

Full Length Research Paper

Mobility in the Far North of Cameroon: between insecurity and environmental constraints

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Abstract

The Far North region of Cameroon is part of the Sudano-Sahelian African climate. The rainy season is short (July-October). This zone experienced a long dry period from 1970 until the early 2000s, marked by a drop in rainfall and run-off. The damage to local livelihood activities was catastrophic. Some communities witnessed the gradual desertification of their lands. The return of humidity - and flooding - was the cause of many losses, particularly in 2012. Since 2013, this region has also been facing attacks from the Boko Haram terrorist sect. These constraints are at the origin of a series of centrifugal and centripetal population movements. What is the extent of this phenomenon in the Far North region? Are these temporary displacements or permanent migrations? This contribution is based on data from humanitarian NGOs in the field and surveys carried out among displaced people to access the situation in order to encourage reflection on the search for solutions.

Keywords: Floods, migration, Boko Haram, rainfall, Sudano-Sahelian.

INTRODUCTION

Cameroon is part of many international conventions on refugees. It signed the 1951 Geneva Convention on the Status of Refugees, its 1969 Protocol and the 1969 Addis Ababa Convention of the Organisation of African Unity (OAU). Within the framework of national laws and the judicial system, the country adopted a law in July 2005 defining the legal framework for the protection of refugees. Since November 2011, this law has been enacting (UNHCR, 2015). Faced with its international commitments, Cameroon's borders are open, with several factors combined or isolated explaining the departure of populations from their country of origin (Ahidjo, 2015). The Far North of Cameroon has been facing cross-

border insecurity linked to the Islamic sect Boko Haram since 2014. This sect carries out attacks and raids against civilians and army bases. The asymmetrical war of the state of Cameroon against Boko Haram in the Far North region has led to the massive displacement of the population towards the metropolis Maroua and the localities neighbouring the attack areas. According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), by April 2015, nearly 106,000 Cameroonians living in border communities in Nigeria had also been displaced within the Far North Region of Cameroon. Insecurity and attacks perpetrated by armed groups active in the region remain the major reason (89.1%) for displacement. Floods, droughts and other climatic factors cause another proportion (10.5%) of displacement. In addition, 1% of IDPs are due to intercommunal violence (IOM, 2019). However, the migration of populations due to security and

environmental constraints disrupted the socio-economic system, agriculture, livestock and tourism development in the region, given its border position between Nigeria on the one hand and Chad on the other. For the Ministry of Economy, Planning and Land Development of Cameroon (MINEPAT), Boko Haram has led to a drastic drop in the number of tourists

I. Study framework and methodological approach

A. Study area

The Far North of Cameroon is one of the ten administrative regions of Cameroon. It lies between 10° and 13° North latitude and between 12° and 16° East longitude. This zone is confronted with persistent security problems and environmental constraints. In January 2020, the Far North region had 352,921 displaced persons, 95% of whom have been displaced since 2014 (IOM, 2019). The Boko-Haram terrorist sect maintains insecurity in the Far North Region of Cameroon. This is what justifies its cross-border geographical dimension (figure 1).

B. Data collection and processing

The data used in this study are related to environmental and safety constraints. They come from the International Organization for Migration (IOM, 2019) reports on displacement in the Far North Cameroon region. The relevance of the IOM data lies in their multi-scalar nature, which makes it possible to capture the phenomenon at the level of departments, districts, villages and even households. In addition to this report, some data were collected in the framework of our thesis work on vulnerability to flooding in the Far North Region of Cameroon between 2015 and 2018 (Saha, 2020). It is important to note that regarding data on environmental constraints, the focus was on climatic hazards and their effects on the environment. Data on droughts and floods in the Far North region of Cameroon are taken from the archives of the governor's office. Major studies on natural hazards in this region (Boubaet al. 2017; Saha et al. 2020; Saha, 2020) have also been used. The variables selected are the dates of occurrence of the disasters and the damage recorded (loss of human lives, displaced persons and material losses).

The collected data were processed by applying Excel descriptive and inferential statistics of the climate parameters. The Early Warning eXplorer (EWX) is a web-based application for exploring geo-spatial data related to drought monitoring and famine early warning. Statistical and geo-spatial data processing allowed correlation and interrelation tests to be carried out, as well as the calculation of averages. The information obtained from these different processes made it possible to identify and evaluate the impacts of security and climatic factors on population migration in the study area.

in tourist sites such as Waza and Rhumsiki (Nouetchognou, 2015). The aim of this study is to show the impact of security constraints and climatic hazards on the displacement of populations in the Far North region. This study is part of an analytical approach, so that each factor will be analyzed for its contribution to the movement of populations in the study area.

II. RESULTS AND DISCUSSION

A. Security constraints on population migration

Following the multiple attacks and abuses perpetrated by Boko Haram, the Head of State of Cameroon officially declared war to this Islamic sect in May 2014. On December 29, 2014, the Cameroonian army engaged for the first time its air force to bomb fighters of the Nigerian Islamist group Boko Haram who took a military camp in the Far North region bordering Nigeria. The special operations of the Cameroonian armed forces will multiply in time to repel the enemy and banish the attacks that have become increasingly deadly in the Far North of the country. Between 2014 and 2017, this part of the country recorded multiple suicide attacks and armed attacks causing thousands of deaths and displaced people. Approximately 3,286 people are internally displaced, 51,930 households, 4,8769 unregistered refugees (8,050 households) and 1,348,489 returnees (1,8406 households). The subtraction between IDPs and returnees gives 198397 considered here as homeless people. To this should be added unregistered victims.

1. Demographic situation and state of play of the clashes

1.1. Socio-demographic situation

The far north is the most populated region of Cameroon. From 1.3 million in 1976 its population has crossed the bar of 4 million in 2020 (figure 2).

The Far North region is experiencing accelerated population growth with an average annual growth rate of 5.8%, among the highest in the country (the national average is 2.8% per year). This strong growth is due to a high fertility rate, natalist religious beliefs, poverty and migration. In addition to the indigenous populations who are in the process of exodus from the Far North region, it is important to point out that this region also receives populations from neighboring countries, notably Nigeria and Chad, as well as any displaced persons from other parts of the country to the Far North region (Figure 3).

This demographic growth also means an increased demand for resources on the economic, social and environmental levels. The high population density is accompanied by constant pressure on natural resources (arable land, firewood, pastureland, fishing resources, water resources, etc.) to meet the food needs of humans and livestock. Since 2001, the Far

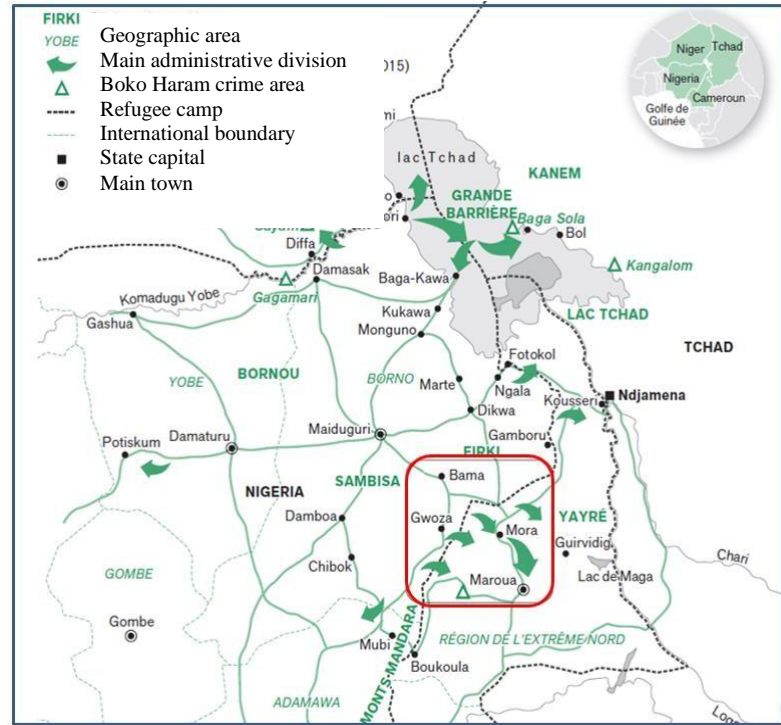


Figure 1: Cross-border situation of the study
Source: Data and design by Christian Seignobos (2015).

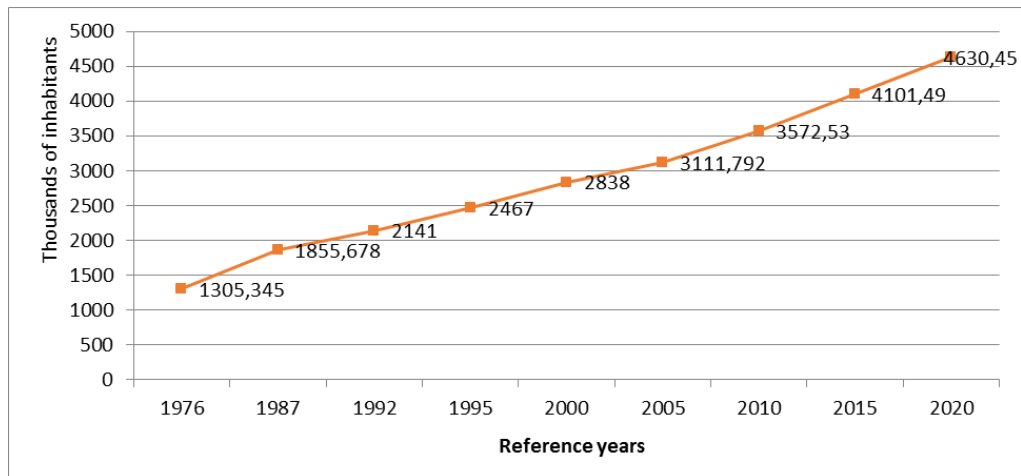


Figure 2: Evolution of the population of the Far North region
Source: Central Bureau of Census and Population Studies, 2010.

North region has been considered the least literate region in Cameroon. In 2007 only 47.5% of young people (7-15 years old) were enrolled in school. This rate is 83.1% at national level (INS, 2013). The backwardness of the Far North zone is explained by the absence of schools in certain areas, the lack

of teachers, the delay or even exclusion of young girls from the formal education system, the inability of parents to pay school fees for their children, and the weight of customs and certain traditions that are not favorable to modern education. In 2014, 74.3% of the population of the extreme north lived

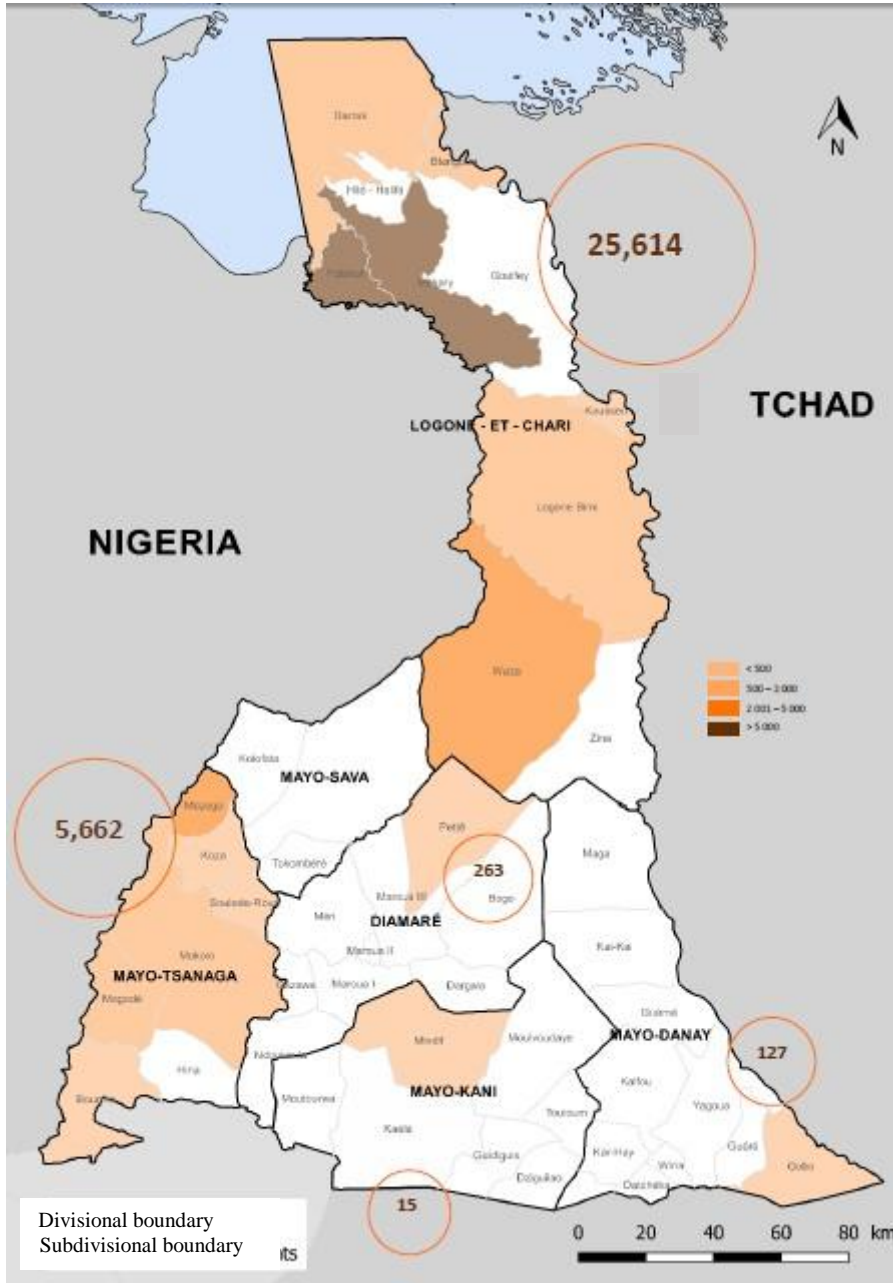


Figure 3: Number of refugees from neighboring countries
Source: IOM, December 2018.

below the poverty line, yet this rate is 37.5 at the national level, a difference of 37 points, making this the poorest region in Cameroon. In terms of infrastructure, only 4% of the roads are suitable for vehicles in all seasons. Houses are built with recycled materials in rural areas and on the outskirts of urban centers. Only 8% of houses and buildings have walls made of

permanent materials and 29.3% have sustainable roofs (DSCN, 2002). Access to water is also difficult for nearly 60% of the population who use undeveloped water sources (Gatcha-Bandjun, 2016). The unsustainability of building materials, the lack of skilled labor and the environmental contrast of the area

between humidity and drought can explain the poor state of the infrastructure. For example, only 1% of households use modern flush toilets. The toilets are open-air and often shallow. This may explain the level of water contamination during floods and the exposure of people to waterborne diseases such as cholera (Wakponou, 2014).

The region's economy is based on agriculture, livestock farming and fishing. Agriculture is essentially artisanal and employs nearly 85% of the population. Rain-fed agriculture and off-season activities face to the climatic, ecological and anthropic crises that threaten the entire African Sahel, in particular low rainfall, the prevalence of numerous predators (locusts, caterpillars, pachyderms, etc.) and cultivation practices that weaken the soil (bush fires, abusive tree cutting, misuse of agricultural inputs). It should be noted that each year this region receives food aid to alleviate the permanent cereal deficit. In 2020, 1.2 million people in this region needed food assistance (OCHA, 2020). Despite its advantages for livestock farming, only 10% of this sector is modernised. In addition to conflicts between herders and farmers, there is also a lack of pasture, health problems and prolonged droughts (Kossoumna, 2009). As far as fishing is concerned, the tools are rudimentary, and the poor catching technique (fishing channels) does not favour the sustainability of the activity.

1.2. State of play of the fighting and clashes

In the far north, the Boko Haram sect has hit the departments of Logone-et-Chari, Mayo-Sava and Mayo-Tsanaga, in the Far North region bordering northeastern Nigeria, which is badly affected (figure 4). The entire border area of the western part of Cameroon's Far North is subject to clashes between the Boko Haram sect and the Cameroonian army. The clashes in these sites are direct by armed fire, and indirect using explosives carried by people (kamikazes). These are generally female or male adolescents. More than 75% of them are girls. The Islamic sect Boko Haram used 4 children in 2014 compared with 44 in 2015, involving Nigeria, Cameroon, Chad and Niger (UNICEF, 2015). Since January 2014, the Far North of Cameroon, regularly hit by Boko Haram, has recorded the highest number of suicide attacks involving children (21). Specific geographical areas are targeted by suicide bombers, including markets (photo 1), places of worship, crossroads, etc. (UNICEF, 2015)5.

In 2015, two suicide bombers set off explosive devices in the central market in Maroua, killing 13 people and injuring 31. The Islamist group Boko Haram launches a major attack against a military base in Kolofata, 143 terrorists and a Cameroonian soldier are killed. In the aftermath of a Chadian offensive in Nigeria against Boko Haram, Nigerian Islamists lead a deadly counterattack in Fotokol, in the north. The large mosque is burned down and nearly 70 civilians are killed. During the first half of 2015, Cameroon has suffered about

twenty attacks which have resulted in nearly a hundred deaths. In 2016, four suicide attacks were recorded in a market in Bodo, in the far north of the country. The latest death toll is at least 32 dead and 66 wounded. This attack is one of the deadliest in the country's history. In the same year, 6 people were killed and more than 30 injured in the double suicide attack perpetrated by two suicide bombers during a wake of mourning in Nguetchewe. The aim of the Islamic sect is to kill large numbers of people to justify its power.

2. Armed conflict at the heart of population displacement in the Far North of Cameroon

In situations of armed conflict, the involuntary transfer of civilian populations within their own country as well as deportation across national borders is prohibited, except when justified by the security of these populations or by military necessity. In such cases, evacuees should be allowed to return to their homes as soon as hostilities have ceased. In the study area, there are people from neighboring Nigeria. These are precisely those who are nationals of a country other than the one in which they are and who have come to the latter to seek refuge from a situation they faced in their country of origin, but who do not live in an official camp.

There are also internally displaced persons (Far North). These are people who have been forced or obliged to flee or leave their homes or places of habitual residence, as a result of or in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights or natural or man-made disasters, and who have not crossed an internationally recognised State border. According to the Universal Declaration of Human Rights, Article 14: "Everyone has the right to seek and to enjoy in other countries asylum from persecution". This regulatory framework generally justifies the displacement of populations in the Far North of Cameroon. Armed conflicts are the causes. The General Staff coordinate displacement. Similarly, schools, administrative and communal services, traditional institutions, churches and health centres are experiencing a cessation of their activities and the flight of staff after the invasion of the Boko Haram. Several primary and secondary schools have closed as a result of this warlike context. Figure 5 shows the total population of the different villages in the departments surveyed in 2020 by the IOM in the study zone and the displaced populations.

Figure 4 presents an average population of the Far North region estimated at 522,801 and a regional average of displaced populations estimated at 82,357. The percentage of people on the move in the Far North region gradually increased between 2014 and 2017. There are people in the study area who have moved once, some twice, and some three times, and even four times to some extent. The percentage of repeat displacements is a function of the repetition of attacks, armed attacks and climatic hazards (floods

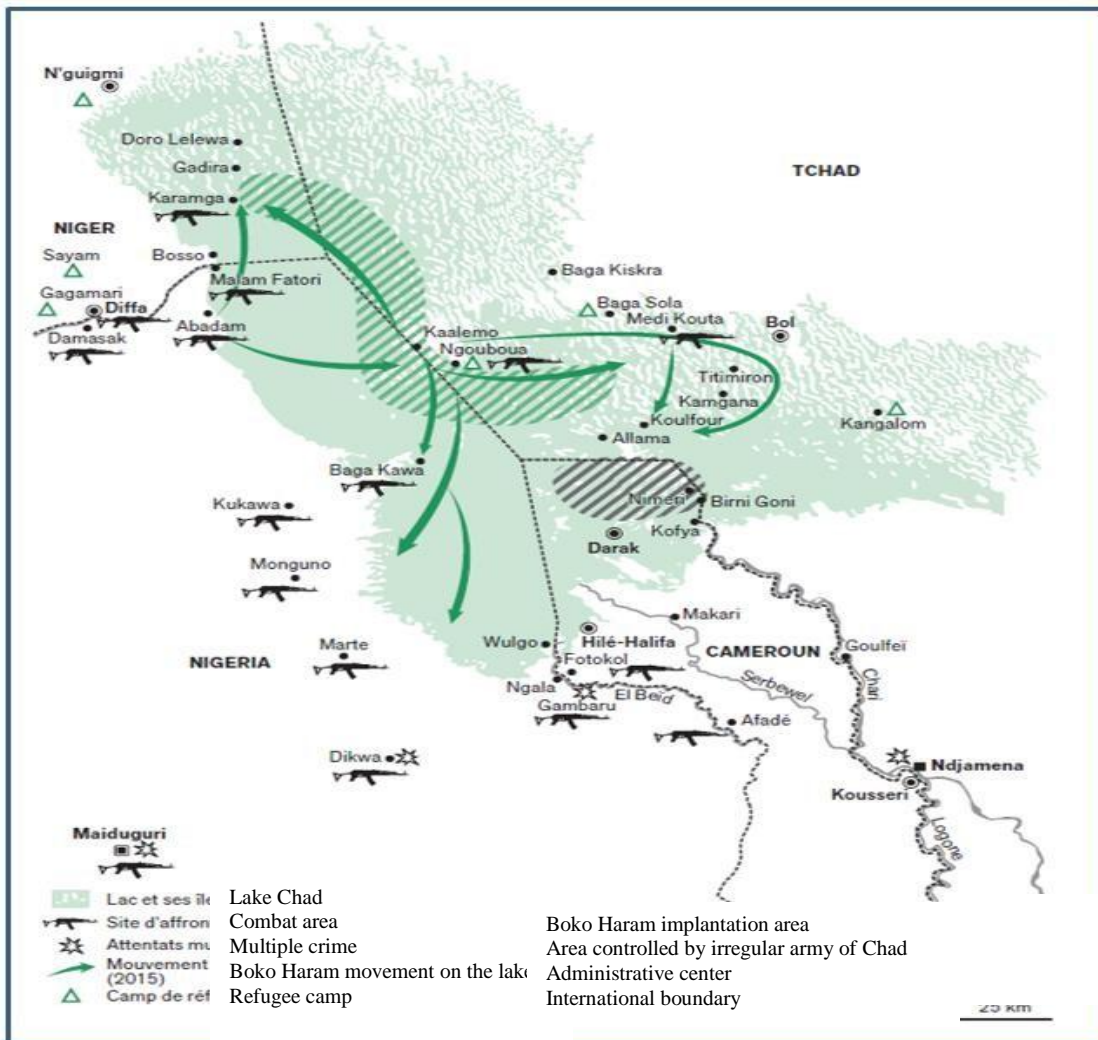


Figure 4: Spaces occupied by Boko Haram.

Source: Data and design by Christian Seignobos (2015).

and drought (table 1).

In view of the above, it is noted that IDPs settle in inappropriate areas after their displacement. And each displacement induces additional insecurity and therefore greater exposure to climatic hazards such as flooding in the region. Overall, it is demonstrated that in the Far North region, insecurity linked to armed conflict is the main source of internal and external population migration. What about the environmental constraints threatening the study site? Wouldn't it also be a source of population displacements given the current environmental degradation that produces significant population movements within states and beyond their borders? The Far North region has received 31,499 people from neighbouring countries as a result of armed conflict and

104 people displaced from neighbouring countries to Cameroon due to climatic hazards (IOM, 2018).

B. Types of extreme climatic events and their effects on population displacement in the Far North region

Nowadays, the Far North region is generally subject to climatic disturbances. They are felt in several ways: the average surface temperature is rising, it is getting hotter and hotter, the rains are irregular and sometimes violent and can cause flooding. 7% of displacements are caused by floods, droughts and other climatic factors (IOM, 2018). Two main climatic hazards are at the origin of the total upheaval of the environment in the Far North of Cameroon. These include floods and drought, although the percentage of reasons for displacement is low compared to armed conflict. Tchindjang et



Photo 1: Attack at Mokolo
Source: cameroun24.net

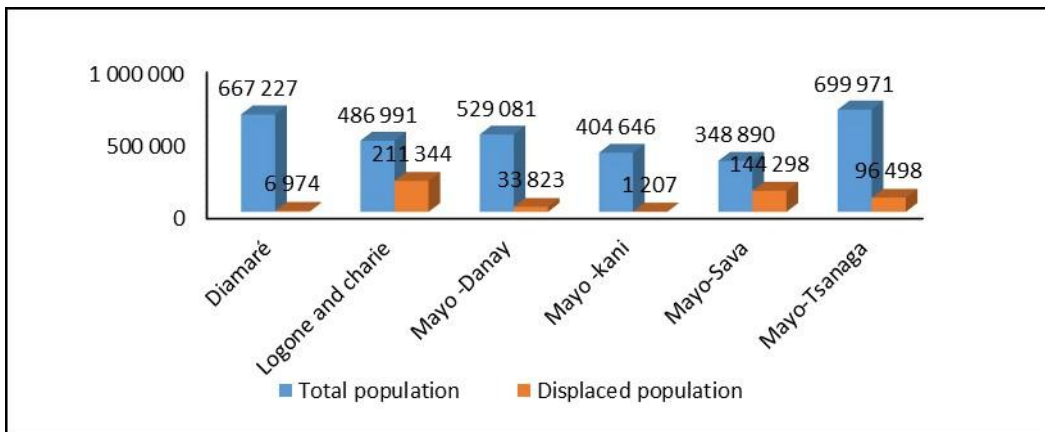


Figure 5: Displaced populations in the different departments of the Far North **Source:** IOM, 2020.

al. (2015), in a study on the contribution of landscape assessment to food security in the Sahelian zone: the case of Bogo in the Far North of Cameroon, agree that truly hydro-climatic risks such as floods, drought and lack of water control threaten the security of populations. The successive droughts of 1972 and 1983 aggravated the insecurity of the populations, making them more vulnerable.

1. Extreme rainfall

Several scientific studies have highlighted the role of rainfall in the occurrence of flood disasters. The study conducted by

Ozer and Perrin (2014) shows a normality of the rainfall regime, accompanied by an increase in society's vulnerability. Panthouet al (2014), in their study of recent trends in extreme rainfall patterns in central Sahelian areas, show an increase in the importance of extreme rainfall events over the past two decades. Meteorologists claim that over the last 40 years, annual rainfall in the Sahelian regions has experienced increasingly pronounced peaks and troughs, with some years being excessively wet and others too dry. Inter-annual analysis of rainfall data for the region shows similar trends. From 1987 to 2020, rainfall decreased by -2.09 mm per year (MINEPDED, 2015) in the Sudano-Sahelian zone. Several more

Table 1: Reasons for population displacement.

	Reasons for displacement	First trip	Second trip	Third trip	Fourth trip
2018	Conflicts	57%	20%	5%	1%
	Climatichazards	9%	6%	2%	0%

Source: IOM, 2018

Table 2: Monthly distribution of flooding in the Far North.

Year	July	August	September	Affected area
1997		13		Maroua and Gazawa
1998		01		Maroua
1991		13		Maroua
1994			21 and 14	Maroua and Mokolo
1997		17		Maroua
1998		06		Meri
2000		19		Bogo, Gazawa, Maroua
2005	15			Maroua
2005	25			Maroua
2006		05		Maroua
2007		02		Mokolo, Kolofata
2007		04		Mokolo
2007		05		Doukoula
2007			3	Bogo, Meri, Petté, Dargala
2007			04	Kolofata
2010	22			Maga and Push

Source: Bouba et al. 2017.

extreme events were observed in this zone: in 1972-1973 and 1983-1984. From 1981 to 1984, the cotton-producing region of the Far North was situated, in average year, between the isohyets 700 and 1,000 mm, but for four successive years, and more particularly between 1983 and 1984, rainfall deficits were almost everywhere between 100 and 250 mm. The region thus found itself in a marginal situation for rainfed crops, which weighed heavily on harvests.

On a monthly basis, the Far North region records rainfall over four or five months of the year, usually between April and October, when the growing season begins. The rains fall irregularly and are poorly distributed over time. Between 1900 and 1930, there was an abundance of monthly rainfall with two peaks above the temperature curve. Between 1991 and 2016, only the month of August is above the temperature curve. The average monthly rainfall amounts decrease during the two periods mentioned above. The month of August in the Far North region of Cameroon records the highest rainfall amounts. From 1990 to 2010, floods occurred between July, August and September. However, the month of August had the highest number of floods (Table 2). During the month of

August, floods occurred in the first and second decades of the month (1-10 and 10-20). This means that these days have enough rainfall to generate flooding in the Far North region.

It is within this period that the deadliest floods in the study area were recorded. These include those of the years 2010, 2012, 2015. Concerning the extent of the monthly rainfall in the Far North, it is important to remember that the probability of flooding is very high in August. It is during this month that the rainy peak is reached. The first floods affected the localities of Maga and Pouss in the Far North with the rising waters of the artificial lake Maga, causing a break in the dike and causing significant material damage as well as crop and livestock losses. The situation caused massive displacement of homeless people as well as those whose homes were destroyed (Gemene et al. 2017). For example, between 2012 and 2013, all the districts of Mayo Danay and Logone and Chari were flooded with 20 dead and 20,000 homeless. Between 2014 and 2015 the localities of Zina and Kaikai were flooded, leaving 168 homeless. Between 2015 and 2016, Maroua, Ndoukoula and Gazawa were flooded with 5 deaths and 6200 homeless (Saha et al.2020). In 2015, according to



Photo 2: Flood refugees 2012 in the Far North¹



Photo 3: Destruction of the bridge linking the Far North region to the rest of the country following heavy rainfall. Source: Château news.com (August 2020)

the Sub-prefect of Maga, about 9,500 displaced people were still outside their villages of habitual residence. The displaced populations have received aid from the government and

international organizations (Médecins Sans Frontières, World Food Programme and the United Nations High Commissioner for Refugees). The state of the displaced populations is illus-

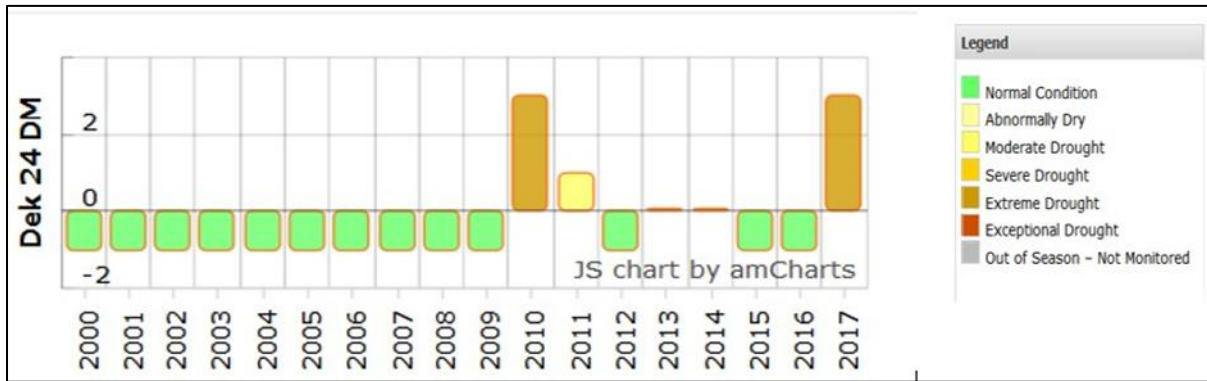


Figure 6: Severity of drought in August in Far North.

trated in photo 2.

Rainfall is characterised by a moderate change in total rainfall, with a slight upward trend on a monthly basis. There is a no uniform temporal distribution of rainfall due to a significant increase in dry sequences during the rainy season, an increase in the intensity of extreme rainfall, but almost no change in its frequency. However, several authors show that the inadequacy and poor quality of landuse planning policies, due to the spread of the stakes in areas at risk, is a major cause of the recent floods observed in the Far North region (Sene and Ozer, 2002; Tarhule, 2005; Descroix et al. 2013) (photo 3).

2. Extreme drought and desertification

According to the United Nations Office for Disaster Risk Reduction (UNISDR, 2015), hydro-climatic hazards were the most frequent and devastating natural phenomena in the period 1995-2015, affecting almost every country in the world. When the droughts of the 1970s and 1980s hit the Sahel and Chad, many farmers and pastoralists retreated to the Yagoua and Maga rice-growing areas and the Lagdo fishing zone (Ahidjo, 2013). Some authors (De Longueville et al. 2016; Mahé et al. 2010), have highlighted long-term temperature data in order to identify trends. The drought of 1981-1984 highlights the marginal climatic situation of the Far North region (Roupsard, 2000). Between 2000 and 2015, they are on the rise with an average of 40°C. Increasing heat (temperature extremes) leads to fewer cold nights and more hot days and nights. The NCCACP data covering the period 1987-2006 is consistent with the drought situation prevailing in the region. Due to the non-availability of data over a long period, the 20-year statistical projection shows that from 1987 to 2026, the temperature in the region will increase by about 0.001°C/year.

In order to assess the level of drought in the far north of Cameroon, the weather conditions that lead to rainfall deficits were assessed. These vary greatly from one locality to

another. To this end, the Palmer Index was established to see the different levels of drought severity in the study area (figure 6).

From 2000 to 2009, there was a normal drought during the month of August. This month is favorable for the outbreak of floods. The rainy peak is reached during this month. In 2010 the drought is extreme with the main impact of crop and pasture losses and water shortages. Despite this state of drought, flooding has been recorded. This has been demonstrated by De Longueville et al (2016); Maheet al (2010) on studies carried out in West Africa, that after a persistent drought in the 1970s, followed an increase in runoff. However, rainfall plays a very important role in the runoff process, as heavy runoff is the result of heavy rains.

The year 2011 is characterized by a so-called moderate drought. This situation causes damage to crop, rivers, reservoirs where wells are low, some water shortages are developing, and voluntary restrictions on water use. The situation in 2012 is the opposite as it is the year that recorded the deadliest flood in Cameroon. It was preceded by an extreme and moderate drought. This led to the heaviest and most violent rains, resulting in flooding. This argument is inferred from the results of the work of the abovementioned authors. The flood of 2015 was preceded by two years (2013 and 2014) with extreme droughts, a way of highlighting the relationship of dry periods on the amplification of violent rains generating exceptional floods. However, the drought in 2015 is normal. The situation in the year 2017 is like that of 2012, because it was in the same year of the disaster that an extreme drought was recorded. Following the occurrence of drought, the variability of the landscape is marked by the phenomenon of aridification, which is at the origin of soil degradation in the Far North. The area is by far the most affected by the desertification process, characterized by its both Sudano-Sahelian climate and fragile ecosystems. The factors of desertification are both climatic and anthropogenic and have variable but joint impacts on natural resources and the environment. They are at the root of many dysfunctions,

including land conflicts over access to shared resources in the same area, worsening food insecurity and the precarious living conditions of the rural populations that depend on them. To these factors must be added the fatalistic attitude of local populations towards land degradation (National Action Plan to Combat Desertification (PAN/LCD, 2006).

The migration of goods and people is uncontrolled, both internally and with neighboring countries, and the scale of the problems of insecurity for people in the area, linked to the Boko Haram sect, climatic hazards and partly to a situation of poor governance and the non-application of regulations are worrying. Community leaders and representatives of the displaced population mentioned the priority sectoral needs in the villages surveyed. Access to drinking water remains the major problem in 47% of the localities surveyed. This percentage rises to more than 80% for the villages surveyed in the Mayo Kani division. More than 16% of the villages surveyed did not actually have a water point in their village during the data collection period. Displaced populations as priority humanitarian needs also cited access to food and health care. For example, the village key informant surveys informed that more than 75% of villages have no health centers in the village (no private clinic, mobile clinic, integrated district hospital, health center or medical center). The village level surveys showed that more than 40% of villages do not have a primary, secondary or koranic school. In the Logone and Chari division, for example, this percentage rises to 56% (IOM, 2019).

CONCLUSION

To conclude, it was a question of showing that new migrations in the Far North of Cameroon are linked to insecurity (conflicts) and environmental constraints. It emerges from our analysis that Cameroon is confronted with the movement of populations because of armed conflict and environmental constraints. The Far North region is particularly affected by these internal and external displacements given the fragile security context, which has given rise to hundreds of thousands of refugees. Indeed, we now must reckon with these migrants. In fact, it is since 2013 that various armed groups, including the Islamist sect Boko Haram, have pushed hundreds of thousands of people to flee their villages in the face of exactions. Weakened by the intervention of the Nigerian, Cameroonian and Chadian armies, the armed group Boko Haram has not ceased to spread terror, reducing for the moment the hope of return. Most of the refugees - more than 90,000 people - live in the Minawao camp in Cameroon's Far North region, which was also one of the poorest regions of the country before the additional pressure of refugees came to bear on the local population.

In addition to this situation of insecurity, the environmental conditions that determine the living environment of the population nowadays constitute a new form of threat, pushing

people to move. This is the case of floods with a high rate of occurrence (2005, 2010, 2012, 2015, 2017), severe drought with enormous socio-economic consequences. Cameroon continues to protect despite a difficult social and economic situation. There is a real refugee crisis problem on two levels. Those who have left localities attacked by armed conflict and floods for neighboring localities in the Far North. And those of refugees from neighboring countries (Nigeria). For the time being, it is difficult to know how long these refugees will have to stay in Cameroon because if the Nigerian situation is tending to calm down, the threat is far from over, as evidenced by the refugees who have tried to return home before turning back in the face of danger. Despite the efforts of the State of Cameroon and the help of development partners, the humanitarian crisis remains, and the current solutions seem to produce only weak results.

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