared to the previous one has been very severe. It has been extremely prolonged and so it's not just been brief like previous ones. There has also been a good number of reinfections like the COVID 19 pandemic. The cholera outbreak seems to overwhelm the existing health response and structures. It has been a burden like the COVID-19 pandemic, because it is something that has to do with the well-being of the community”.

“..... an epidemiologic investigation needs to be done, the site of infection might not be Buea”

The study discovered that in the 1970's the notion of water rationing did not exist, because community member did not depend solely on the water utility company to supply them. The Municipality of Buea hosts many natural water springs and streams and many households depended on these water sources. The high demand for space for the expansion of settlement and other urban functions have resulted in the encroachment of buildings and other land use activities in catchment areas (Kometa, 2009). This has resulted in the degradation of the catchments, thereby reducing the supply of water. In Bomaka, about 50 – 70 % of the streams have been reclaimed, thus reducing the capacity of the stream to serve the neighborhood. It was reported that; another challenge preventing the daily supply of water is the aging installations; no significant innovations have been carryout to build storage tanks. CAMWATER⁴ still depends on infrastructures that were developed in the 1980's with which it cannot supply water for 24 hours.

Many households in Buea are connected to pipe born water network, but this is not a guarantee of having water pours when the tap is open. Some neighborhoods and households go for months with running water in their house and only depends on public taps that not also affected by rationing (Morfor, 2010). During the 2010 cholera outbreak in Cameroon, the Ministry of Public Health reported that more than 600 Cameroonians died from this disease. Health experts say that this disease is mainly attributed to the absence of clean potable water and poor sanitary conditions (Nkemngu, 2011).

⁴ It is a state-run water production and supply company.

“I believe these neighborhoods are highly affected because they many households don’t have access to portable water. These are communities that depend on boreholes, community water schemes and springs. Secondly, apart from access to clean water, the hygiene conditions in these areas are poor because of overcrowded households, compounded with the absence of toilets in many homes. Majority of household members defecate in the open air, hence the spread of the cholera bacteria is transmitted easily”.

“Cholera is a waterborne disease, the absence of clean drinking water is always a starting point for infection. It also requires intake of large quantities of water during watery stool So if communities don’t have clean water, how do we want to fight the disease?”

“We have communities where water is a problem, and so they resort to drinking water which is not well-treated. These communities are most likely to be hit by the cholera outbreak. Of course, the issue of toilets, some areas don't have toilets, or their toilets empty into running water which is later carried at the downstream for household uses. Others have built their houses so close together and you have a septic tank not very far away from the kitchen or boreholes. All these are major areas of infection that have been compounded by the pressure on the available resources”

The study found out that, there were some conspiracy theories about the disease according to some community members. According to health experts, these conspiracy theories and the fear of stigmatization caused people to come to the hospital only after days of trying to manage the disease at home., hence spreading the disease to other household members. It was also reported that many people were worried about how the society will perceive them as people who have cholera. At the Cholera Treatment Centre in Buea, patients are isolated from the rest of the community. This makes household members, friends, and neighbors resort to some sort of stigmatization of the patients. On the other hand, some health experts have explained that some people are so used to seeing the disease to a degree that it is no longer alarming to them and would manage the disease at home.

According to public health experts, group eating poses great risks of cholera exposure but due to the cultural dynamics of such ceremonies, it is a way of life linked with feelings of belonging to a family. Like other cultures, funerals and weddings are major events in African culture. However, these ceremonies increase the risks of cholera exposure and rapid transmission.

“You know we have a culture of events (Funerals, weddings, and meetings) and in all these events we eat. These events have been a hot spot of transmission of the disease, because if the water used to prepare

the food or an infected person was involved in the cooking, many people will be infected in one ceremony. People can't understand why such ceremonies will not have food and often the risk of contamination is high. So avoiding food in public places will do good in slowing the spread".

"Cholera or the symptoms are like endemic now to many people. They're just used to seeing cholera or someone with watery stool, so much that when they see somebody with watery stools and vomiting, it does not give any alarm. They don't panic and try to manage it at home. One funny thing about cholera is that it's a self-limiting disease. That means, even without treatment, you can have mild symptoms of cholera and still get well without any trouble. So they will just manage maybe onto when it gets worse... they'll be looking for a facility and most often they get to the health facilities very late".

From the standpoint of those interviewed, eating at public events and ceremonies can explain why the cholera outbreak have been recurring. Hence, the effects of cultural practices on cholera exposure and transmission is very high after public events. According to health experts, many people testified to have eaten at a ceremony before contracting cholera. Those interviewed agreed that the best way of stopping the spread is putting a lot of attention to prevention.

"I believe the most efficient way to prevent the spread of cholera is through sensitization This has to happen first at the family level on proper hygiene. Education is another key aspect, I think the delegation and other stakeholders like REACH OUT, Doctors Without Borders, Norwegian Refugee Council etc., are engaged in educating communities on how to keep your area clean, to purify water before drinking, the most common being boiling the water, filter before drinking".

5. Conclusion

The high demand for land in Buea has pushed the construction of homes to some difficult and inaccessible sites, which make waste collection difficult. Hence, most people dump their refuse on any available land and along river channels, polluting drinking water sources, thus making the water not suitable for home consumption. The study found out that waste management remains a major problem for the city of Buea, especially when unauthorized urban growth has outpaced the ability of the Municipal authorities to provide adequate facilities for collection and management of waste.

Due to poor and ineffective management of waste, these dumpsites tend to act as sources of environmental and health hazards to people living in the vicinity.. The problem of water rationing has forced inhabitant to turn to untreated

alternative sources of water. In addition, uncontrolled urbanization and conflict-induced IDPs, there is increased construction around streams and catchment areas. The water bodies are also facing pollution due to increased human activity. There are also open septic tanks close to houses and regrettably, some septic tanks empty themselves into running streams. These streams would have served as backups to the water demands of the Buea population during times of prolonged water cuts.

The rationing and shortage of sanitation and water that has also been exacerbated by conflict-induced migration and cultural factors exemplify how eradicating a recurring cholera outbreak and COVID-19 can be difficult for health and city officials. Both diseases require the usage of water for hand washing, clean drinking water and keeping the environment clean. More and multifaceted efforts from households, local, national and international communities are needed to address these issues. Otherwise, more outbreaks and fatalities will continue.

References

- Africa News, (2022). Retrieved from: <https://www.africanews.com/2022/08/05/200-dead-in-10-months-after-resurgence-of-cholera-in-cameroon/>
- Agbor, J. O. (2019). An Assessment of Humanitarian Response to Internally Displaced Persons: The Case of South West Region of Cameroon.
- Agormedah, E. K., Adu Henaku, E., Ayite, D. M. K. and Apori Ansah, E. (2020). Online Learning in Higher Education during COVID-19 Pandemic: A case of Ghana. *Journal of Educational Technology and Online Learning*, 3 (3), 183-210. DOI: 10.31681/jetol.726441
- Alexander KA, McNutt JW, 2010;. Human behavior influences infectious disease emergence at the human-animal interface. *Front Ecol Environ.*; 8(10): 522-526.
- Amani, A., Solange, N. G. O., Mariette, D. I. A., LEKELEM, S. N., LINJOUOM, A., MAKEMBE, H. M., ... & KAMGNO, J. (2022). Challenges, Best Practices, and Lessons Learned from Cholera Mass vaccination campaign in Urban Cameroon during COVID-19 era. *Vaccine*.
- Buea Communal Development Plan (2012): Description of the Buea Municipality, PNDP, Pg. 1-136. https://www.pndp.org/documents/04_cdp_Buea PDF.
- Louis ME, Porter JD, Helal A, Drame K, Hargrett-Bean NA, Wells JG, Tauxe RV, 1990. Epidemic cholera in West Africa: the role of food handling and high-risk foods. *Am J Epidemiol.*; 131(4):719-28.
- Mofor, S. Buea Municipality and leaking CDE pipes The RECORDER Newslines Saturday, Nov 06, 2010. Accessed 10 September 2022.
- Musa, S. S., Ezie, K. N., Scott, G. Y., Shallangwa, M. M., Ibrahim, A. M., Olajide, T. N., ... & Lucero-Prisco III, D. E. (2022). The challenges of addressing the cholera outbreak in Cameroon. *Public Health in Practice*, 4, 100295.
- Nsagha, D. S., Atashili, J., Fon, P. N., Tanue, E. A., Ayima, C. W., & Kibu, O. D. (2015). Assessing the risk factors of cholera epidemic in the Buea Health District of Cameroon. *BMC Public Health*, 15(1), 1-7.
- Nkemngu, M. A. The paradox of Cameroon's chronic water crisis. The Star News 23rd March 2011. <http://thestaronline.info/?p=316> Accessed 10 September 2022.
- UN Data, (2022). Retrieved from: <https://data.un.org/Data.aspx?q=birth+rate+&d=PopDiv&f=variableID%3A54>
- UNDESA, (2018). Retrieved from: <https://population.un.org/wup/Publications/Files/WUP2018-Report.pdf>
- UN OCHA, (2022). Retrieved from: <https://reports.unocha.org/en/country/cameroon/card/5nUwjW618w/>
- UN Office for the Coordination of Humanitarian Affairs (OCHA), 2018, Emergency Response Plan - Cameroon North-West and South-West - Summary (May 2018). Published on 27 May 2018. (accessed 11 September 2022).
- WHO, 2020. Situation Report of Cholera Outbreak in Buea Health District, South West Region Cameroon. Retrieved from: <https://reliefweb.int/report/cameroon/situation-report-cholera-outbreak-buea-health-district-south-west-region-cameroon> (accessed 13 September 2022)
- World Bank, (2021). Retrieved from: <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?locations=CM>
- Zerbo, A., Delgado, R. C., & González, P. A. (2020). A review of the risk of cholera outbreaks and urbanization in sub-Saharan Africa. *Journal of Biosafety and Biosecurity*, 2(2), 71-76.