

Housing and Reintegration Problems of Displaced People from Conflict Zone in Cameroon

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Abstract:- The aim of this article is to present and summarize all the research focused for the study of the design of a sustainable reception center for displaced populations in the Dschang area of Cameroon, specifically in the Tchoulé neighborhood. This topic is of crucial importance in light of the increasing conflicts and forced displacements worldwide. The motivations behind this study are based on the urgency of addressing the fundamental needs of displaced individuals, who often face precarious living conditions and a lack of basic infrastructure. The central issue was to determine how to design a reception center that not only meets the immediate and evolving needs of the displaced but is also sustainable and resilient. The research questions included assessing the current state of existing reception centers, evaluating the specific needs of the displaced, developing an appropriate architectural approach for this context, and assessing the project's impacts. The overall objective was to design a sustainable reception center that highlights a comprehensive architectural program addressing the essential needs of displaced populations. Specific objectives included producing a critical analysis of the living conditions of the displaced, developing an adapted approach for the center, creating digital models, and evaluating the impact and feasibility of the project.

Keywords:- Humanitarian Architecture; Sustainable Reception Center; Displaced Persons; Conflict Zones; Dschang; Cameroon.

I. INTRODUCTION

In this article, we will first provide an overview of the dynamics of conflicts, conflict zones and their repercussions on society in Cameroon. Subsequently, it will be a question of looking at the flows and displacements of populations in Cameroon. Also, we will take a look at the needs of displaced people from conflict zones in Cameroon. Finally, before moving on to the presentation of the concepts of sustainability and resilience in architecture and the design philosophies of reception centers, we will first present the overview of forecasts and recommendations in terms of durable solutions for displaced people from conflict zones.

II. DYNAMICS OF CONFLICTS, CONFLICT ZONES AND THEIR REPERCUSSIONS ON SOCIETY IN CAMEROON

A. Concept of Conflict and Conflict Areas

➤ A Conflict

The quest for information around the notion of "conflict" brought out various apprehensions of each other, but nevertheless contributed to a better perception and contextualization of our theme. According to Le Robert, the term conflict comes from "conflictus", shock, struggle, combat in the sense of physical confrontation between two or more people, but it also very early took on the figurative meaning of the meeting of elements, of contrary feelings, moral conflicts, of interests, and finally the meaning of contestation between two powers disputing a right.

By him side, the Indian researcher in international relations Sundeep Waslekar, founder of the Strategic Foresight Group, in his book *Between War and Peace*, made a direct analogy between wars and conflicts where he presented them as "chaos between states". He continued his analogy by establishing a clearer and much more precise correspondence according to which over time and according to the evolution of current situations, "wars become intra-state conflicts, opposing multiple actors". In addition to constituting a much more precise and clearer element of understanding, this assertion implicitly provides us with an opportunity to reflect on the typologies of conflicts and their chronological evolution in relation to the intensity and impacts of wars over time.

The impetus of reflection addressed in the treatment of this theme is compatible with that approached in the second alternative definition as carried out by the researcher Sundeep Waslekar according to which in the rest of this work, conflicts will be perceived as armed struggles, combat between two or more powers that dispute a right. This will lay bare the notion of conflict as experienced and suffered by victims of conflict in the world and more particularly in Cameroon.

➤ Conflict Areas

The concept of conflict zone or conflict area in this theme implies that the primary characteristic of the conflict should lead to its territorialization, that means, to locate and delimit it as far as possible. In the second edition of her book *Conflicts in the World*, the geographer Béatrice Giblin mentioned that the surfaces on which conflicts are raging "can be of very variable dimensions: on the order of a few hundred square meters", "tens of square kilometers" or even "hundreds of square kilometers". A conflict zoning can therefore be defined according to the order of magnitude of the territories subject to conflict in order to clearly define a conflict zone.

In fact, for this research, we can remember that a conflict zone can simply be understood as all the areas on which conflicts are raging and their direct repercussions, which will be characterized by the presence of armed conflicts, generalized violence or other risks of endangering the population. The elements of definition and the characteristics retained in the preceding paragraphs allow us to place Cameroon among the African countries that have

experienced conflicts, and therefore contain important areas of conflict. The conduct of this research will allow us to say more about the state of conflict zones in Cameroon in the following paragraphs.

B. Inventory of Conflict Zones in Cameroon from 2014 to 2024

According to the June 2020 study report on vulnerability in conflict-affected areas in Cameroon, since its independence in 1960, Cameroon has had, for more than fifty years of sovereignty, a continental and even international reputation as a stable and peaceful country. This status was reflected in the absence of conflict, particularly cross-border conflict, with other countries, as well as the preservation of an internal peace that had been meticulously maintained over the years. Like several other African countries, Cameroon has experienced and continues to experience considerable and persistent security problems since 2014 and continues to affect several regions of its national territory. The main areas of turbulence are the extreme northern, southwestern and northwestern regions as shown in Figure 1 below.

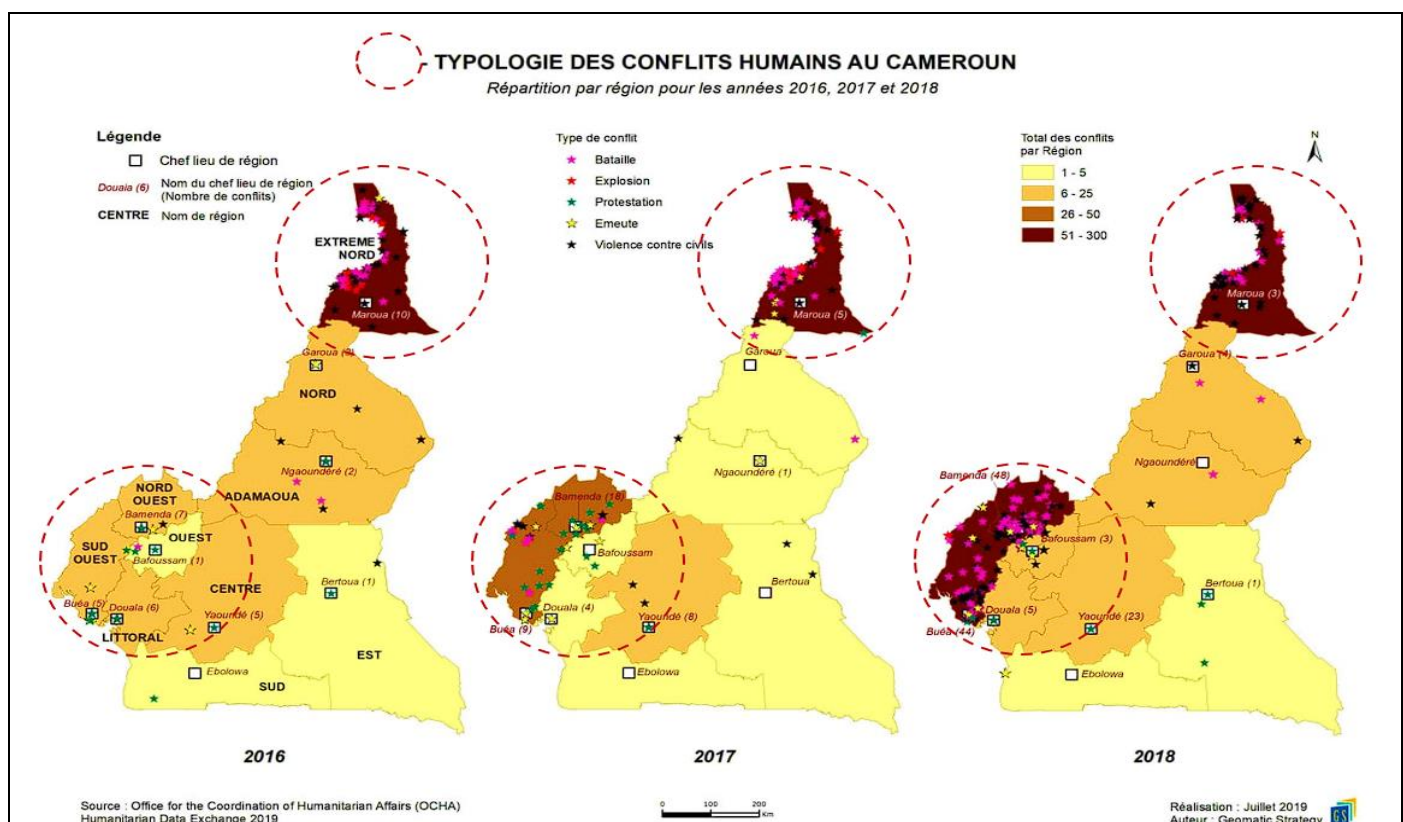


Fig 1 Distribution of conflicts by region 2016, 2017, 2018
(Source: Office for the Coordination of Humanitarian Affairs (OCHA) Humanitarian Data Exchange 2019)

➤ The Conflicts in the Far North Area: Boko Haram Conflict

The infiltration in Cameroon of the Islamic sect Boko Haram initially based in Nigeria, a neighboring country, in view of the ravages caused in Cameroon by the latter. It was on Saturday, May 17, 2014 during a consultation meeting at the Elysée Palace, to which the presidents of Nigeria, Cameroon, Benin, Chad and Niger were invited, by their French counterpart, François Hollande, and in which the

United States, Great Britain and the European Union also participated, that the Cameroonian Head of State, His Excellency Paul Biya, briefly declared "We are here to declare war on Boko Haram". triggering the country's official commitment to a war launched that was still going on in 2022 with attacks recorded until 2024 in UNOCHA's situation report No. 41 of May 6, 2024.

Several towns and villages in the six departments of the Far North administrative region (Mayo-Tsanaga, Logone-et-Chari, Mayo-Sava, Diamaré, Mayo-Kani and Mayo-Danay) have massively received internally displaced persons. Geographically, the Far North is bordered by Nigeria's Borno State, the birthplace of Boko Haram. It is a region that shares with the populations of northeastern Nigeria, cultural traits (language, religion) and economic activities (trade in basic necessities, livestock, agriculture, etc.).

However, according to Wikipedia, "The movement's first offensive actions in the Far North began in 2013." Since then, Boko Haram's actions in Cameroonian territory have gone through three phases. The first phase (May 2013 to June 2015) was marked by targeted kidnappings and territorial expansion, which was the most offensive in Cameroon. The second phase (June 2015 to April 2016) was characterized by hybrid and asymmetric combat methods. Finally, the third phase (2016 to 2024) is characterized by isolated acts of nuisance.

➤ *The Conflicts in the North-West and South-West Regions: the Anglophone Crisis*

On this side, since 2016, and following the excesses of the demands made by pressure groups from the English-speaking part of the country, namely those of the North-West and South-West regions, this area of the country has entered into an instability characterized by an armed conflict where secessionist activists regularly clash with the police.

The socio-political crisis has gradually turned into an armed conflict with clashes between armed groups and the national army. These clashes have resulted in about 2,000 deaths in 2022, as well as the destruction of many houses and other properties, the destruction of buildings housing social services. The conflict has also led to a reduction in the supply of public services and has had a significant impact on economic opportunities, in addition to the impacts of COVID-19 on the lives of the population.

The most visible impact of this conflict is the massive displacement of populations to other regions of the country and Nigeria, part of whose border with Cameroon passes through these two regions. According to the United Nations, the crisis has resulted in the displacement of 65,500 people to Nigeria (UNHCR, Nigeria: Cameroonian Refugee Registration, 30 June 2021) and 712,800 people within Cameroon. Of the internally displaced persons (IDPs) outside the two crisis regions, 80% have found refuge in the West (162,726) and Littoral (80,925) regions (OCHA, IOM and CHOI, NASM August and September 2020).

III. POPULATION FLOWS AND DISPLACEMENTS IN CAMEROON

A. *The Concept of "Displaced"*

According to Wikipedia, "displaced persons" are people who are forced to leave their place of residence for reasons of violence and are therefore forced to move either within their own country (internally displaced) or abroad (refugee).

In the manual for the implementation of the Guiding Principles on Internal Displacement, "Internal displacement is primarily a forced or involuntary movement that takes place within the borders of the national territory." The reasons for this are diverse and "relate either to armed conflicts, or to situations of generalized violence, human rights violations or natural or man-made disasters." Persons who move voluntarily from one place to another, for economic, social or cultural reasons, do not fall into the category of internally displaced persons, to whom the principles of the Principles of Discrimination and Discrimination apply to the Principles of Discrimination against Persons of Discrimination against Persons of Expression. This handbook describes IDPs as "those who, on the other hand, are forced to leave the area where they live or who are forced to flee due to conflicts, human rights violations, and other disasters, whether natural or man-made." In some cases, internal displacement can be caused by a combination of coercive and economic factors. People who feel compelled to flee to escape systematic violations of their human rights meet the definition of internally displaced persons.

In dealing with our theme, we will consider displaced persons as persons who, individually or in groups, have been forced or forced to leave their homes or places of habitual residence, including as a result of armed conflict or generalized violence.

➤ *Analysis of Population Displacement in Cameroon from 2014 to 2024*

Cameroon has experienced several inflows of people into its territory during this decade. These flows were mainly the result of instability in neighboring countries and regions that share a common border with Cameroon. According to the United Nations High Commissioner for Refugees (UNHCR), the International Organization for Migration (IOM) and the Displacement Tracking Matrix (DTM), the largest inflows were at the border with the Central African Republic in 2018. IOM launched its first issue of the DTM in November 2015 with the aim of providing regular, accurate and up-to-date information on displaced populations in Cameroon to inform the response of the Government of Cameroon and the humanitarian community. Figure 2 below shows more than 1,400,000 IDPs from 2008 to 2023. (IMDC 2024)



Fig 2 Conflict-related Displacement and Violence in Cameroon
(Source: IMDC 2024)

➤ In the Eastern and Adamawa Region

The eastern region is the one that has received the most. It shares the longest border with the Central African Republic compared to its neighbors Adamawa and the North. It also has the largest number of refugee camps compared to the others; 5 in total against 2 for Adamawa and none for the Northern region which will be analyzed for each of the paragraphs below. (UNHCR, 2022).

➤ In the Far North Region

The second outbreak receiving the most inflows is located in the Far North region at the level of the common border with Nigeria and more precisely Borno State. About 100,000 refugees crossed the Nigerian border in 2018 to enter Cameroon to seek refuge (UNHCR, 2018). The populations of this area are fleeing the abuses of the Boko Haram group, which is strongly established in the Nigerian state of Borno. The largest refugee camp in Cameroon is located in this area in Minawao. It hosts more than 55,000 refugees. (DTM, 2023). People are moving internally to move away from the border with Nigeria and stay further inland from Cameroon to find peace and stability.

➤ In the North-West and South-West Regions

The 2 other regions that have also experienced many internal displacements in 2018 to date are the South-West and North-West regions. The Anglophone crisis and its social tensions have pushed many people to leave the villages to live in the regional capitals or departmental capitals, which are more secure and less exposed to difficulties in accessing food and healthcare. These 2 regions have also experienced a massive exodus flow to Nigeria of their respective populations. However, in the context of the treatment of our theme, the research carried out so far has not mentioned any reception center for displaced people from these two regions. (OHCA, 2022).

➤ In the Littoral and Western Regions

Still regarding internal displacement within the regions, the West and Littoral regions also stand out for an average number of people moving through their respective areas. These regions are in some ways suffering from the repercussions of the tensions in the South-West and North-West regions with the reception of many displaced people who then also move within the region. This information was not available for Cameroon from our data sources (UNHCR, IOM and DTM). IOM's 2024 Global Migration Report of 7 May 2024 placed Cameroon in 15th place in its top 20 African countries ranked according to the percentage of displaced people with 453,661 displaced in August 2032 (DTM, 2023).

In summary, Cameroon is home to the second largest population of internally displaced people in Central Africa after the Democratic Republic of the Congo. Their number has continued to increase since 2014. The vast majority have fled the violence in the North-West and South-West regions. Floods, landslides and other sudden-onset disasters are also forcing tens of thousands of people to flee. (IDMC)

IV. PRESENTATION OF THE NEEDS OF DISPLACED PEOPLE FROM CONFLICT ZONES IN CAMEROON

➤ Analysis of the Needs of Internally Displaced Persons

The coherence of an architectural response to the phenomenon of population placement makes sense when it provides solutions in the process of resolving the needs of the latter. An analysis of the needs of the displaced is therefore taking place. Protracted conflicts, displacement, as well as recurrent climate shocks, continue to generate humanitarian needs among the affected populations in the Adamawa, East, Far North, North, North-West and South-West regions of Cameroon. (See Figure 3).



Fig 3 Displaced from Conflict Zones in the NOSO
(Source: UNHCR)

The main needs identified during our readings are classified into three main categories.

➤ *Primary Needs*

They correspond to the immediate needs when a conflict arises.

- *The need for Security and Protection*

The conflicts faced by the displaced are plunging them into increased insecurity. The security and protection need of the affected populations persisted and still persist, mainly due to the attacks, the fear of attacks.

- *Le Besoin D'abri et de Logement*

Le RAPPORTS DE SITUATION du Bureau de la coordination des affaires humanitaires des Nations Unies pour le Cameroun faisait mention de la nécessité d'« Un toit au-dessus de leur tête » pour « Répondre aux besoins en abris des personnes vulnérables dans les régions du Cameroun affectées par les crises. », car, dans la région du Nord-Ouest et du Sud-Ouest tout comme « Dans la région de l'Extrême-Nord, le logement est considéré comme le deuxième besoin le plus important après la nourriture ».

- *Food needs and Livelihoods*

The SITUATION REPORT of the United Nations Office for the Coordination of Humanitarian Affairs for Cameroon listed "Food insecurity, increased morbidity, lack of access to safe drinking water and sanitation as well as basic health services" as the basic and most recurrent need among the displaced.

- *Access to Health Services*

Access to health care includes treating injuries, preventing epidemics, and managing chronic diseases. Mobile clinics and health centers in displacement camps are essential.

➤ *Secondary Needs*

This is the set of essential needs for the well-being of displaced persons over a well-defined average period of time.

- *Access to Hygiene, Sanitation and Safe Drinking Water*

Access to sanitation facilities to prevent disease and ensure the dignity of the victims, as well as to drinking water for maintenance and daily needs.

- *Access to the Subsistence Kit*

The right kits for the weather conditions and personal needs.

- *Access to Information*

Dissemination of clear and reliable information on the situation, the places of rescue and the measures to be followed to ensure the safety and support of the victims.

➤ *Tertiary Needs*

This is the set of essential needs for the well-being of displaced persons contributing to a recovery of their lives.

- *Access to Education*

Continuity of education for affected children, young people and even adults. Displaced children need access to education for their personal development and their future. Temporary schools or informal learning programs can be set up to ensure access to education.

- *Coordination and Participation in the Community*

This can include job opportunities, vocational training, and micro-enterprises. Economic development projects, such as agriculture, crafts and trade, can help create jobs and boost the local economy.

- *Access to Psychological Support*

To help people cope with trauma and loss. Conflict-related trauma can have lasting effects on the mental health of displaced people. Psychosocial support services, such as therapy sessions and support groups, are essential. Cultural and religious activities can also help boost emotional well-being.

- *Reconstruction and Rehabilitation*

Social reintegration is essential to help displaced people return to normal life. This can include outreach programs, community activities, and counseling services. Displaced children must have access to education and recreational activities to promote their development.

- *Maslow's Pyramid and Stevenson's Circle*

Maslow's pyramid and the Stevenson circle model are complementary theoretical frameworks that can be used to

analyze and understand the needs of displaced people in conflict situations.

➤ *Maslow's Pyramid*

It is a psychological model that prioritizes the basic needs of human beings. As shown in Figure 4, in the context of internally displaced persons, the following similar needs can be identified:

- Physiological needs: access to water, food, shelter, health care.
- Security needs: Protection from violence, crime, instability.
- Needs for belonging and love: Maintaining family ties and social support.
- Needs for esteem: Dignity, recognition, autonomy.
- Personal fulfillment needs: Opportunities for development and livelihood recovery.

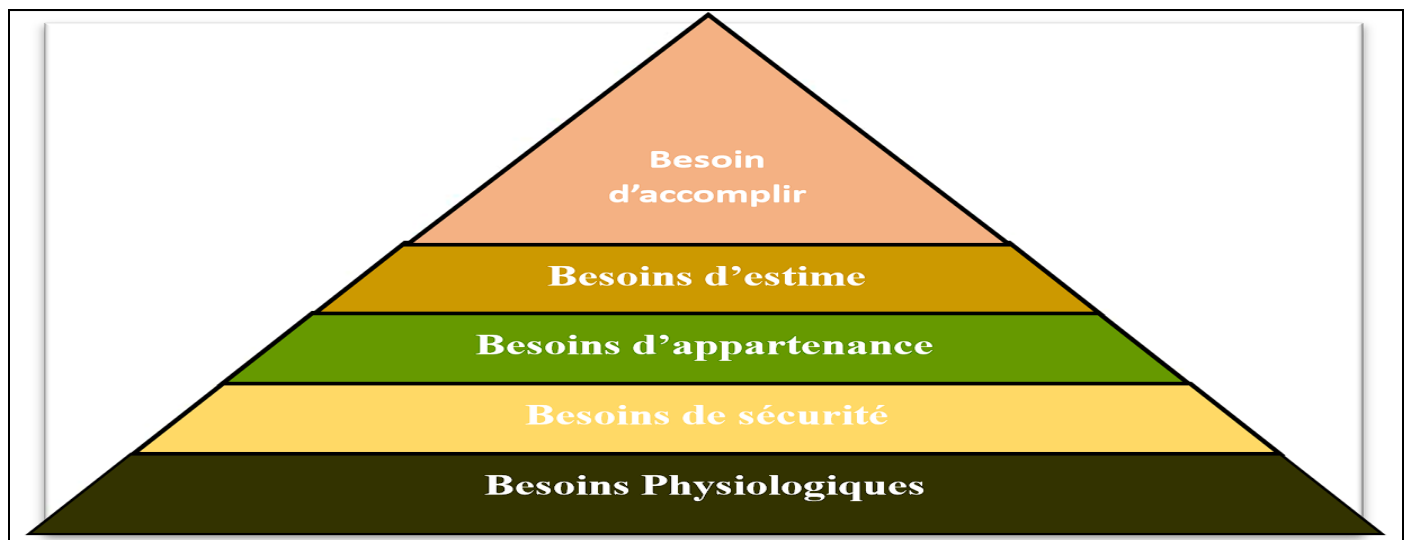


Fig 4 Maslow's Pyramid

➤ *Stevenson's Circle*

The Stevenson Circle model emphasizes the gradual restoration of well-being and resilience to people affected by humanitarian crises. As shown in Figure 5, in the context of displaced persons, similar needs can be identified.

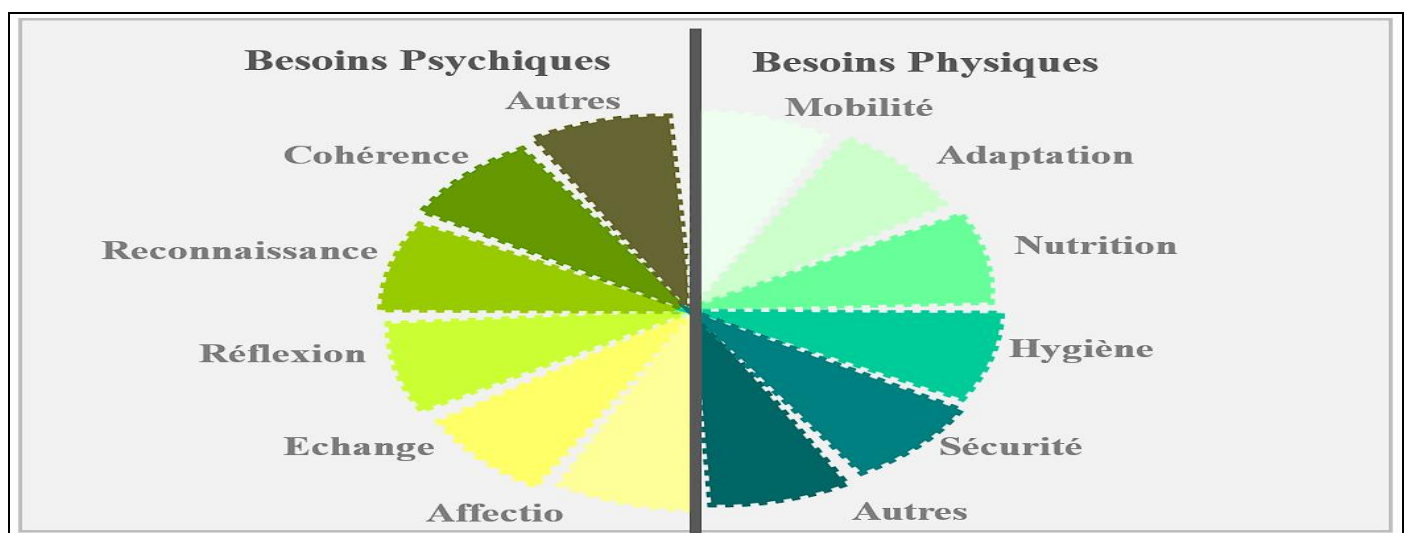


Fig 5 Stevenson's Circle

➤ *This Template Includes the Following Steps:*

- **Survival:** Meeting basic needs (water, food, shelter, health care).
- **Security:** Ensuring the physical and psychological protection of people.
- **Stabilization:** Restore routine, daily activities, and social connections.
- **Recovery:** Enabling the rebuilding of livelihoods and the strengthening of self-reliance.
- **Transformation:** Enabling adaptation to new environments and building a sustainable future.

By applying these two complementary models, humanitarian response priorities for internally displaced persons in Cameroon can be better understood and prioritized. Considering the interaction between all these different needs as represented in Figure 6. These include meeting emergency physiological and security needs, restoring a sense of stability and social cohesion, supporting economic recovery and livelihood development, and fostering long-term empowerment and adaptation. A holistic approach combining these two theoretical frameworks provides a holistic view of the multidimensional needs of displaced people and guides humanitarian efforts in a more strategic and sustainable way.

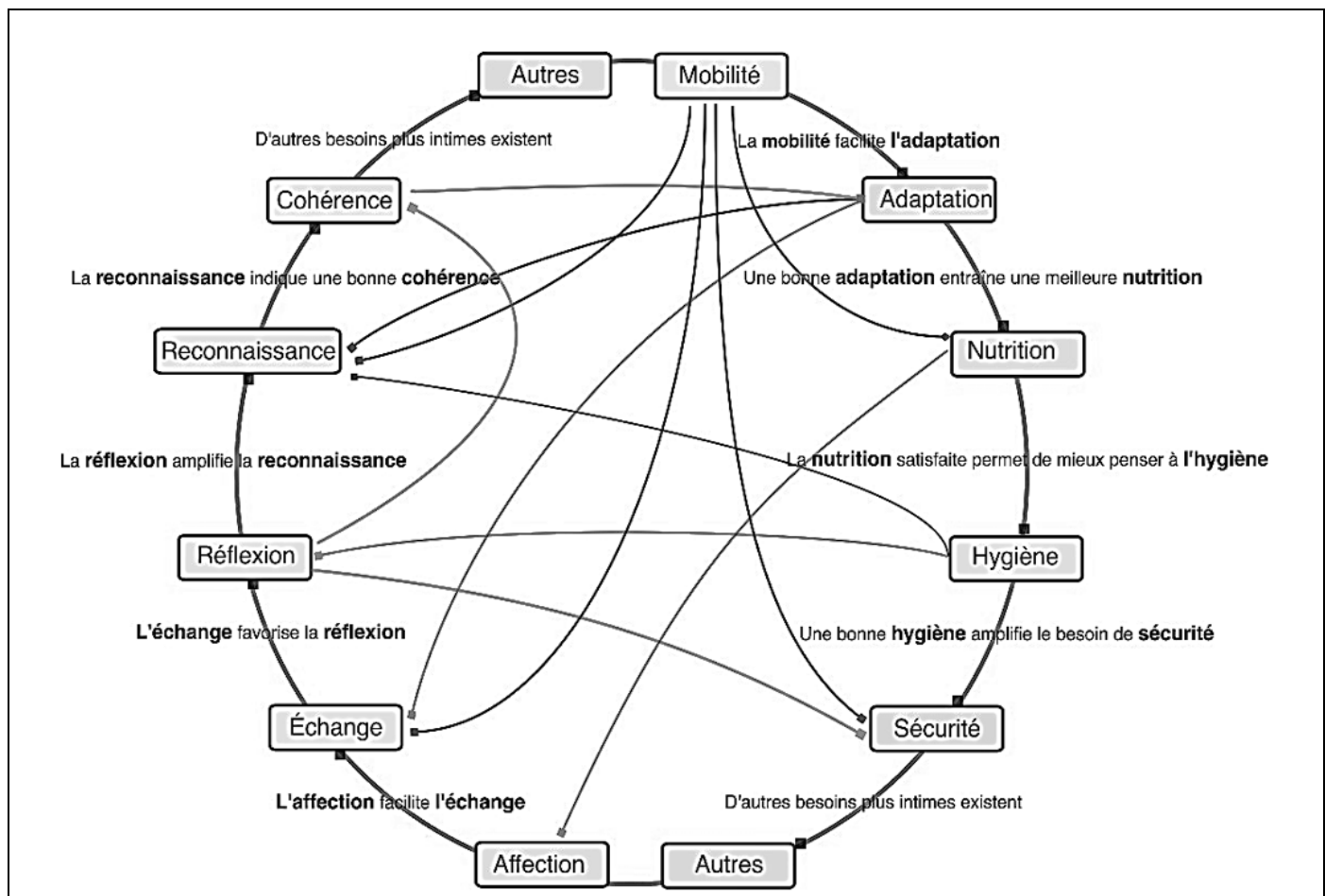


Fig 6 Needs Interact
(Source: la-plateforme-stevenson.org)

V. RECEPTION CENTRE DESIGN PHILOSOPHY

According to the IDP Protection Manual, a IDP shelter is a place specifically designed to accommodate people who have been forced to flee their homes due to armed conflict, widespread violence or human rights violations. The question of the design and sizing of reception centers has been the research interest of several authors, each with philosophies that are as different from each other.

A. Key Elements Related to the Design of Reception Centers

In the publication *What Can Architecture Do for Refugees and Asylum Seekers?* by THOMAS Pierre (Master's thesis, University of Liège, 2018), The four main elements

that are very often divergent and problematic when designing reception centers are location, privacy, sanitary facilities and public space, although in the latter several other important aspects can be integrated such as durability, flexibility, implementation time, etc.

➤ Implementation

Again, there is the issue of reception centers that are too far from city centers, as locations are often defined by economic opportunities; This leads to a lack of social contact between migrants and locals and therefore hinders their integration.

➤ *The Health Aspect*

It is rather felt in large centers, in which the sanitary facilities are common areas shared by a large number of residents, which leads to hygiene and privacy problems. "Ideally, we would consider creating small bungalows where the sanitary facilities and kitchen could be used by fewer residents."

➤ *The Problem of Intimacy*

It stems from the high number of people sharing the same room, being from different cultures, which produces constant pressure on residents. Regarding the need for privacy, it is particularly important in a population with psychological or even physical trauma. At the architectural level, while respecting a minimal concentration of people in the same space, it is a question of reflecting on the thresholds between private and common spaces, as well as on the relationships with the outside in terms of views or the dimensions of windows, for example. "The external environment, because it cannot be controlled by the individual, constitutes a place of potential insecurity, while the domestic space appears as a stable and safe point of reference."

➤ *Public/Outdoor Space*

It embodies a place for exchanges and meetings between residents but also a link with the neighborhood and the local population, while providing a qualitative space available to the neighborhood. The outdoor spaces of the centers are mostly intended for the common, but not necessarily for the public, which could be an aspect to be rethought.

➤ *Insecurity*

Within the reception centers, it can be felt by the residents not only in relation to the outside but also in relation to the high concentration of people in the living spaces, so a "ventilated structure" should be preferred. As far as the relationship with the neighborhood is concerned, it is necessary to find a happy medium between a center that is completely open to the public space, which can lead to a feeling of insecurity, and a totally closed area that would prevent any social relationship with the outside world.

➤ *Comfort*

Residents of the centers obviously need a space that is sufficiently open, bright, friendly and pleasant to live in; A remark is also made about the sanitary facilities which are often insufficient in these centers. A point that is too often forgotten here is that of sound insulation: "Limiting sound infiltration from the outside will reduce the level of stress and nervousness, thus allowing these people to rest. Sleep is a vital need for everyone, but especially for those human beings exhausted by their journey and by the uncertainty of their future. »

➤ *Resident Empowerment*

The many services offered by the reception centers to residents tend to make them lose their autonomy, so we are entering into a paradox of the surplus of services, which in the end does not serve them well from the point of view of their personal development, with a view to their integration. The

adaptability that most IDPs have shown in order to reach the reception center implies that they have the capacity to be more self-sufficient than the reception facilities would have us believe, so these services should be limited in a thoughtful way, without eliminating them. "Autonomy is reflected architecturally in the programmatic and the distribution of functions in collective reception infrastructures. In order to be able to increase the autonomy and daily decision-making power of each person, we should forget this notion of the center and turn to a response closer to the home. Whether they are multi-family houses or small grouped housing. »

➤ *Flexibility*

The point of flexibility, at the architectural level, would lie in having a structure capable of evolving according to the needs of the residents. Otherwise, in the case of a change of program assigned to the site, this type of project may last only a few months or a few years, programmatic flexibility can be an advantageous argument when applying for authorization to carry out such a project.

B. International Regulations and Standards

➤ *Sphere*

The Sphere Handbook is a key reference in humanitarian standards. It establishes minimum standards to guarantee the quality of humanitarian interventions:

• *Basic Principles:*

- ✓ Human dignity: Respect and protect the dignity of those affected.
- ✓ Participation: Involve communities in the planning and implementation of responses.
- ✓ Accountability: Ensure transparency and accountability to affected populations.

• *Specific Standards:*

- ✓ Shelter, human settlement, and non-food items: According to the Sphere Manual, each person must have at least 3.5 m² of covered space.
- ✓ Water and sanitation: Each person should have access to at least 15 liters of clean water per day, and there should be a maximum of 20 people per latrine.
- ✓ Food security and nutrition: Ensuring access to sufficient, nutritious and appropriate food.
- ✓ Health: Interventions must ensure access to essential health care, including the prevention and treatment of the most common diseases.

➤ *Office of the United Nations High Commissioner for Refugees (UNHCR)*

In 2006, UNHCR established specific standards for refugees and internally displaced persons (IDPs) similar to those in the Sphere Handbook:

- ✓ Shelter: UNHCR recommends a living space of 3.5 m² to 4.5 m² per person in temporary shelters.
- ✓ Water and sanitation: Provide at least 20 liters of water per person per day. A latrine must be available for 20 people.

- ✓ Safety: Shelters should be located in safe areas, away from hazards such as floods, landslides or conflicts.

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- Safety: Shelters should be located in safe areas, away from hazards such as floods, landslides or conflicts.
- Protection of vulnerable groups: Take special measures to protect women, children, the elderly and persons with disabilities.

C. *Essential Criteria for the Design of Reception Centres*

In the previous paragraphs we have tried to bring together the various problematic aspects of the current models of reception centers, and thus listed the points that should be given priority consideration for any project aimed at a better integration of displaced persons.

➤ *Promote Social Contacts*

In an article (Gutschalk, N. A new homeland or how architecture creates integration for refugees. *Life At Home*, 2018) questioning the architectural efforts to be made for a better integration of displaced people in Switzerland, the co-founder of the association Architecture for Refugees SUISE testifies that "There is an urgent need for more diversity in terms of accommodation, whether through an integrative architecture for displaced people, which provides sufficient space for community life, as well as by the choice of the site in an environment integrated into the neighborhood. The clichéd architecture of simple refurbished containers, isolated on the outskirts to accommodate displaced people, would not be enough to start their integration into the new life they are beginning. Transitional solutions for a framework limited in time, in the situation" would therefore no longer be efficient enough.

➤ *A Housing Model Rather than a Housing Model*

THOMAS Pierre proposed to rethink the notion of the accommodation center by turning to a form of grouping of reduced dwellings in order to reaffirm the autonomy of its inhabitants. The latter also evokes in this regard the organization of small structures in the manner of a village, allowing everyone to have their autonomy while leaving room for free meeting places. He thinks that "An architecture that is not very defined, allowing the inhabitant to express his spatial desires and needs through his appropriation and modification of the space would probably be an interesting solution. Allowing the participation of the occupants in the construction and in the development is also a necessary point. The alternative would therefore be based on a housing model

rather than a housing model. "The notion of accommodation includes only a roof, something to sleep, wash and eat." Responding to the housing crisis with shelter solutions appeared to be effective and met the basic needs expressed in Maslow's pyramid (Figure 4). "The notion of housing goes further, it makes it possible to meet the needs necessary for the personal development of the occupants, the displaced need it in order to develop their autonomy and start their integration."

VI. OVERVIEW OF CAMPS FOR THE RECEPTION AND ACCOMMODATION OF DISPLACED PERSONS ACROSS CAMEROON

According to the UNHCR report from August 2023, Cameroon had about 30 reception centers for refugees and internally displaced people spread across the regions of Adamawa (about 2, Ngam and Borgop), North-West (about 5, Bamenda and Kumbo), South-West (about 3, Buea and Limbe), East (about 8, Gado-Badzere, Mbile and Yokadouma) and Far North (about 12, Kolofata and Minawao). However, given the very dynamic humanitarian and migration situation in the country, the number of reception centers probably had to increase in order to cope with the continuous influx of refugees and internally displaced persons as described above (1.2). The precise location of some centers is often kept confidential for reasons of safety of the people housed in these centers, as disseminating sensitive information could put their lives at risk. In this section, we will present some of them chosen by region on the basis of their reputation, according to the criteria of the context, the layout of the site, the architecture of the shelters, the functional and technical aspect and finally the social and human aspect.

➤ *In the Adamawa Region: Borgop Refugee Camp*

• *Context and Site*

The Borgop Refugee Camp is located in the Adamawa region, about 15 km from the border with the Central African Republic. Established in 2014 to accommodate refugees fleeing conflict in CAR, the camp covers an area of about 70 hectares in a forested savannah landscape (UNHCR, 2015). As of 30 June 2022, the population of the site stands at 11,314 Central African refugees (UNHCR, 2022).

• *Site Development*

The main access to the camp is via a laterite road. At the entrance, there are the administrative buildings, common services (kitchen, warehouses, infirmary) and reception areas (REACH, 2016). The development plan follows an orthogonal grid organization, with rectilinear streets delimiting rectangular residential blocks (MSF, 2018). As presented, this provision facilitates the planning of basic infrastructure (water, sanitation, electricity). Community spaces are provided, such as children's play areas, market areas and gathering spaces. Water supply is provided through boreholes and distribution points (UNHCR, 2017). see Figure 7.



Fig 7 Borgop Refugee Camps, Adamawa Region.
(Source: www.lejournalinternational.fr)

- *Shelter Architecture*

Individual shelters are constructed from bamboo or wooden structures covered with plastic sheeting (Oliver, 1997), see Figure 1.10. They offer a space of about 18 m² to accommodate an average of 6 people (UNHCR, 2016). The interior layout is simple, with a single space serving as a living room, kitchen and bedroom. Natural lighting and ventilation are limited, which can affect occupant comfort (Tawfik, 2019). The durability of these shelters is average, requiring regular repairs in the face of climatic conditions (MSF, 2018).

- *Functional and Technical Aspects*

The grid organization facilitates the service of basic infrastructure (water, sanitation, electricity) compared to a

more organic plan (UNHCR, 2017). Technical equipment remains relatively rudimentary: community showers and latrines, no sewage disposal, non-existent heating and cooling systems (REACH, 2016). Accessibility for people with reduced mobility is not considered in the design of shelters and public spaces (WHO, 2020).

- *Social and Human Aspects*

The rigid grid plan may seem less favorable to community interactions than the more organic organization. However, spaces dedicated to collective, training and integration activities have been set up (Shelter Projects, 2015). Despite the precarious living conditions, the camp appears to offer a better level of services and infrastructure than some older camps (UNHCR, 2017). see Figure 8.



Fig 8 Borgop Refugee Camps, Adamawa Region.
(Source: www.lejournalinternational.fr)

➤ *In the Eastern Region: Gado-Badzere Refugee Camp*

• *Context and Site*

The Gado-Badzere refugee camp is located in the Eastern region, about 25 km from the border with the Central African Republic. Established in 2014 to accommodate refugees fleeing conflict in the Central African Republic, the camp covers an area of about 100 hectares in a forested environment (UNHCR, 2015). As of 31 December 2022, the population of the site stands at 25,715 Central African refugees (UNHCR, 2022).

• *Site Development*

The main access to the camp is via a laterite road. At the entrance, there are the administrative buildings, common services (kitchen, warehouses, infirmary) and reception areas (REACH, 2016). Residential areas are organized more organically than in a checkerboard plan, with irregular pedestrian walkways as shown in Figure 1.11. Each sector

includes individual shelters made of tarpaulins and wooden poles, grouped into family "concessions" (MSF, 2018). Community spaces are provided, such as children's play areas, market areas and gathering spaces. Water supply is provided through boreholes and distribution points (UNHCR, 2017).

• *Shelter Architecture*

The individual shelters are similar to those in Mbile Refugee Camp, consisting mainly of plastic sheeting stretched over a lightweight wooden pole structure (Oliver, 1997), see Fig 9. They offer a space of about 18 m² to accommodate an average of 6 people (UNHCR, 2016). The interior layout is basic, with a single space serving as a living room, kitchen and bedroom. Natural lighting and ventilation are limited, which can affect occupant comfort (Tawfik, 2019). The durability of these shelters is low, requiring frequent repairs in the face of the harsh weather and climatic conditions in the region (MSF, 2018).



Fig 9 Mbile Refugee Camp
(Source: The Observatory of Refugee Camps)

• *Functional and Technical Aspects*

The more organic organization of the site makes it more complex to serve basic infrastructure (water, sanitation, electricity), compared to a checkerboard plan (UNHCR, 2017). Technical equipment remains rudimentary: community showers and latrines, no sewage disposal, non-existent heating and cooling systems (REACH, 2016). Accessibility for people with reduced mobility is not considered in the design of shelters and public spaces (WHO, 2020).

• *Social and Human Aspects*

The more organic spatial organization seems to favor community interactions, even if the spaces dedicated to collective, training and integration activities remain limited (Shelter Projects, 2015). Precarious living conditions can have a negative impact on the psychological well-being of residents (UNHCR, 2017).

In conclusion, the Gado-Badzere Refugee Camp has similarities with the Mbile Refugee Camp in terms of architectural quality, functionality and consideration of social and human aspects. Significant improvements would be needed to provide better living conditions for residents.

➤ *In the Far North Region: Minawao Refugee Camp*

• *Context and Site*

The Minawao Refugee Camp is located in the Far North of Cameroon, close to the border with Nigeria. Opened in 2013 to accommodate people displaced by the conflict with Boko Haram, the camp covers about 300 hectares in an area of Sudanian savannah (UNHCR, 2015), currently the largest refugee camp in Cameroon, hosting about 70,000 people (UNHCR, 2023).

- *Site Development*

The main access is via a tarmac road. At the entrance, there are administrative buildings, common infrastructure (school, market, health centre) and a reception area for new arrivals (REACH, 2016). The development plan follows an orthogonal layout, with a network of straight streets and

rectangular residential blocks (MSF, 2018). This grid plan facilitates the service of basic infrastructure. Community spaces have been set up, such as playgrounds, squares and gathering areas. Water supply is provided through a network of boreholes and distribution points (UNHCR, 2017). see Figure 10.



Fig 10 Minawao Refugee Camp,
(Source: Refugee Camp Observatory)

- *Shelter Architecture*

Individual shelters are constructed of compacted earth panels, with a wooden structure and a corrugated iron roof (Oliver 1997), see Figure 10. They offer a space of about 24 m² to accommodate 5 to 6 people (UNHCR, 2016). The layout of the shelters follows an orthogonal plan, with straight streets and regularly shaped residential blocks (Tawfik, 2019). This makes it easier to trace technical networks, but limits community interactions. The strength and durability of these shelters allow them to be used over the long term, with the possibility of gradual extension (MSF, 2018).

- *Functional and Technical Aspects*

The orthogonal plan greatly facilitates the provision of basic infrastructure (water, sanitation, electricity) compared to an organic plan (UNHCR, 2017). The technical equipment is more developed than in the Kolofata camp: water supply network, septic tank sanitation system, partial electrification of common areas (REACH, 2016). Accessibility for people with reduced mobility is only partially considered in the design of shelters and public spaces (WHO, 2020).

- *Social and Human Aspects*

Orthogonal organization can further promote standardization and efficiency in camp management, but can limit community interactions (Shelter Projects, 2015). Spaces dedicated to collective, training and integration activities have been set up. Despite still precarious living conditions, the

camp seems to offer better infrastructure and services than Kolofata camp, closer to the standards of refugee camps (UNHCR, 2017).

In conclusion, the Minawao Refugee Camp has an orthogonal organization that facilitates the service of the infrastructure, but can limit community interactions. Improvements are still needed to provide better living conditions, while maintaining a certain quality of public spaces and services.

VII. CONCLUSION

In summary, this article This first chapter has made it possible to go through the documentation and data available in order to present an inventory in terms of conflict and conflict zones in Cameroon, to present a state of the needs of displaced people from conflict zones in Cameroon, to go through the philosophies of reception center design, to analyze the refugee camps present in Cameroon in order to improve humanitarian responses. It emerges that humanitarian responses have focused on more professional approaches, each with approaches that are as different as they are interesting. However, these approaches for the most part require a threshold of recontextualization in the era of time and as a result, open up new perspectives for a better contextualization of the architecture of humanitarian responses today.

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