

## Original Traditional Habitat of The Kara Urban Agglomeration: Characteristics of a Deteriorating and Disappearing Heritage

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### Abstract

The traditional habitat is a model of human and ancient construction of great value, belonging to a given period, which characterizes a people and reflects the history and culture of this people. In Togo, a country in West Africa, and more specifically in the urban area of Kara, the original traditional habitat bears witness to the creativity and ingenuity of the Kabyè people in the design and construction of their habitat. The latter derives from everyday uses and forms of belief. This study identifies and analyses the characteristics of the original traditional habitat of the urban agglomeration of Kara, while showing the level of degradation and disappearance of this heritage. The methodological approach used to arrive at the results is based on field observation, qualitative and quantitative data collection, GPS surveys and sketches of the original traditional buildings in the urban area of Kara. Documentary research, interviews and visits to museums, especially the traditional museum at Yadé, which is a faithful representation of the original habitat in this area, have enabled us to obtain additional information. A total of 471 out of 24 512 households were surveyed and 34 interviews were carried out. This approach shows that the urban area of Kara has a rich traditional architectural heritage expressed in the original traditional dwellings. These are characterised by round huts made of rammed earth or kneaded earth and covered in straw, and are disappearing and deteriorating from the center to outwards. In the town Center, traditional dwellings have completely disappeared, they are in the process of disappearing and deteriorating in the outskirts and they are beginning to deteriorate on the rural outskirts.

**Keywords:** *Traditional Habitat, Original, Urban Agglomeration, Kara (Togo).*

### Introduction

From the earliest times, man has always felt the need to find, at the end of his labour, a place of rest, providing him with comfort and shelter to develop his activities while protecting him from all dangers [1]. Over the course of its history, it has built a wide variety of habitats, ranging from the simplest shelters to the most elaborate urban complexes, as well as traditional dwellings using locally available materials [2], [3], [4]. Man has been evolving since the dawn of time, building his space and habitat according to his motivations and needs [5].

Habitat, in general terms, encompasses residence, configuration, location and interactions. In other words, it consists of the dwelling and everything that may surround it, namely its size, location, spatial relationship with the neighbourhood, etc. Thus, we can say that habitat takes into account the dwelling and the layout around that dwelling [6].

Traditional housing is one of the most obvious representations of vernacular architecture. It is located in a specific geographical environment, according to the culture of a ethnic group, in the social, cultural, economic and technical conditions specific to that group [1]. Characterised by its adaptation to

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local constraints, it is built by craftsmen without architects, using skills passed down locally from generation to generation. For [7], vernacular architecture is an expression of our ethnicity and characterizes a way of building that is consistent with a location. It pays particular attention to the physical characteristics of a site, such as climate, topography and available resources, but also to cultural characteristics, local construction techniques and social relationships [1]. As a result, vernacular architecture has three main characteristics. Firstly, it refers to tradition as a source of order, ensuring that knowledge is passed down from generation to generation, with each generation adding its own touch and modifications without affecting the overall appearance of the shapes produced. Second it is a gentle transformation of nature, through integration with the environment, climate and site, resulting in a certain harmony between man's relationship with his environment. And finally, it has a strong capacity to adapt to different situations. The materials are linked to local resources, and the shape is dictated by the climate and human groups. The programme follows basic needs [8], as well as social practices and culture [1].

[9] defines traditional housing as a type of housing from a time when the inhabitant designed and built his own home, with the help and assistance of his peers and the whole community. It is also seen as a collection of buildings, mainly made of earth, which bear witness to ancestral and local technical know-how [10]. This type of housing, found throughout the world, is characterised by its perfect and harmonious integration with the site, its use of traditional techniques and local materials to ensure the comfort of its occupants while respecting the environment. [9]. Today, traditional housing is recognized as a testimony to the past, a heritage to be preserved and passed on [9]. The buildings are made of local materials [9], such as earth, stone, straw, wood, etc. [10], with traditional building techniques based on the ancestral and endogenous skills and knowledge of the people who, over the centuries, have been able to adapt materials to specific ecological, economic and socio-cultural conditions [10]. Classed as one of the most representative forms of traditional housing and architecture, earthen architecture is seen as a symbolic expression of the human ability to create a built environment by making the most of locally available resources [11], [3]. Characterised by low-cost buildings that are easy to install, this is architecture that is sustainable over time, with the possibility of reusing materials at the end of their life in the construction of new buildings [3]. Earth has been used in construction since time immemorial, and is still one of the most widely used materials, fully available and accessible to everyone. Today, a third of the world's population lives in an earthen dwelling. [12]. For [9], traditional architecture bears witness to the diversity of cultures and lifestyles, passed down from generation to generation and specific to a community or country. In Africa it is characterised by local materials such as earth, stone, wood and straw, and is essentially shaped by a number of environmental, ecological, sociological, demographic, geographical and religious factors, as well as adapting to the climate. It is also influenced by natural conditions, in particular climate, vegetation, soil, etc. [3]. According to numerous studies, earth and stone architecture offers significant added value in terms of environmental preservation and improving quality of life [13].

Like other continents, Africa has the greatest diversity and wealth of traditional architecture. Indeed, traditional architecture has developed over thousands of years thanks to the expertise of local populations in working with the raw materials available in their environment [14]. For him, just like the diversity of functions of the habitat, the traditional habitat is not only perceived as a place of rest and daily activities, but also as a space closely linked to society. It represents a symbolic space and its style bears witness to local traditions. Ancient African societies are known for the exceptional nature of certain significant elements of their architectural and landscape heritage. Within this African architectural heritage, stone and earthen constructions play an important role. Earthen architecture is represented by monumental buildings and quality constructions that have stood the test of time. The earthen mosques of Mali (Djenné, Tombouktou, Gao), the Toloy granaries (2nd - 3rd century), the royal palaces of Abomey (1625 to 1900), the Dogon villages have nothing to envy of the medieval European cathedrals or certain emblematic Asian buildings of the same period, such as MachuPichu, the Taj Mahal, etc. [4]. The high representation of earthen buildings on the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List, estimated at around 17% of archaeological and historic architectural sites, i.e. 120 listed sites, although hundreds of others deserve to be listed [15], bears witness to the authenticity and originality of the ancestral skills of earthen architecture. For [16], As well as being a reflection of social relations and the particular social stratification in which they are implemented, the heritage of rural Africa in particular is transmitted in practice, through practice.

Despite its modest size, Togo is no stranger to traditional architectural treasures [17], [18]. For [19], in Lomé, there is a whole range of architectural creation by and for the inhabitants themselves,

which makes the city unique and the old districts surprisingly rich. Togo's population is characterised by a mosaic of populations made up of ethnic groups of all sizes and diverse origins, whose traditional architecture derives from daily customs, forms of belief, economic conditions and the degree of cultural development of the surrounding environment. Adapted to the family structure, it evolves according to the needs of the family, whether large or small. The example of the royal palaces of Aného in the Maritime Region, the Nano caves in the Savannah Region, and the Tata Tamberma of the Batammariba ethnic group in the Kara Region, whose ingenuity in the design, organization and construction of their dwellings, was recognized by the inclusion of the Koutamakou site on the UNESCO World Heritage List in 2004, illustrate this traditional architecture marked by the great ingenuity of the peoples in the design and construction of their buildings. As underlined by [3], each geographical area within a country has a different vernacular architecture, shaping unique landscapes.

Traditional housing in the urban area of Kara is characterised by the courtyard element. It is around the courtyard that the various elements making up the architectural ensemble are arranged [20]. Earth remains the main building material for the original traditional dwellings in the urban agglomeration of Kara. Coatings are made of earth mixed with cow dung, cowpea pods, shea butter, rice husks, straw, etc. [21], [4] and decorations with animal remains and horns. For [1], earth is an age-old building material. It is one of the best-known materials in the world for its thermal properties, wide availability and low cost. The building work is carried out by the whole community, marked by a strong bond of socialization to the rhythm of beautiful and melodious songs that convey the history of the elders and at the same time give advice to the youngest members of society. The courtyard was treated with shards of broken pottery, and the rooms were tamped with earth by the women [18]. A construction technique and materials that protect the yard from erosion and provide a particularly effective system for protecting and beautifying the ground. The foundations of the huts are reinforced with local stone to protect the houses. With its cultural and architectural potential, the urban agglomeration of Kara is full of original traditional dwellings, which trace the history and ingenuity of men from the choice of site, through the spatial organization, to the final erection of the building. Their way of life, their way of thinking, their social organization and their traditions are also represented through their habitats [20].

Despite all this potential, and despite the fact that the protection and enhancement of the built heritage of earthen architecture is increasingly at the heart of the challenges of sustainable development with the current awareness of the need to adopt lifestyles that are more respectful of the environment [3], traditional housing throughout the world is increasingly being degraded and disappearing as a result of changing lifestyles and societies, colonization and the emergence of new needs, [22], to rapid urbanization [8], to modernity, which sweeps away all ancestral knowledge and skills in its path [16], to very strong population growth and, above all, to building materials evolution [23]. For [12], Nowadays, the international community's awareness of both the richness and the deterioration of earthen architecture has become a reality. This fragile heritage is threatened by natural causes such as earthquakes, floods, etc. and human causes such as wilful destruction, urbanization, loss of traditional building techniques, lack of interest in earth construction, etc. In some regions, particularly in the Middle East, and just about everywhere else in the world, "earth" materials are gradually being abandoned in favour of so-called "modern" materials, in particular cement blocks.

Originally using local materials such as earth, straw, wood, nére husks and stone, builders and beneficiaries in urban and rural areas are increasingly interested in modern materials such as cement [24], sheet metal, ceramics, etc. This situation is gradually causing the deterioration and disappearance of the original traditional buildings, which are places of memory filled with history and messages for present and future generations. As far back as 2000, the International Council on Monuments and Sites (ICOMOS), through its World Report on Monuments and Sites in Danger, warned of the growing threat of degradation and disappearance of various types of heritage, including vernacular heritage, especially in war-torn and developing countries. Throughout the world, and especially in Africa, there is a wide variety of monuments, historic villages and towns, family homes, archaeological sites, etc., which are in the process of changing, deteriorating or disappearing, and which are of economic, ecological and social importance to their communities and make a positive contribution to the local economy. In the midst of a major urban transition [25], [26], [27], Africa is experiencing a gradual disappearance and significant change in its original traditional buildings [23], as well as a lack of in-depth study of its architectural riches, construction methods and design principles, as in the case of Ilkhanid architecture according to [28], and many other legacies that remain unknown.

The gradual disappearance of traditional habitats observed throughout the world is a particularity in Togo. According to the 5th General Population and Housing Census (RGPH -5, 2022), housing in

Togo is dominated by the semi-modern and modern type (58%), followed by the traditional type (42%). The traditional Togolese habitat is therefore in the process of changing, deteriorating and disappearing.

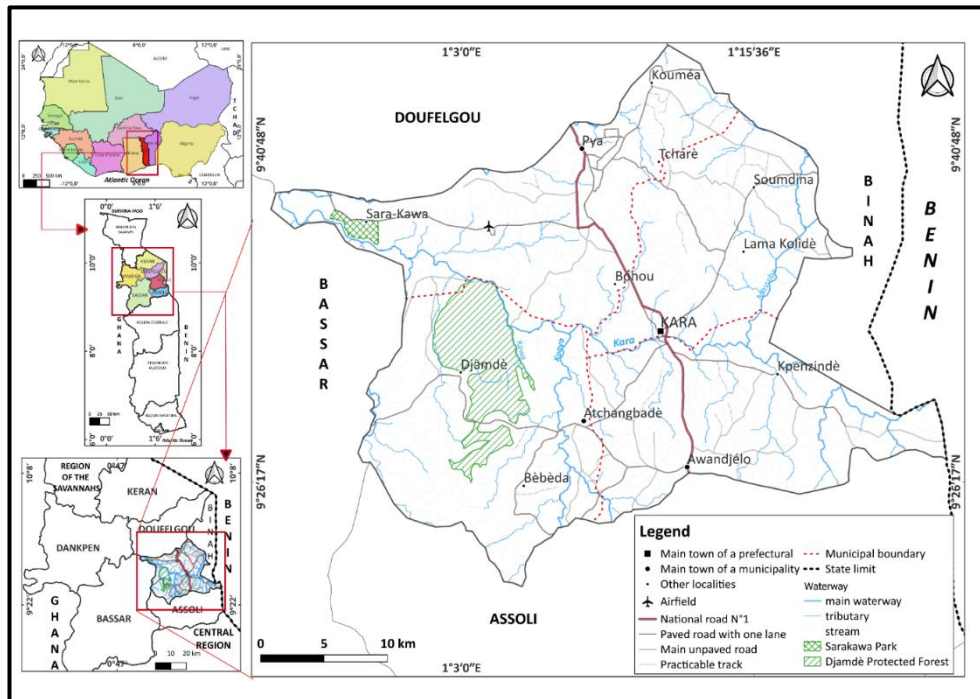
Within the urban agglomeration of Kara, the original traditional habitat is at a crossroads. In the midst of deterioration and disappearance, it is subject to the effects of time and socio-temporal changes. Cement bricks replace clay for building traditional walls, sheet metal replaces straw for roofing, and metal replaces wood for framing. The earth has ceased to be appreciated [29]. The same applies to the treatment of the courtyard with broken pottery made from clay, and the earth tiling in the bedrooms by the women, which is replaced by ceramics, paving stones and washes. Clays are indeed a component of soil that has been used since ancient times in construction and pottery around the world [30], [31], [32]. Community and social work is disappearing and being replaced by individual work. These traditional materials and all the traditional building skills and techniques that contribute to the beauty of Togo and the urban area of Kara are rapidly deteriorating and disappearing.

Given this observation, the main objective of this study is to analyse the original traditional housing in the urban agglomeration of Kara. In concrete terms, this means to: (i) identify the original traditional habitat ; (ii) present its characteristics; and (iii) show the level of degradation and disappearance.

## **Materials and Methods**

### **Study Area**

The study area, the urban agglomeration of Kara, is located in West Africa, in Togo, and more specifically in the northern region. It stretches between 9°30' and 9°45' north latitude and 1° and 1°15' east longitude, with an average area of 1,075 km<sup>2</sup>, and is mainly populated by the Kabyè, a people who consider themselves indigenous and native to the area. Other ethnic groups such as the Tem, Lamba, Nawdéba, etc. and foreigners are also found in the locality. It is bordered to the north by the prefecture of Doufelgou, to the south by the prefecture of Assoli, to the east by the prefecture of Binah and the Republic of Benin, and to the west by the prefectures of Bassar and Dankpen. Indeed, the Kozah prefecture shares a border with Benin at Kpindi in the canton of Kpanzinè. Administratively, the Kozah Prefecture comprises 110 villages grouped into 15 cantons (INSEED 2022) and structured into four municipalities, namely Kozah 1 with Kara as its capital, the municipality of Kozah 2 with Pya as its capital, the municipality of Kozah 3 with Awandjélo as its capital, and the municipality of Kozah 4 with Atchangbadé as its capital. The city of Kara is simultaneously the capital of the Kara region, the capital of the Kozah prefecture, and the capital of the municipality of Kozah 1. In the context of our study, the urban agglomeration of Kara consists of the city centre, which is the municipality of Kozah 1, and the outskirts, which are the municipalities of Kozah 2, Kozah 3 and Kozah 4. It can therefore be likened to the prefecture of Kozah, as shown on the Map 1.



- **Map 1:** geographical location of the urban agglomeration of kara
- **Source:** INSEED, 2022 modified by Author

The urban agglomeration of Kara extends from the urban centre to the main towns of the municipalities, such as Pya (Kozah 2), Sara-Kawa (Kozah 3) and Awandjélo (Kozah 4). The human occupation of the Kabyè, the majority and presumed indigenous people of the study area, is the result of a long-standing settlement process. There are two diametrically opposed interpretations of this long-standing process. The first stems from the descent of the first Kabyè man from the sky, while the second traces the origins of the people back to migratory phenomena. For (E. BADABADI, 2014, p.28), the word "Kabyè" is a name given by the Tem to categories this people who have developed particular strategies for making the most of the slopes and summits they occupy through their ingenuity.

## Research Methodology

This research is based on a mixed methodology that combines quantitative and qualitative data. It also draws on secondary and primary data.

### Documentary Research

To gather information, secondary data was collected from documentation. The documentation collected consists of all the works consulted and aims to shed light on the issue of traditional housing. Its purpose is to reframe the study and better define its place in the current scientific debate. Existing data was gathered from research carried out in libraries and institutions related to culture and heritage, as well as from research sites. These include works consulted at the University of Lomé library and the Research Laboratory on the Dynamics of Environments and Societies (LARDYMES), at the EAMAU library, at the town halls of the communes of Kozah 1, Kozah 2, Kozah 3 and Kozah 4. Data from the fifth population and housing census (RGPH 2022) conducted by the National Institute of Statistics, Economic and Demographic Studies (INSEED) served as the database for sampling. The data collected during the documentary research was supplemented by field surveys and interviews.

### Observation

Observation is one of the most important steps in this research process. Observing elements related to the research topic, from identifying the problem to conducting field research, provides a tangible understanding of the reality of the phenomenon in relation to the issue of traditional housing. It provided an opportunity to study, analyse and summarise tips that could be used as a database for the study. Thus, the shape of the buildings, the construction and roofing materials, the layout of the

courtyard, the prerequisites prior to construction work, and indigenous construction techniques are direct observations explored in this study. The collection of primary data from the administration of the questionnaire, the conducting of interviews and discussions, the taking of photographs and the drawing up of sketches made it possible to illustrate the scientific reasoning. The observation phase took place throughout the data collection process for the pre-survey, which ran from 5 to 9 February 2024, and the survey from 12 to 24 August 2024 and from January to July 2025

**Interviews**

Field interviews were used to gather qualitative data. The interview guide was designed with the people involved in the project in mind. Direct and indirect stakeholders were interviewed as part of this study to provide information that will help build the case. A total of 34 people were interviewed. Table 1 shows the people surveyed in accordance with the objectives of this research. These include traditional chiefs, neighbourhood leaders, those involved in preserving architectural heritage, village elders and wise men, traditional priests, and masons who still master traditional building techniques and continue to practise them. In addition, several officials from the town hall, the culture department, the planning department and the museum were interviewed. Given the diversity of the subject and the information required for this study, a survey questionnaire was administered to the target group.

**Table 1 : Summary of People Identified for Interviews**

Respondents	Number
Traditional chiefs, village elders, and district chiefs	10
Neighbourhood leaders	2
Traditional priests	4
Traditional builder	4
Yadè Traditional museum / Kara Regional Museum	4
Regional Department of Arts and Culture / Kara Regional Planning Department	2
Mayors, technical management of town halls (DST)	8
<b>TOTAL</b>	<b>34</b>

Source : Research work, 2023

**Questionnaire Based Survey**

It was based on a sample compiled using data from the Fifth General Population and Housing Census (5RGPH) conducted in November 2022 by the National Institute of Statistics and Demographic Studies (INSEED), which estimates the population of the Kara urban area at 283,738 inhabitants. People were surveyed on the basis of their relationship with the orientations of the study. The questionnaire was administered to the people concerned in the urban area of Kara. It consists of closed questions, semi-open or semi-closed questions, or multiple-choice questions (MCQs) that allowed respondents to choose between several possible answers, and open questions that gave them the opportunity to freely express their views on the subject of the research. These questions provided additional information on the characteristics of the traditional housing in the study area and revealed the perceptions of the younger generation regarding this heritage, as well as other useful information. To determine the sample surveyed, the following formula was applied.

**Sampling Technique**

N: P/T

N: Number of households

P: Target population

T: Average household size

The average household size used in this study is five persons per household, in accordance with the results of the fifth General Population and Housing Census (RGPH-5). The sampling rate used is 1/50. Table 2 summarises the households surveyed. In total, in accordance with the target and sampling technique, 471 people were surveyed. The data collection tool used is the Kobocollect software (ODK Collect v2024.2.4). The survey was conducted in households, with the head of household as the survey target. In the absence of the head of the household, the person available who can provide the information is interviewed. The study area has been divided into 3 sectors, namely the urban centre, the pericentre and the rural periphery in order to assess the representativeness of the original traditional

and others traditional buildings. The questionnaire is structured into four (04) main parts: the identity of the respondent, i.e. marital status, number of wives and children, occupation, average monthly income, level of education, age, ethnicity and religion. While architectural surveys and sketches enabled us to reconstruct the habitat types and highlight the physical characteristics of the original habitat, the GPS coordinates of the traditional habitats were taken for a better cartographic representation of the different types of traditional habitat present in the locality, according to the classification criteria adopted.

**Table 2: Summary Of Households Surveyed**

Cantons	Population	Nombre de ménage	Nombre enquêté
LASSA	12 999	2 600	52
SOUMDINA	9 274	1 855	38
LANDA	10 176	2 035	40
PYA	11 398	2 280	56
KOUMEA	7 489	1 497	30
TCHARE	2 301	460	10
BOHOU	6 739	1 348	26
YADE	4 301	860	10
TCHITCHAO	7 427	1 485	30
SARAKAWA	6 049	1 210	24
AWANDJELO	12 147	2 429	48
KPINZINDE	11 608	2 322	26
ATCHANGBADE	16 876	3 375	66
DJAMDE	3 778	756	15
<b>TOTAL</b>	<b>122 562</b>	<b>24 512</b>	<b>471</b>

Source : Research work, 2023

### **Data Processing and Analysis**

The data collected in the field has been processed and the results have been drawn. The data was processed using S.P.S.S. 29.0 (Statistique Package for Social Sciences, 29.0), which was used to extract the statistical data, graphs and illustrations required for the article. The qualitative data from the interviews were transcribed and processed to form the basis of the research. Excel and Word were used to process the text and draw some of the illustrations like the graphics. ArcGIS software was used to produce the maps. The sketches were made by hand using pencil and eraser.

### **Results**

#### **Habitat Composition.**

Traditional African housing is not usually a compact building that combines several functions, such as living quarters, dining areas, storage spaces and livestock shelters. Instead, these activities are carried out in small units scattered around a courtyard [23]. Located in West Africa, in the northern part of Togo, the original traditional Kabyè dwelling in the urban agglomeration of Kara consists of a central courtyard around which are grafted huts dedicated to various functions. Figure 1 shows the original traditional Kabyè dwelling in the urban area of Kara, organized around a central courtyard and comprises a vestibule, rooms for living quarters, kitchens, attics, a shower, a hut for deities and chicken coops. All this was arranged in a circular fashion to form a courtyard in the middle of the house.

The dwelling also consists of giant mounds of earth with an average height of 1.5 meters that frame



(a)



(b)

**Figure 1 : Original Traditional Kabyè Habitat in the Urban Area of Kara**

Source : Author, 2024

the vestibule, with another found in the courtyard, usually next to the hut of the deities as show in figure 2.



(a)



(b)



(c)

**Figure 2: Giant Clods of Earth at the Entrance and In the Center of a Dwelling**

Source: Author, 2024

Figure 2 shows in (a) and (b), the mounds of earth at the entrance to the vestibule and (c) a giant mound of earth in the courtyard next to the ruined hut of the deities. The tops of the clods of earth are used to dry cereals away from the roosters and goats, and are also used to store food at night for people who come home late. Under certain clods of earth, as shown in photo (c), are shelters for domestic animals such as chickens. The giant earth mounds that frame the entrance hall serve a dual purpose: in addition to their practical function, they also decorate and embellish the façade of the dwelling. A space that is an integral part of the original traditional Kabyè habitat is the front of the house, which consists of an open mini-pit with an average depth of one (01m) meter, as shown in Figure 3 in (a) and (b). According to the results of the fieldwork, this is a space used to keep animals, generally goats, under the visual control and vigilance of all the surrounding residents. The animals are fed and relieve themselves in this mini pit, which also serves as a rubbish bin for the house. This area is used to prepare natural manure for use in the fields, following a well-defined process. All the mixtures of household and animal waste decompose under the effect of the weather, i.e. rain and sun, and become natural manure,

which is used in the fields under the crops. This is an ecological habitat that transforms waste into natural compost.



(a)



(b)

**Figure 3: View Of the Mini Open Pit in Front of a Traditional Kabyè Dwelling**

Source: Author, 2021

An important element in the composition of this habitat is the seating, generally made of stone and wood, under a large tree, usually a baobab (the fetish tree of the Kabyè) as shown in Figure 4 in (a) and (b).



(a)



(b)



(c)

**Figure 4: View of the Seats Under a Baobab Tree**

Source: Author, 2022

This space is usually found at the front of the house and is the ideal resting place for the heads of household and the wise men of the house. It is a space that serves as a meeting place, a place for certain domestic tasks, show figure 4 (c), and a place for elders and wise members of the family to pass on knowledge and wisdom to children. They spend a good part of their day resting, chatting or doing some housework and people only return to their homes in the evening or when it rains. It's a place for sharing, working and relaxing. It is therefore a mixed space playing several roles and combining several functions at the same time. Sometimes there are also granaries outside the house, not far from the seating areas and the mini open pit, as shown in Figure 5.



**Figure 5: View of Several Granaries Outside a Traditional Dwelling**

Source: Author, 2022

Figure 5 shows granaries located outside the house. These granaries reflect the wealth of the family living in the concession. This wealth is reflected in the number of able-bodied men and women and their ability to plough large areas of land in order to produce large harvests. As there was a surplus of crops that could not be stored in the house's granaries, additional granaries were built outside the house to store the harvest. The number of granaries outside the house illustrates the level of wealth of a concession. In addition to all the above, some traditional tombs can be found inside certain traditional dwellings as shown in figure 6.



**Figure 6: View of a Traditional Tomb**

source: Author, 2024

The figure 6, shows a traditional ancestral tomb in Kabyè country in the urban area of Kara. Also known as a family burial vault, this is a carefully dug hole containing several spaces inside, meticulously maintained, and serving as the final resting place for all elderly people (over 70 years of age) who have led exemplary lives within their families and society. The bodies of the deceased are laid directly on the ground in direct contact with the earth, unlike today's practice of placing the deceased in coffins and burying them in individual plots. The latter decompose naturally and make way for other bodies. This burial technique helps to contain the spatial expansion of cemeteries, a phenomenon that is becoming increasingly widespread in society.

All these elements are organized in an original and spectacular way according to the principles, knowledge and skills of the builders.

### Spatial Organization of the Building, Number of Rooms And Surface Area of Spaces

Organized in an original and authentic way, the traditional original dwellings bear witness to the ingenuity of the Kabyè builders of the urban agglomeration of Kara in the design and construction of their buildings as shows figure 7.

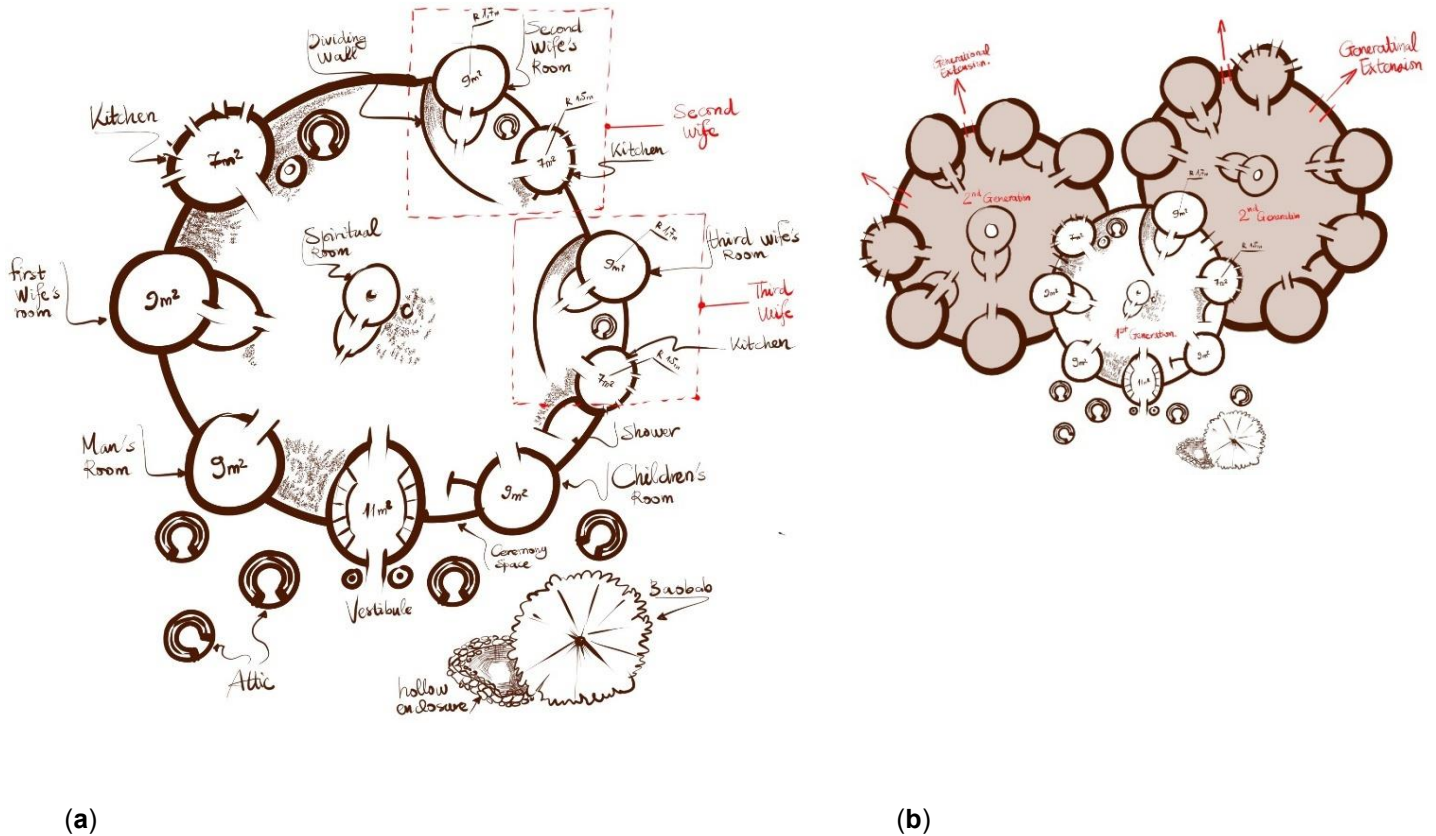


Figure 7: Plan View of An Original Dwelling and on Original Traditional Kabyè Concession

Source: Author, 2025

The Figure 7 above, shows, in (a) the spatial organization seen in plan (2D) of an original traditional Kabyè dwelling in the urban agglomeration of Kara through the layout of the different rooms around the courtyard and in (b) a plan view (2D) of an original traditional Kabyè concession composed of three (03) family units of two (02) generations, showing how one moves from a single family unit to a large family concession bringing together several generations. In fact, the Kabyè house does not follow any particular orientation. As shown in sketch (a), the vestibule is positioned to facilitate the entry and exit of the inhabitants. It determines the position of the other rooms. After the vestibule comes the courtyard. On either side of the courtyard are the man's room (Laza), located right next to the entrance, as the man is the guardian and physical protector of the house, followed by the first wife's bedroom (Noumou) and her kitchen (Niméa). Then the second wife's bedroom and her kitchen, etc. A bedroom for unmarried adult children if there is space and resources; otherwise, they sleep with their mother. In the middle of the courtyard is the hut of the deities protecting the family (Nann), which has the same layout as the woman's bedroom. This is the place where offerings are made to the deities and ancestors during ceremonies and rituals. Inside this room there are also clods of earth (Koumoula) which symbolically and spiritually represent the souls of all the wise men of the concession who have died. There is also a granary and a chicken coop underneath. In some concessions there is a traditional tomb next to the deities' hut, although this does not exist in others. The shower is built to follow the slope to facilitate the drainage of waste water. The attics and chicken coops are located on either side of the surrounding wall and are strategically positioned to facilitate rapid human intervention in the event of a problem. Small attics are also provided in the women's bedrooms for their privacy. For the most part, the attics

in the courtyard also house the chicken coops, which are located just below. Ploughing areas are reserved and available around each concession, however large-scale farming on large areas is carried out in areas much further away from dwellings.

For any human dwelling, and especially depending on the availability of resources, the number of rooms is closely linked to the number of occupants. Thus, within the urban agglomeration of Kara, the number of rooms in traditional dwellings depends on the size of the household and the availability of resources, especially financial resources, to the head of the household. When resources are available, the number of rooms increases proportionally to the growing size of the household. Table 3 illustrates this proportionality within the study area by showing the relationship between household size and the number of huts in the concessions. A concession is then, a grouping of several households and family units of two (02) or more generations.

**Table 3 : Table Showing the Ratio of the Number of Huts to the Size of Households in a Concession**

Households size				Number of room in concessions			
Number of people	Frequency	Rate	Number of rooms	Frequency	Rate		
Less than 3	93	7.19	2 to 5	165	35.0		
3 to 5	161	23.4	5 to 10	255	54.1		
6 to 10 and more	217	46.1	10 and more	51	10.8		
Total	471	100	Total	471	100		

Source: Author, 2025

According to field data, when households are large, the number of rooms within the concession is also large. Within the urban area of Kara, the original traditional dwellings are constructed and organized into concessions. The number of huts in a concession depends proportionally on the number of households and the size of each household. The surface area of the huts and concessions is relatively variable as shows table 4 below.

**Table 4: Average Size of Rooms and Concessions**

Average size of huts				Surface area of housing			
surface area in m <sup>2</sup>	Frequency	Rate	surface area in m <sup>2</sup>	Frequency	Rate		
3 to 8	55	11.7	100 m <sup>2</sup> to 300 m <sup>2</sup>	140	29.7		
9 to 12	284	60.3	300 m <sup>2</sup> to 600 m <sup>2</sup>	214	45.4		
14 to 16	93	19.7	600 m <sup>2</sup> to 900 m <sup>2</sup>	55	11.7		
More than 16	39	8.3	900 m <sup>2</sup> to 1,800 m <sup>2</sup>	62	13.2		
Total	471	100	Total	471	100		

Source : Author, 2025

Table 4 shows that 60.3% of respondents live in dwellings with huts ranging in size from (9 m<sup>2</sup> to 12 m<sup>2</sup>), and that 29.7% and 45.4% of respondents respectively live in concessions ranging in size from (100 m<sup>2</sup> à 300 m<sup>2</sup>) and (300 m<sup>2</sup> à 600 m<sup>2</sup>). This illustrates that 75.2% of respondents live in properties ranging in size from 100m<sup>2</sup> to 600m<sup>2</sup>. These data show that the huts have an average surface area of 9m<sup>2</sup> to 12m<sup>2</sup> and the average size of a concession varies from 100m<sup>2</sup> to 600m<sup>2</sup>. Consequently, these traditional dwellings do not occupy a large amount of space, as several households can be accommodated in a small area with all the necessary amenities.

Like all dwellings, the original traditional Kabyè house is built on a well-chosen site according to well-defined ceremonies, prayers and rituals.

## **Site Selection and Pre-Construction Requirements**

While modern housing can now be built almost anywhere thanks to advances in technology and according to plans drawn up by architects based on the nature of the sites, traditional Kabyè houses are built on land that has first been approved by the deities. Indeed, the choice of site is made from several angles, depending on the position, whether by purchase or donation. According to the work of [33], 73.9% of sites are acquired by donation, 15.7% by purchase and 10.4% by position.

Indeed, the results of fieldwork show that acquisition by donation can take place in two (02) ways. Firstly, by direct donation from father to son. Here, the father assigns a site as a gift to his child, for the construction of his house when he reaches adulthood and wants to get married. This location is usually a place chosen by the father on one of his estates when this child, for various reasons, cannot live near the parents' home. He settled down, took care of the estate and ran it to look after his future family and that of his parents and ageing grandparents. This choice is always approved in advance by the deities following well-known invocation ceremonies. Identifying a good site is the result of a whole series of ceremonies invoking ancestors and deities. According to field data, this invocation ceremony consists of planting a stake made of a palm leaf stem in the ground at the chosen location, usually in the middle, on which the kapok is placed, (also known as cotton wood) called (gbolou), a stem of *cissus quadrangularis* (kadiyo) and an egg (Yarè). Note that some people use bean fritters instead of eggs, while others use both. Kapok, *cissus quadrangularis* (kadiyo) and egg (yarè) remain the basic ingredients. The next day, those concerned go to the site to see the condition of the picket line. If the stake retains its initial position with all elements present on the stake, then the site is declared favourable. This means that this site will bring peace and tranquility to its occupants, and the activities will be successful. Otherwise, i.e. if the stake has fallen or a basic element (kadiyo and yarè) on the stake has disappeared, then another site must be chosen and the same practices repeated until the deities approve of the chosen site. The validation of the site by the deities is therefore manifested by the unchanged position of the stake and the presence of all the basic elements on the stake, or the partial or total disappearance of the doughnut on the stake the day after it was placed on the ground. Unlike the Kabyè community, among the Tammari people of the Kara region, where the choice of site is made using almost the same process, several days of observation are required before it can be determined whether or not the site is favourable. As with the Batammariba, the construction of a traditional Kabyè house cannot begin without choosing a site according to these principles, and no one can avoid this fundamental rule. According to TAWELESSI Manzama-Esso, a Kabyè elder: « The egg serves to inform and alert you to any potential spiritual or physical problems that may arise in your future home. Indeed, in Kabyè belief, the egg represents the hen that has not yet come into the world. Indeed, consultations with traditional priests and exchanges with ancestors and deities in Kabyè country are conducted through animals, particularly hens and roosters. The contents of the egg represent the unknown, the new place, the new adventure. Ancestors and divinities will pass through this egg to convey messages and information to the living and future occupants of the site. Consequently, if a site is not accepted, the owner of the future house will use this same egg to consult the traditional priests and diviners, the divinities and the ancestors to understand the reasons for the refusal. The egg thus represents the channel that the living use to express their grievance to the ancestors and divinities not to let them be surprised by the unfortunate events that will affect the house in the chosen space, but to enable them to anticipate and take possible steps to avoid it. The kapok (gbolou) represents tranquility and peace. It represents the channel that the future occupant uses to address to the divinities his wish for peace and tranquility in his future place of residence. And so its acceptance by the latter is synonymous with a site that will bring peace, ease, rest and tranquility to the future occupants. *Cissus quadrangularis* is used to express signs of jealousy and spiritual attacks. »

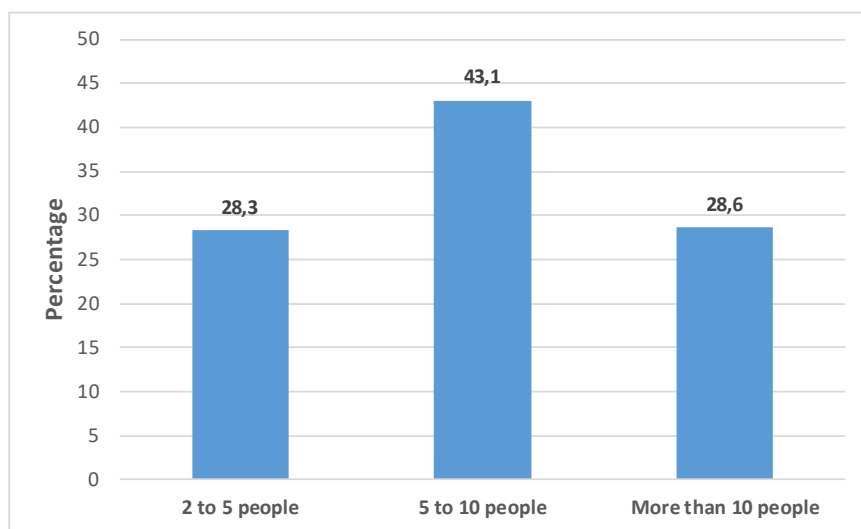
The second method for choosing the site for a new building is to construct the new dwelling right next to the parents' house, when circumstances allow, attached to it so as to form, with future generations, a large concession with a single entrance, which will be the vestibule of the first occupant. In this configuration, the house will be, over the years and generations, a large concession extending over a very large area. It is therefore evident that, according to the beliefs of the Kabyè people, a house that has not been built on land previously approved by the deities and ancestors will not be able to withstand the test of time or provide stability and prosperity to its occupants. It should be noted that the entire ceremony is preceded by a moment of verbal invocation of ancestors and deities, and communication with the spirits of the site. A time when the parent or wise man of the family speaks to the deities and ancestors with a calabash filled with water. It informs and explains to them the reason for their presence there and the future use of the requested space. In Kabyè country, the land does not belong to men but to the divinities and ancestors, and men only ask for what they need, either to live

on it or to cultivate it. And so the solicitation manifests itself in well-known ceremonies during which the deities express themselves and give their consent or not. By analyzing Chinese culture, [34], reveals that the Chinese rely on geomancers, also known as "masters of fate". They used a special compass that always pointed south, which they believed to be the direction of the sun, of heat and therefore of life, to determine the position and orientation of their homes. No one can find a site and undertake construction work without their advice. Masons and craftsmen also had to respect this practice so as not to expose homes and their occupants to bad luck. This part of Chinese culture concerning the choice of site for a new building is similar to Kabyè practices.

**Actors, Average Number of People and Duration of Construction**

The implementation of any housing project requires a certain number of people, depending on their skills and experience. The same applies to the construction of the original traditional dwellings in the urban area of Kara. Indeed, traditional buildings are constructed by the entire community in a spirit of social cooperation, guided by specialists such as masons, carpenters, etc. contrary to the analyses of [35], According to which, in most traditional African societies, there are no construction specialists, an exception is observed in the urban agglomeration of Kara. The housing here is built by craftsmen and assisted by the beneficiaries of the house.

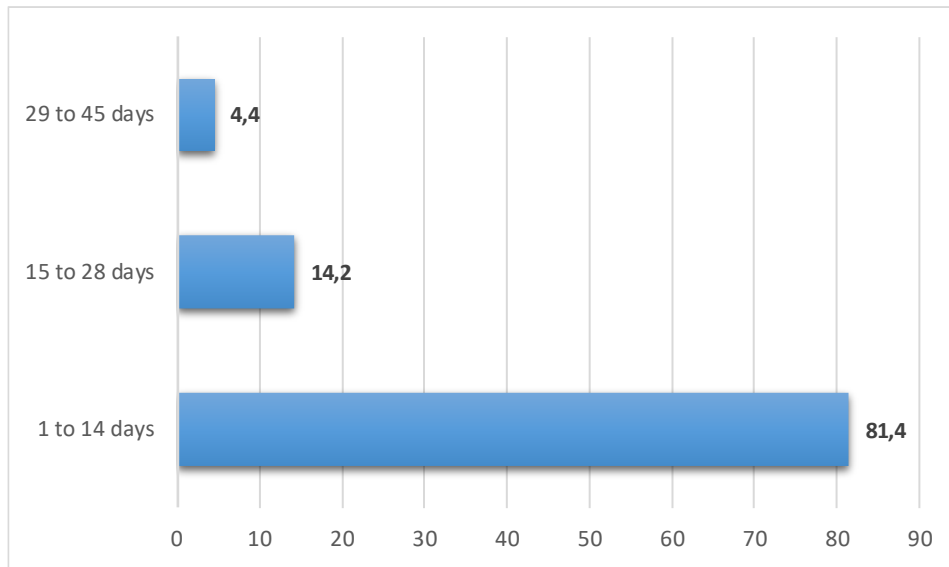
In terms of categories of people, there are no exceptions. All categories, i.e. men, women and children, attend and contribute to the implementation of the homes. In addition to these, the elderly, deities and ancestors also play a part, though not necessarily physical. Each category plays a very specific role [33]. According to the results of the fieldwork, the men look for the right soil, prepare it and build the houses. They knead the earth, assisted by women and children, to the rhythm of beautiful songs conveying messages, sharing stories, riddles, the experiences of the wise and the elders, the experiences of the older generation, miracles in society, and offering advice to the youngest members of society. Women provide water during construction and finish the house by tilling the floor and plastering the walls. They are helped in these tasks by the young girls, who learn the necessary skills in this way. It should be noted here that men are assisted in their tasks by young boys, and women by young girls. Everyone learns alongside their elders of the same gender. Indeed, for [35], In traditional African construction, men play the essential role; women plaster and decorate, and young people are responsible for transport, particularly carrying water for young girls. Kabyè society strictly separates women's work from men's work in its organization. Older people also assist and guide the men who are building, adding the immense wisdom they have acquired over the course of their lives. They also share great stories and advice with everyone on the construction site. Finally, we must not forget the deities and ancestors who also intervene spiritually to support the efforts of the living and protect the construction work. The construction of a traditional hut requires a certain number of workers. According to the field results and as shown in figure 8.



**Figure 8: Number Of People Required to Build a Traditional Room.**

ssource: Author, 2024

Based on the field results and as shown in figure 8, the construction of a traditional hut, from the search for the land to the erection of the structure, requires on average two (02) to ten (10) workers and more. This number depends on the complexity of the hut, the morphology of the site and, above all, the availability of building materials nearby. When these conditions are favorable, the number of workers is limited and vice versa. The number of workers also depends on factors such as the size of the home and the number of huts to be built. The time it takes to build a room is closely linked to the availability of materials and the number of workers. When all the conditions are right, building a traditional hut can take a few days as shows figure 9 below.



**Figure 9: Time Required to Build a Traditional Room**

source: Author, 2024

Figure 9 shows that the average construction time for a traditional hut is fourteen (14) days, or two (02) weeks, when all conditions are favorable, including a suitable site layout, availability of building materials close to the site, an adequate number of workers, etc. This is the average time required for the complete and final construction of a traditional hut within the urban area of Kara. The length of time it takes to build an entire house therefore depends on the number of rooms to be built. Unlike traditional Batammariba dwellings, the construction time for a household dwelling in the urban agglomeration of Kara, consisting of huts for bedrooms, a kitchen, a vestibule, granaries and stores, is much longer.

### **Stages, Materials, Construction Techniques and Period of Construction**

The construction of any house follows specific stages depending on the construction techniques used. In the urban area of Kara, the construction of the original traditional Kabyè house follows a series of stages, from the preparatory phase to the actual building phase. According to the results of the fieldwork, the first stage is to choose the building site, following the rituals, prayers and invocations to the divinities to obtain their agreement. Once the agreement has been obtained, the actual preparatory work begins with weeding and clearing the stumps in the chosen area. This involves the general cleaning of the area where the new house will be built. Then the search for the building soil begins. These are lateritic earth for building walls and clay (termite earth) for building granaries. This soil is still being excavated near the construction site. Figure 10 shows the soil used to build the walls, dug near a construction site to a depth of 80 cm to about one meter (01 m). The availability of land suitable for construction is a criterion taken into account when choosing a construction site, although it is not binding.



**Figure 10: Stage Of Digging Up the Earth and Near a Construction Site.**

Source : Author, 2021

Once the right soil has been found, it is piled up and watered evenly, then beaten and kneaded for several days to form the clods of earth used for construction as shows figure 11.



**Figure 11: Pictures Showing the Excavated Earth Being Mixed After Watering And The Clods Of Earth Being Formed For Construction**

Source: Author, 2024

Figure 11 shows, in (a) and (b), the masons kneading the dug earth after watering and in (c) the formation of the clods of earth. After that, the actual construction begins with the layout of the building to be constructed, always starting with the first hut, which is the bedroom for the whole family, and another hut which will serve as the wife's kitchen. Depending on the resources available, the women's hut could be built at the same time or at a later date. The construction of a hut always begins with the first foundations, after some shallow digging (barely 20 cm deep), which will serve as a base and a foundation. Here, the layers of earth are very thick (approximately 20 cm to 30 cm), marking the start of construction with a foundation height of between 15 cm and 20 cm. After drying for two (02) to three (03) days, new, thinner clods of earth (around 15cm) are laid to mark the start of the elevation work, at a height of around 50cm to 60cm. It is left to dry for two (02) to three (03) days and the process resumes as shows figure 12.



(a)



(b)

**Figure 12 : Photos Showing the Construction of Traditional Walls by Successive Layers of Earth Clods.**

Source : google/Building a log house in Benin (Photo taken by Thierry Joffroy), consulted on 18/09/2025; Author, 2021

The construction of a traditional wall using the technique of successively laying mounds of kneaded earth is illustrated in Figure 12, which also shows the actors involved in the construction of traditional dwellings, in particular the adults and children who learn alongside the elders. Generally, traditional building techniques in Africa vary from one community to another depending on the materials used and the skills available. Among the Kabyè people, traditional walls are constructed using the rammed earth technique or the kneaded earth technique. This technique of shaping the earth is almost the same in most African countries, for example the shell huts of the Musgum and the Bamilékés of Cameroon [23], the royal palaces of Abomey in Benin, the takienta in the kara region, where masons work with earth. With a finished height of between approximately 2.4m and 2.8m, construction is completed with a roof made of rattan or rattan wood framing and thatched roofing as shows figure 13.



(a)



(b)

**Figure 13: Photos Showing the Construction of Traditional Walls by Successive Layers of Earth Clods.**

Source: google/Building a log house in Benin (Photo taken by Thierry Joffroy), consulted on 18/09/2025; Author, 2021

Figure 13 shows, in (a), the frame of a hut made of palm wood and, in (b), the roof of a hut made of straw. Wood, a local material used for roof framing, is readily available in the forests surrounding the site. It is cut using axes, trimmed and dried before use. Thus, as highlighted by [36], wood is thus used alongside other construction materials. Straw, which is available on uncultivated land during the harvest period (November to January), is cut, woven and treated to remove weeds. It is then dried, gathered

into several piles called straw bales, and it is in this form that it will be spread over the roof frame to cover the hut as shows figure 14.



(a)



(b)

**Figure 14: Bales Of Straw Stacked and Used for Roofing.**

Source : Author, 2020

Figure 14 shows in (a) straw bales after treatment, grouped together and ready for use, and in (b) the spreading of straw bales on a wooden frame, marking the start of the roofing work on a hut. This work is reserved for roofing specialists. The building work is now coming to an end, with finishing touches such as tamping the floor, paving the floor with broken potsherds and plastering and smoothing the walls by the women as shows figure 15.



(a)



(b)

**Figure 15 : Floor Tamping Work in A Bedroom and Pottery Paving of Broken Shards in A Courtyard**

Source : Author, 2021

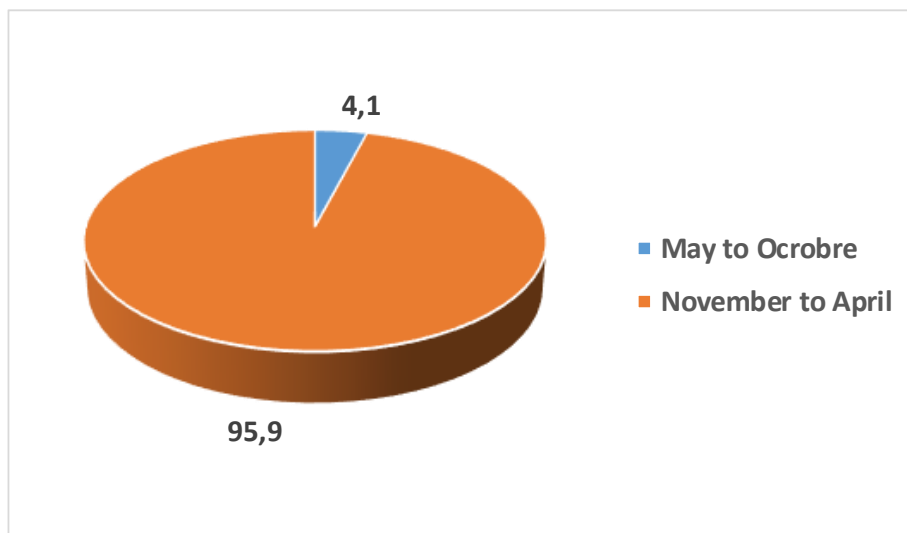
Figure 15 shows in (a) the tamping work on the ground in a room after roofing and in (b) the paving in a courtyard made of broken potsherds. This technique enhances the view and protects the courtyard from erosion during heavy rainfall in the rainy season. The construction stages follow very precise techniques. Once construction and finishing work have been completed, stone is sometimes used to reinforce the foundations and protect the bedrock from erosion, as shown in Figure 16.



**Figure 16: Photos Showing the Reinforcement of the Foundations by the Stones**

Source: Author, 2021

Depending on the techniques and materials used, there are favorable periods for building traditional houses in Africa, especially in the urban area of Kara as shows figure 17.



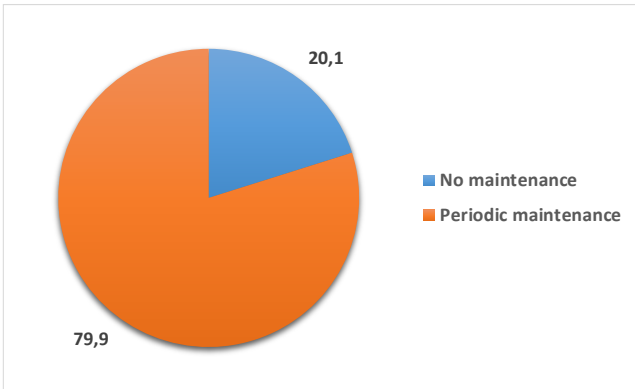
**Figure 17: Month of Year Suitable for Construction Work**

source: Author, 2024

The ideal period for building traditional dwellings in the Kara urban area is between November and April, as confirmed by 95.9% of respondents according to the field survey results illustrated in Figure 17. This period is favorable because it marks the absence of work in the fields and therefore a high availability of workers and roofing materials such as straw. It also marks the absence of rain, which could constitute an obstacle and slow down the rapid progress of the construction work. Rain is a danger for earthen walls that are not yet solid, as the sun is preferable to rain for construction. For [37], Earthen construction is particularly susceptible to erosion from rain and wind. Outside of this period, the Kabyè is occupied with farm work. Occupying and using a house requires maintenance to ensure it lasts for a long time.

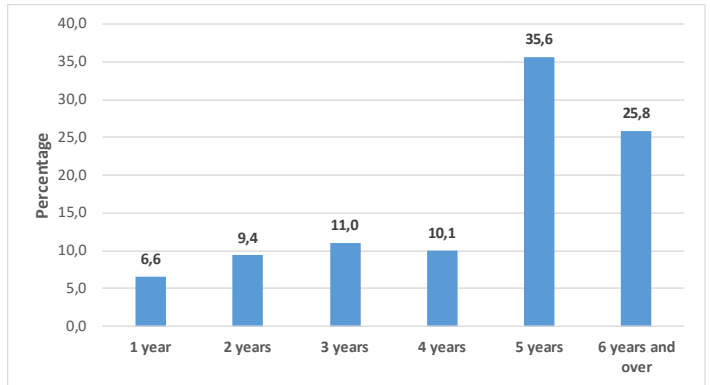
### **Maintenance and Lifespan of Traditional Buildings**

Like all houses from any era, traditional Kabyè houses require regular maintenance to ensure their preservation, strength and durability over time. In the urban agglomeration of Kara, the original traditional habitats are maintained at regular intervals, as shown in figure 18 and figure 19.



**Figure 18: Maintaining Traditional Habitats**

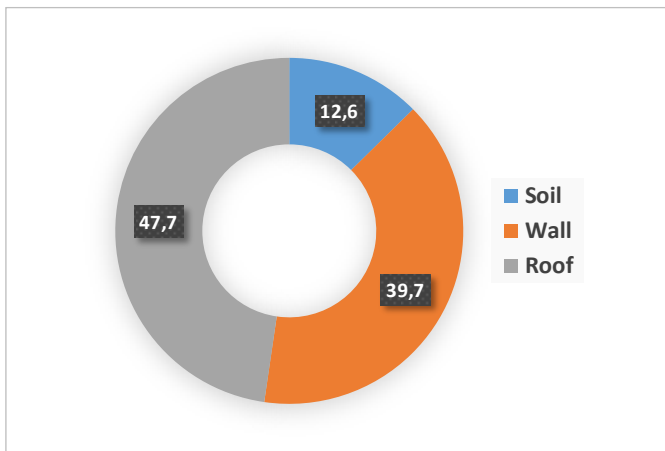
Source: Author, 2024



**Figure 19: Frequency of Maintenance of Traditional Habitats**

Source: Author, 2024

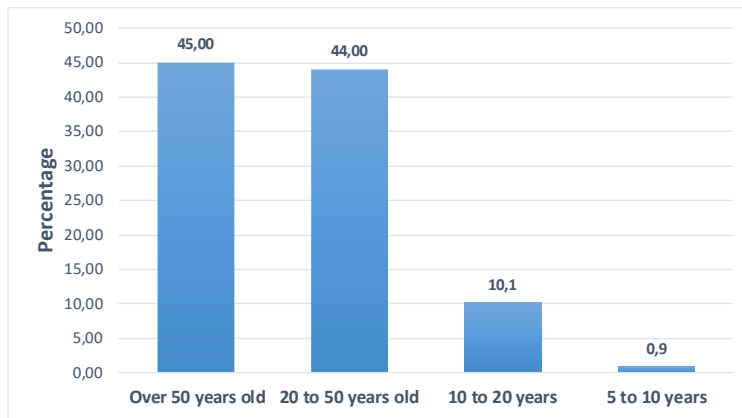
According to the results of the field data, illustrated in Figure 18, 79.9% of respondents carry out regular maintenance on their homes, compared to 20.1% who do not. For them, a well-built house, with the right proportions and no malfunctions or anomalies, requires no maintenance. With regard to maintenance, 35.6% carry it out every five (05) years, 25.8% every six (06) years and 6.6% every year, as shown in figure 19. This result shows that traditional housing requires regular maintenance, with an average frequency of five (05) years. Maintenance work mainly involves filling cracks or partially or completely reapplying plaster after several rainy seasons and replacing straw depending on the level of deterioration. It is also a matter of redoing the smoothing work on the walls to restore the house to its former glory. Among the parts most exposed to the elements, the straw roofing remains the most exposed and susceptible to rapid deterioration as shows figure 20.



**Figure 20 : Parts Of the Boxes Most Exposed to Deterioration**

Source : Author, 2024

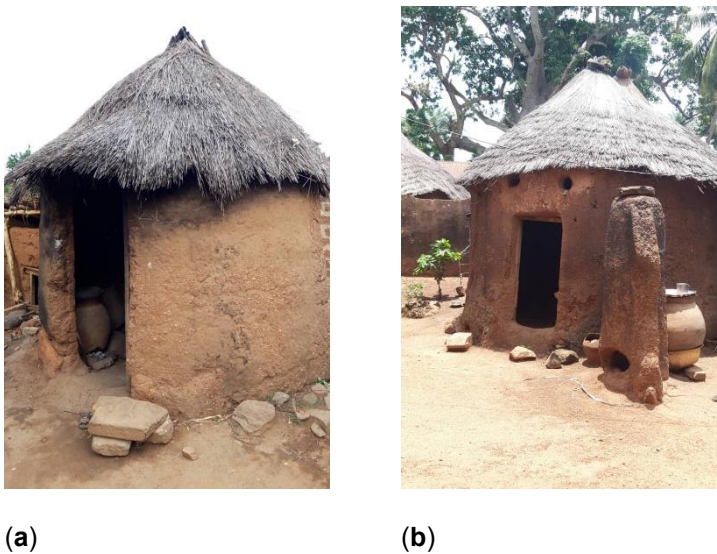
Confirmed by 47.7% of respondents, Figure 20 shows that the roof is the most vulnerable part to deterioration. Indeed, this is the part most exposed to the elements. This certainly explains its periodic change after every 02 to 03 years, according to field results. This is followed by walls, certainly due to the heavy rains during the rainy season. Maintenance also involves reinforcing the foundations if they are affected by heavy rainfall. Remember that the original traditional Kabyè houses are located in a very mountainous area and are therefore exposed to heavy rainwater run-off. With a relatively long lifespan, the original traditional Kabyè house has stood the test of time, lasting for several decades as illustrated in the figure 21 below.



**Figure 21: Lifespan of a Traditional Dwelling**

Source : Author, 2024

According to the field result, figure 21, shows that a purely traditional house built using local materials and purely traditional techniques can have a lifespan of between 20 and 50 years, as confirmed by 44% of respondents. What's more, 45% of those surveyed said that a building of this type could last more than 50 years. Remains dating back more than fifty (50) years, still present today, confirm these findings on the duration of a traditional dwelling in kara urban agglomeration.



**Figure 22: Traditional Huts Over 50 Years Old**

Source : Author, 2025

Figure 22 shows in (a) a traditional kitchen hut nearly 50 years old still in use in the village of Soumdina and in (b) a traditional bedroom hut nearly 100 years old in the village of Lassa. The urban area of Kara therefore still has visible remains of the original traditional Kabyè house, whose façades, morphological appearance and decorative elements bear witness to the ingenuity of the builders and the authenticity of the design and construction of the dwellings. This reveals a valuable asset not only for the materials used but also for the construction technique, which can be explored, improved and exploited to meet the ever-growing need for housing in a world where the cost of new materials and techniques is beyond the purchasing power of the majority of the population.

### Decorations, Façades, Openings, Morphological Appearance of the Huts and Degree of Disappearance of the Original Structure

A beautiful house is the perfect and harmonious coexistence of decoration, façades and the morphological aspect of buildings. In the urban area of Kara, builders take aesthetics into account when constructing houses. Indeed, the Kabyè people decorate their homes with hunting and war trophies (horns of wild animals, weapons taken from the enemy), as illustrate by figure 23.



Figure 23: Animal Horn Decoration on Houses

Source : Author, 2025

Figure 23 shows animal remains and horns on the walls of a room, used as decoration and at the same time serving as spiritual protection against evil spirits. The façades of Kabyè huts are generally very simple. The overhanging roofs protect the walls from bad weather and shade the façades. Openings such as windows are generally very small for kitchens and absent for dormitory huts, as shows figure 24.

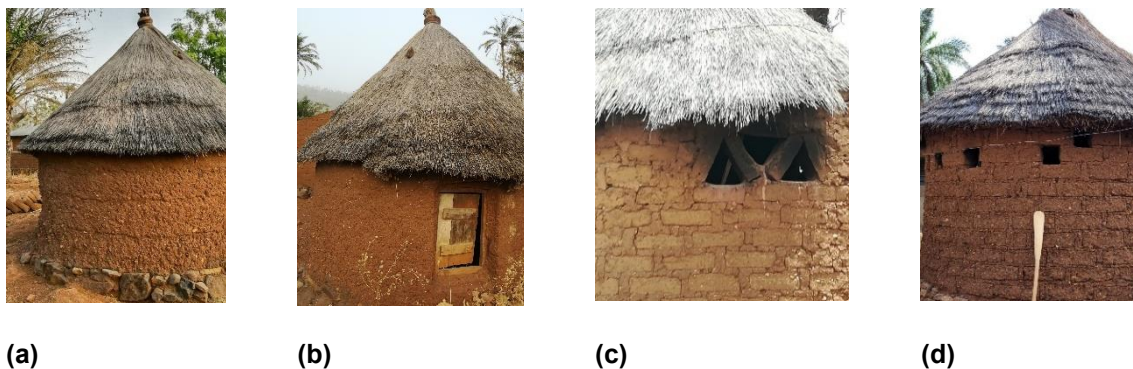


Figure 24: View of the Window Openings of the Dwellings

Source: Author, 2024

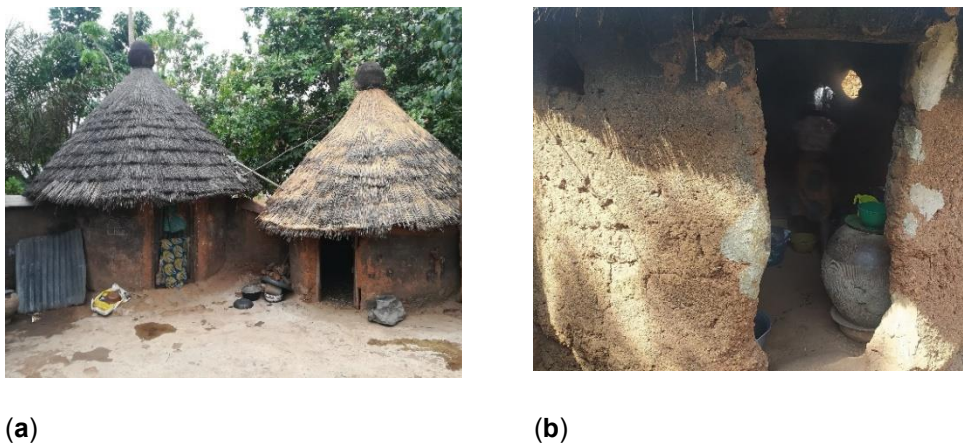
Figure 24 shows, in (a) and (b), a living area without any window openings; in (c) a kitchen area with small triangular window openings and in (d) a kitchen area with small square window openings. Designed as a system of protection and defense, due to the wars that existed in the localities between different tribes and communities, the openings are perceived as weak points through which the enemy could easily attack the occupants. Access to the various areas is via doorways, which dimensions vary from one room to another. Indeed, the function of a door is to physically limit a space or area, prevent external elements from entering, protect the interior space and ensure integrity [38]. In the urban area of Kara, the vestibule access openings are the largest openings in the traditional Kabyè house as shows figure 25.



**Figure 25: View Of the Access Openings to A Vestibule**

Source : Author, 2025

Figure 25 above, shows in (a) the entrance to a vestibule from the outside and in (b) the entrance to the same vestibule from the inner courtyard, which, according to field surveys, varies in size from an average of 85 cm to 1 m in width and 2 m to 2.2 m in height. These openings are the largest in both width and height compared with access openings to living areas and kitchens. Except for the woman's bedroom, the doorways to the other bedrooms and the kitchen vary between 60 cm and 70 cm in width and 1.5 m to 1.8 m in height, as show figure 26.



**Figure 26 : View Showing the Access Openings to A Bedroom Hut and a Kitchen**

Source : Author, 2025

Figure 26 shows in (a) an access opening to two bedrooms and in (b) an access opening to a kitchen. Given the defensive nature of the house, the Kabyè favours minimizing the number of openings as well as minimizing their size. The women's hut has two (02) access openings. This is the first entrance to the mini living room and a second oval-shaped entrance leading to the bedroom from the mini living room as illustrate in figure 27.



**Figure 27: View of the Two (02) Access Openings to the Women's Hut**

Source: Author, 2024

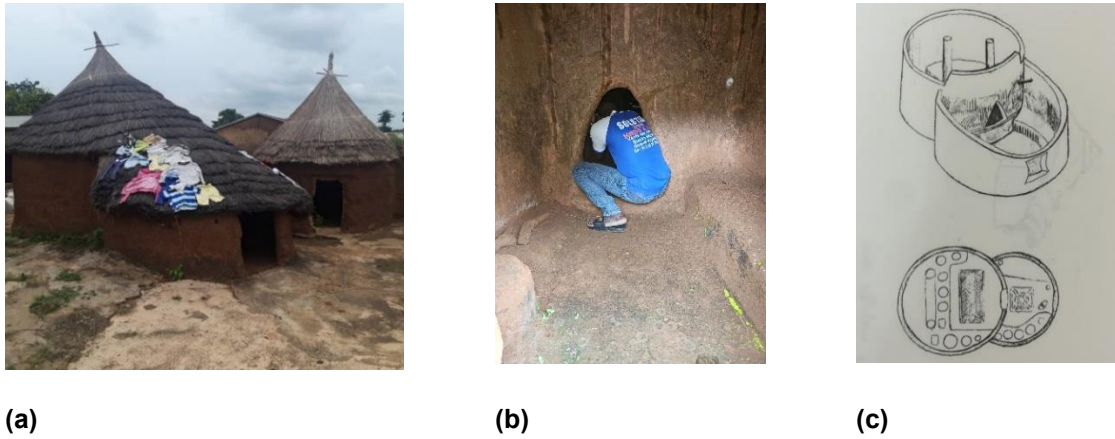
Figure 27 shows, in (a) the first opening providing access to the mini living area of the woman's hut, which is very small, varying between 50 cm and 60 cm in width and 70 cm to 95 cm in height on average, and in (b) the second entrance to the woman's bedroom from the mini living room, which is oval or triangular in shape, similar to a cut eggshell, with average dimensions of 50 cm to 60 cm at the base and 50 cm to 70 cm in height. You can only get in by almost crawling on all fours. This second oval-shaped opening is similar to the entrance openings in the rooms on the first floor of the takienta. In (c), an overhead view of the woman's hut showing the two (02) openings. The thresholds of the entrance doors are always raised by 10 cm to 15 cm to prevent rainwater from entering the huts. The access openings to the spaces are closed by traditionally woven palm mats



**Figure 28: Traditional Woven Palm Door**

Source : Author, 2024

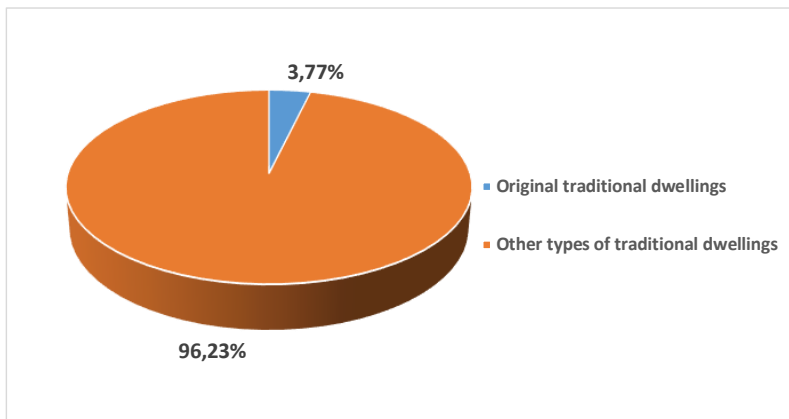
As shown in figure 28, the original traditional door used in the urban area of Kara to close the huts is made of palm matting traditionally woven by craftsmen. Doors have always played an essential role in architecture, fulfilling both functional and symbolic purposes. They not only ensure security but also provide a transition between spaces [38]. In morphological terms, the dwelling huts of the original traditional Kabyè house are round in shape, and the roofs follow the shape of the huts. These have a round base with a tapered top to help rainwater runoff. Inspired by the egg, the round shape was originally the only shape known by the Kabyè builder. While the other dormitory huts were simply round, the women's bedroom received special treatment. The main room is adjoined by a 3/4-circle construction, a covered veranda with a bench, seating and shelving, as shows figure 29.



**Figure 29: View Of the Composition of the Woman's Hut**

Source: Author, 2024

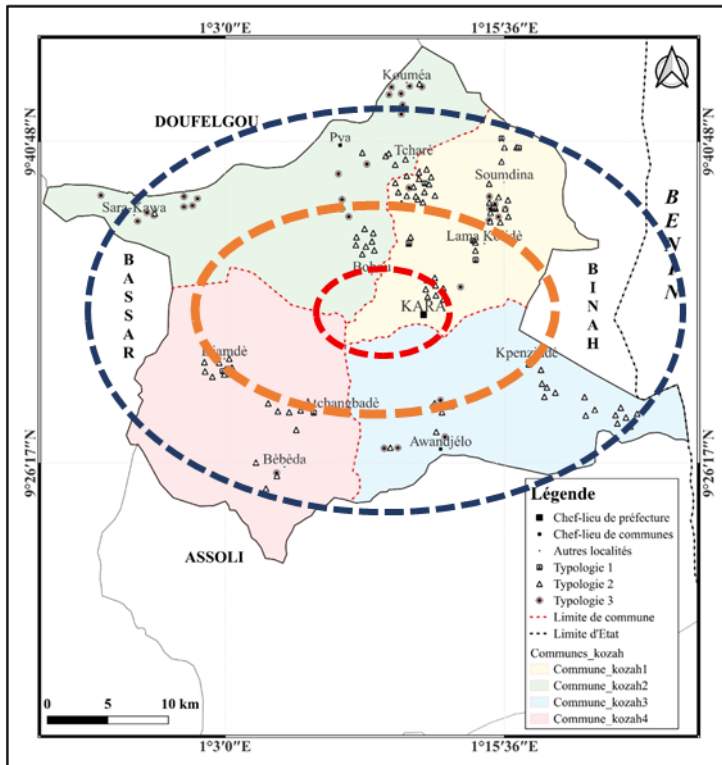
Figure 29 shows in (a) an external view and in (b) and (c) an internal view of the configuration and morphological aspect of the original hut of the Kabyè woman. This particular configuration, marked by strong ingenuity and authenticity, shows the importance accorded to women in Kabyè country. However, with migration, outside influences and the emergence of new needs, the arrival of new shapes such as rectangles and squares will make their appearance, coupled with the evolution of building materials to give rise to other types of traditional dwellings, in addition to the original within this geographical area [33]. In his view, these original concessions, marked by round huts, are disappearing and being replaced by rectangular or square huts. The gradual disappearance of the original traditional dwelling is a fact of life in this geographical area, and has been largely replaced by derivative types, as illustrate in figure 30



**Figure 30 : Proportion of Original Habitat In Relation to Other Traditional Habitat Types**

Source : Author, 2024

According to Figure 30, the original habitat has a low representativeness rate of 3.77% compared with 96.23% for the evolved traditional habitat types. This illustrates the degradation and especially the disappearance of the original habitat within this geographical zone. A highly noticeable disappearance in the city Centre, significant deterioration in the inner suburbs and the onset of deterioration in the outer suburbs, as shown in Map 2.



Map 2: Spatial Presentation of the Different Typologies

Source: INSEED, 2022, processed on the basis of field data by author, 2025

This map shows the proportion of original traditional dwellings in relation to other types of traditional dwellings within the urban area of Kara. Marked in red, the city center is characterised by an almost total absence of traditional dwellings. Marked in orange and blue, respectively the peri-center and the rural outskirts, show the beginnings of deterioration and disappearance. This significant disappearance of the traditional original habitat of the urban agglomeration is increasingly worrying and is leading to the disappearance of skills and social values. This change, due to evolving lifestyles, rapid urbanization, young people's growing disinterest in traditional buildings, the emergence of new needs and, above all, herd mentality, is leading to the loss of traditional architectural authenticity in the urban area of Kara, where most of the current occupants are heirs, whose main occupation is agriculture as shows figure 31 and figure 32.

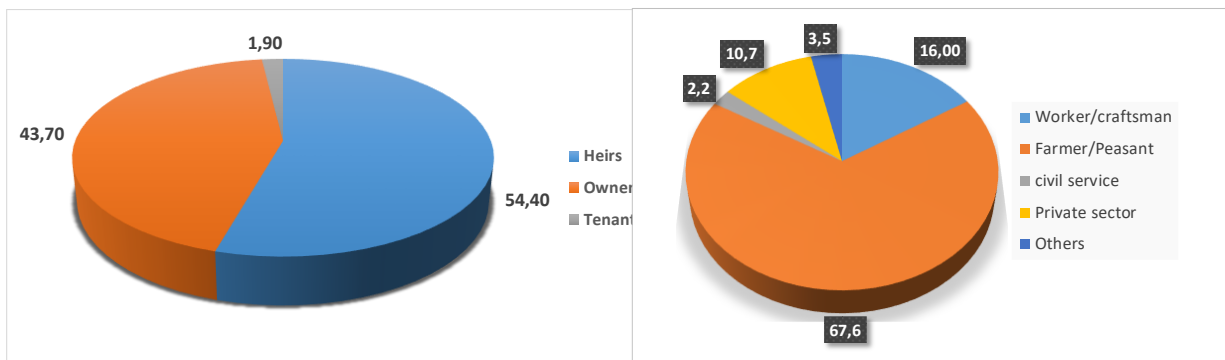


Figure 31: Status of Occupants of Traditional Buildings

Source : Author, 2024

Figure 32: Residents' Professional Activities

Source : Author, 2024

Figure 31 shows a high proportion of heirs (54.4%), occupants of traditional buildings in the urban area of Kara, and a fairly high proportion of owner-occupiers (43.7%). The heirs are individuals who have inherited the traditional buildings from their parents and grandparents and still live in them. Their proportion relative to owner-occupiers raises concerns about the future of the conservation and preservation of the original traditional buildings. Guardians of traditions, cultures and assets bequeathed by their ancestors, the heirs carry out agricultural work. According to the field results, and as shown in Figure 32, 67.6% of the occupants of traditional buildings are farmers and 16% are local craftsmen. Marked by their low proportions (2.2% and 10.7%), the results also illustrate the level of disinterest among public and private sector actors in traditional buildings. This is certainly due to social and lifestyle changes, herd mentality, etc.

### Interior Design of the Huts

The interior layout of the huts is relatively simple. With the exception of the vestibule, the kitchen and the woman's bedroom, where a composed layout is noticeable, the other rooms simply consist of a bed made of earth, a storage space for clothes and valuables for the dormitories. First, in the vestibule (Kidjan), which is the only entrance and exit to the house, there is a whole series of items for domestic, decorative and defensive use, as shows figure 33.



**Figure 33: Interior View of the Vestibule of An Original Traditional Kabyè Dwelling and Some of its Components**

Source : Author, 2025

Figure 32 shows the traditional oven in (a) and (b) and the positioning of the various elements inside the vestibule in (e). The vestibule essentially consists of a traditional oven, usually positioned as close as possible to the entrance to the courtyard, seating areas for domestic activities such as grinding grain, receiving guests, spending time with the family, decorations made from animal horns, millstones, jars, hearths for cooking or heating in case of cold weather. This is one of the most important areas of the house, as a good part of the day is spent here between receiving visitors and doing housework, as shown in pictures (c) and (d) in figure 33. Sometimes animals also find their place at night. This space is also a strategic place for the man in his role as physical guardian of the house, as he spends a good part of the night there watching over the family. Indeed, the vestibule, where the grinding stones, mortars and sometimes a hearth are located, is where the women of the household grind millet or maize to prepare food, traditional beer and other items. This moulding session is a veritable spectacle of song

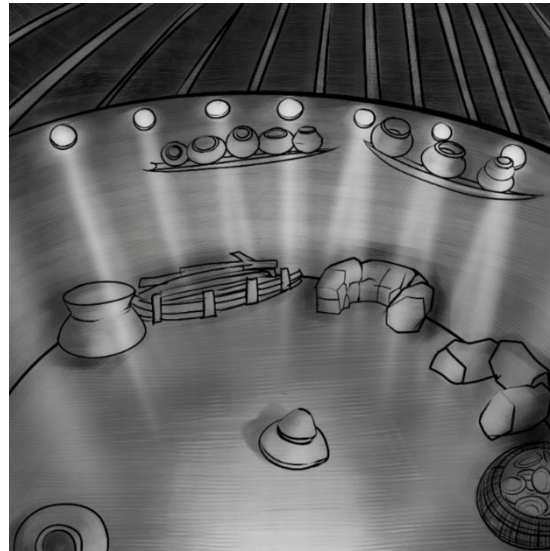
and acrobatics to excite the ardour of the good housewives and implore the deities who preside over the cooking of the beer. It is also a meeting place, a place for family reunions, a place to welcome strangers and a place to rest. On rare occasions, in some vestibules, a central wooden beam (Sizika) surrounded by seating is provided to serve as the central support for the vestibule's framework. Then, as in the vestibule, there are a number of elements in the kitchen designed for the preparation of food as illustrate figure 34.



(a)



(b)

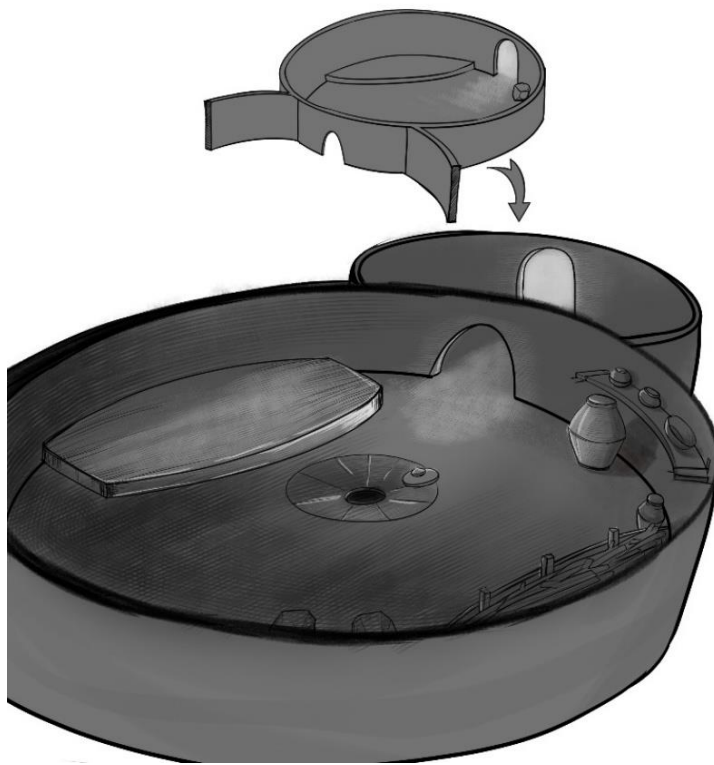


(c)

**Figure 34: Interior and Exterior View of the Kitchen of An Original Traditional Kabyè Dwelling and Some of Its Components**

Source : Author, 2025

Figure 34 shows in (a) and in (c) the interior of a kitchen in an original traditional dwelling in the urban area of Kara. Composed of fireplaces for cooking, a wood storage area, jars for storing water and cereals, clay plates, cooking pots and, on rare occasions, small granaries. This space, dedicated exclusively to food preparation, is used more during the monsoon season, as Kabyè women prefer to cook in the courtyard in the open air, as shown in photo (b). And finally, the women's bedroom has a slightly more complex layout than the other areas. Figure 35 shows in (a) an overall view of the interior of the Kabyè woman's bedroom, where the first part of the mini-living room contains seats and a mini-bed, all made of earthen mounds, as illustrated by a photo in (b). This small space is used to receive visitors who are close to the woman and is also where adult children, especially girls, spend the night under their mother's supervision. She regularly looks in from the inside to check whether they are there or not. This is also where the future husbands of young girls can stay when they visit their future wives, who are the mother's daughters. They spend their time in this space and their discussions are listened to attentively by their mother, who, through these exchanges, forms an opinion of the morality and behaviour of her future sons-in-law and will later give her daughters valuable and wise advice. This mini stay is therefore a very useful and important part of this habitat, as the foundation and future of future generational families is based on advice in terms of morality, behaviour and life skills, both in society and in the future family that the young girls will found after their marriage. Secondly, there is the mother's bedroom, consisting of a bed made of earth, small attics, jars, a space for storing wood, a fireplace for heating the room during cold spells and, above all, a small hole in the middle of the room used to collect the children's urine, as illustrated in (c). The entire women's bedroom is carefully designed to meet every need.



(a)



(b)



(c)

**Figure 35: Interior View of a Woman's Bedroom in A Traditional Kabyè Home**

Source : Author, 2025

## Discussion

The original traditional housing within the urban area of Kara is closely linked to the social life of the inhabitants, their beliefs, their traditions, the availability of local materials and their level of demographic and socio-economic development. Marked by great ingenuity in design, judicious use of locally available materials and, above all, construction techniques adapted to the materials, traditional Kabyè dwellings reflect the builder's strong sense of authenticity and creativity. He paves his courtyard with shards of broken pottery. This enables him to embellish and protect his space from the risk of erosion caused by the region's heavy rainfall. The research work of [18], highlight broken pottery floor coverings in Togo, and more specifically in the north of Togo, in the Kabye country in the northern part.

She emphasises the aesthetic appeal of this cladding through its application, as well as its durability over time. These are durable and environmentally friendly coverings, the remains of which are still visible in this geographical area, testifying to the durability of this flooring technique. Raw earth, the main building material used in traditional dwellings in the Kara urban area, has been used for thousands of years by builders all over the world. [39], believes that it is one of the oldest building materials in human history, with structures still visible today bearing witness to the rich architectural heritage of raw earth around the world. The research work of [37], shows that raw earth has been used as a building material for over eleven millennia, and today, earthen architecture is not only universally found on all inhabited continents, but also has an exceptional and significant character within African societies. For [4], Earthen architecture plays an important role and is represented by high-quality

constructions dating back thousands of years that have stood the test of time, such as the earthen mosques of Mali (Djenné, Tombouctou, Gao) and the Toloy granaries (2nd–3rd century). The earth intended for the construction of traditional dwellings in the urban area of Kara is earth that is available in the immediate environment, not far from the construction site, and obtained after digging a few centimetres deep and using the technique of kneaded earth or rammed earth. This technique involves mixing soil with water and plant matter, mainly straw and *néré* pods, over several days until a homogeneous, clean, resistant and durable product is obtained. This is because raw earth is not suitable for construction work. This view is supported by [40], For whom raw earth is often unsuitable for construction, and therefore a certain amount of water and degreasing agents must be added, which may be of mineral origin (stones, sand, etc.), vegetable origin (straw, chaff, etc.) or, more rarely, animal origin. This technique is similar to that used in the construction of Tamberma tatas located in the same region as the Kabyè and is almost the same as that used in most African countries for the construction of traditional dwellings according to [34]. All the materials used in the construction, particularly earth, wood, straw and stone, are locally available and respect the environment. In the urban area of Kara, house construction always begins with a first room intended for living quarters, followed by the kitchen and other rooms as needs arise, unlike in Smakieh, where house construction always begins with a room intended for grain storage, according to [41]. Marked by strong population growth, rapid urbanisation, changing lifestyles and ways of living, as well as the emergence of new techniques and new construction materials such as sheet metal and cement, considerable changes in the original traditional Kabyè habitat have taken place, giving rise to two (02) types of traditional habitats in addition to the original one within the urban agglomeration of Kara, according to [33] research work. This change can be observed in Dar es Salaam, which, under considerable urban pressure, has seen an explosion of contemporary construction approaches without, however, paying sufficient attention to older buildings and the historical fabric in general [42]. The same applies to the town of Bol in Tchad, where the research work of [43], presents three (03) types of existing housing, namely traditional, semi-modern and modern housing, following changes, and in the Central Rif (Senhaja Sraïr) where people build different types of residential buildings depending on their economic strengths according to [44]. [45] already in 1971, noted the change in the traditional Sahelian habitat in Tchad through the generalisation of the rectangular hut to the detriment of the round hut. These changes are leading to the deterioration and disappearance of original buildings all over the world, especially in the urban area of Kara. A worrying decline, marked by a total disappearance in the city centre and damage observed in the suburbs. For [46], The replacement of straw with sheet metal is linked to a need to improve the safety of residents. This improvement brings a sense of pride to the farmer who can afford to cover his hut with it. In his opinion, straw roofing is not durable and presents fire hazards, whereas sheet metal offers greater resistance and durability, and is easier to install. A mutation also observed in the Bamiléké of western Cameroon according to [23] and the traditional habitat of the Ksourians of the Ziban region according to [47]. Unlike the traditional rural house in Jijel, Algeria, where the foundations are dug to depths of 60 cm to 1.2 m [16], in the urban area of Kara, the foundations of traditional dwellings are relatively shallower, averaging between 20cm and 40cm. As regards the maintenance of traditional dwellings, this was carried out at an average frequency of every two (02) to five (05) years, depending on the level of deterioration, particularly of the straw roof and walls. Complete reconstruction is rarely considered and is only necessary after a long period of time, generally at least 50 years, as evidenced by the remains that are still visible. Unlike traditional Fang dwellings in Gabon, where plant materials such as branches, raffia, banana leaves, palm leaves, etc. were used for the walls and roof, maintenance was much more frequent and rigorous, as the roof had to be completely rebuilt approximately every two years, if not the entire structure [6]. In line with the research work of [48] on the Albanian towers in Kosovo, This study provides a comprehensive examination of the architectural, artistic and interior design characteristics of the original traditional housing in the urban agglomeration of Kara.

## **Conclusions**

This study of the original traditional habitat of the urban area of Kara identifies and analyses, firstly, the physical characteristics of the traditional buildings of the Kabyè people, who are considered to be indigenous, and secondly, the celestial origin of the first man in this geographical area. Marked by round boxes made of kneaded or beaten earth, with a rattan and palm wood frame and a straw roof, this dwelling bears witness to the great ingenuity and creativity of the Kabyè builders, from the design of their dwellings, through the configuration, choice of site and spatial organisation, to the construction of the buildings. This ingenuity is also evident in the shape of the women's hut, the interior layout of the spaces and the decorations, including the flooring in the courtyard made of broken pottery. This study

then analyses the level of deterioration and disappearance of the original traditional buildings in this geographical area as a result of socio-temporal changes. It shows a total disappearance in the city center, severe deterioration and the beginning of disappearance in the inner suburbs, and the beginning of deterioration in the rural outskirts. This disappearance and deterioration is one of many factors contributing to the loss of social values, skills, community work and mutual aid, which are among the beauties and sources of pride of the Kabyè people. Finally, this study highlights the evolving nature of housing, which is mainly occupied by farmers, and shows the level of disinterest among public and private sector actors in traditional housing and, consequently, in the preservation and promotion of tangible cultural heritage. These discoveries provide an insight into the rich traditional architectural heritage of this geographical area and help us to understand the extent to which it is disappearing and deteriorating. Future research could address possible solutions to help curb this scourge.

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