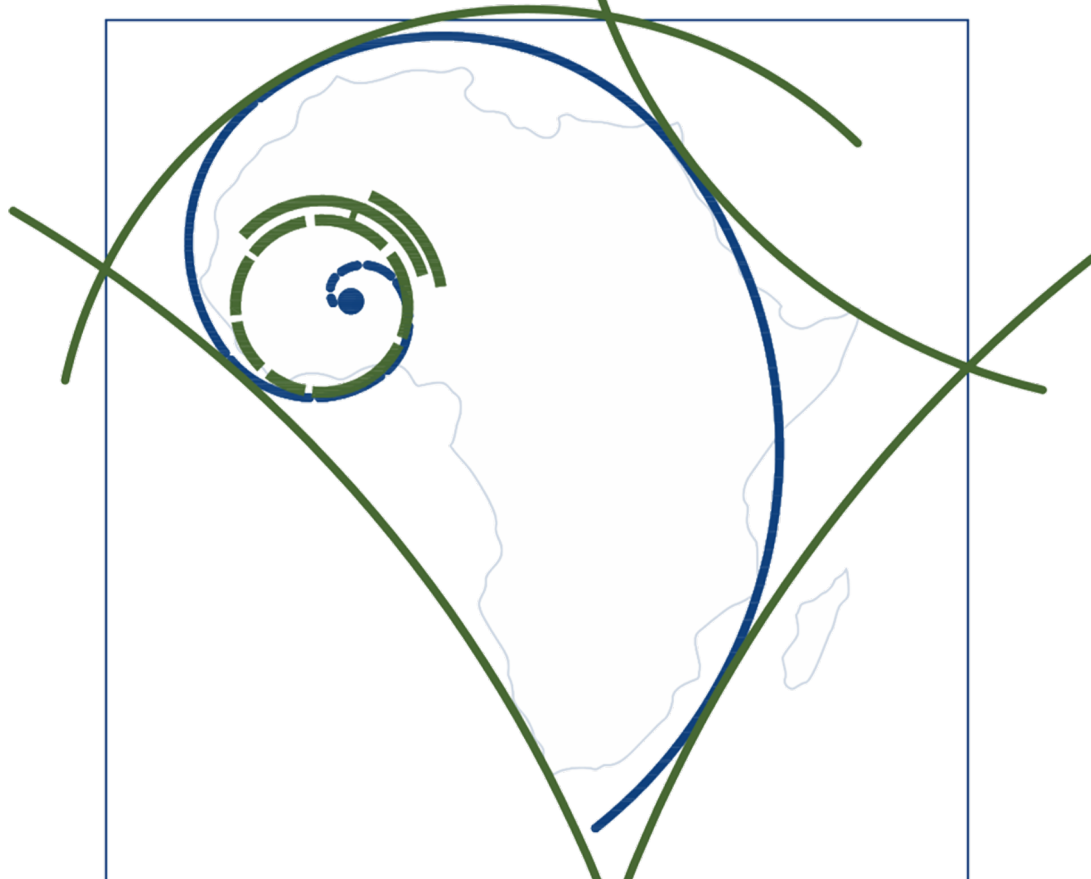


ARCHITECTURE HERITAGE and DESIGN

Carmine Gambardella

XXIV INTERNATIONAL FORUM

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Forms, transformations, and identity of traditional architecture in Burkina Faso: state of the art and effects of the introduction of industrial materials and technologies

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Abstract

This paper presents the results of a research project carried out at the Department of Architecture of the University of Palermo, aimed at analyzing the state of the art of traditional architecture in the countries of North-Western Africa and the effects produced by the process of habitat modernization through the introduction of new construction materials and advanced technologies imported from industrialized countries.

The case study examined is Burkina Faso, a Sub-Saharan African country characterized by severe economic poverty and a marked technological dependence, conditions that make it particularly exposed to the influence of external construction models. The research is based on the outcomes of a study trip during which surveys and site visits were conducted in both urban and rural contexts, to assess whether and to what extent industrialized technologies have affected local building traditions.

The results show that, although large cities represent the main centers for the import and dissemination of technological innovation, new materials and construction systems are often reinterpreted to develop appropriate technologies and passive solutions aimed at improving thermal and hygrothermal comfort. At the same time, even in more isolated rural contexts, a growing diffusion of non-traditional materials, such as metals and plastics, can be observed, progressively replacing traditional ones in specific uses.

Keywords: Sustainable development, Traditional Architecture, Burkina Faso, natural resources, innovation.

1. Introduction

According to the data provided by the Human Development Report 2025, based on the survey conducted in 2023, Burkina Faso, a West African state and former French colony, ranks 186th out of 193 countries worldwide examined, placing it in the low human development category.

This situation results in a high vulnerability to the economic and technological dominance of industrialized countries, which control and exploit local resources by importing raw materials at costs far lower than those of the industrial products and advanced technologies exported to the African market. According to the most recent estimates based on World Bank data from 2024, about 66.8% of the population lives in rural areas and is mainly concentrated in the central-southern part of the country.

The research drew on the results of a study trip, during which visits and field surveys were carried out in several cities and local communities in Burkina Faso. These activities made it possible to analyze the current state of traditional architecture and to assess whether, how, and to what extent new materials and building technologies imported from industrialized countries have influenced local building traditions and the process of modernization of the habitat.

2. Method

For the purposes of the research, a methodological approach was defined that included the following activities:

1. Visits to sites and field surveys in urban and rural communities.

2. Architectural survey of several residential settlements in the hinterland.
3. Historical reconstruction of the origins of patterns of coexistence and of the residential structures present in the different territorial contexts.
4. Analysis of the landscape characteristics and settlement traditions of ancient local communities.
5. Identification of local resources and technologies.
6. Evaluation of the impact of the use of new materials and advanced technologies.

Five key stages of the journey were identified (Fig. 1), each representing a specific environmental, historical, and cultural identity of human settlement.

In addition to the capital Ouagadougou and the urban center of Dédougou, the capital of the Mouhoun Province in the Boucle du Mouhoun Region, the research focused on small towns and villages scattered across the savannah, far from the main road networks. In these places, the materials used, the organization, and the spatial arrangement of dwellings reflect the social structure and the relationships that connect different communities with their environment, their ethnic group, and the family unit.

The study examined the municipality of Sanabà, in Banwa Province, also part of the Boucle du Mouhoun Region; Ziga village, located five kilometers from Sanabà; and Torobà village, situated near the forest of the same name.

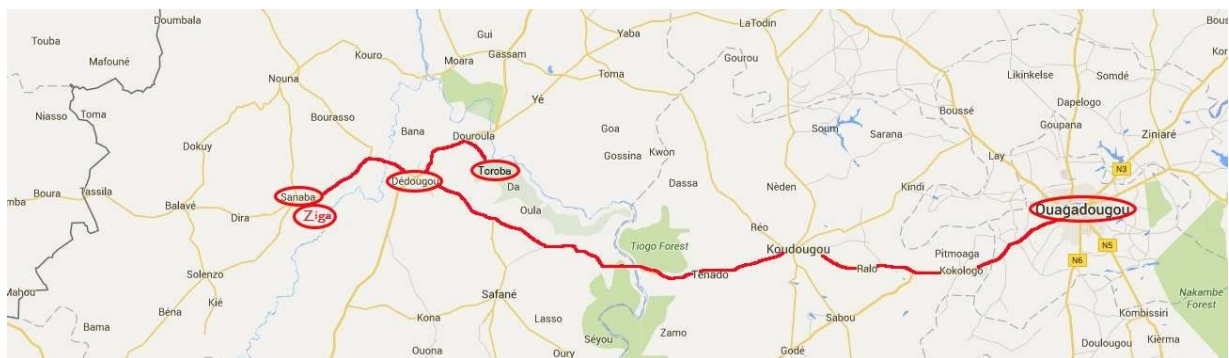


Fig. 1: Travel itinerary.

3. Results

Large cities are the places where it is easiest to observe “external” influences on local building traditions, as they were formed and developed through the actions of colonial societies that made them the center of their activities. For this reason, for a long time the most urbanized centers expressed the culture, habits, and economic systems of a foreign reality, profoundly different from the African one.

Even today, the main cities still preserve the signs of external domination, to which new characteristics are added because of a slow and continuous process of globalization.

Traditional architecture in Burkina Faso finds its most authentic expression in rural areas. About 8,000 villages spread across the territory bear witness to an architecture whose forms vary from region to region, reflecting the more than sixty ethnic groups that make up the Burkinabé population, each with different social and cultural characteristics.

The Mossi constitutes the majority ethnic group. Other significant groups include the Fulani, Gourmantché, Bobo, Samo, Gourounsi, Lobi, Banwa, Sénoufo, Nuna, Dafing, Winiam, and Tuareg. The materials used, as well as the organization and spatial arrangement of dwellings, express the social structure and the ties that connect the different communities to their environment, their ethnic group, and their families. Straw huts, tents, and earthen dwellings of many different forms punctuate the rural landscape of Burkina Faso from north to south.

Dwellings may be arranged more or less compactly within the territory or scattered at varying distances. The Mossi, Bisa, and Gourmantché build circular huts made of sun-dried earthen bricks with thatched roofs. The Bobo, Dagara, Gurunsi, and Lobi, on the other hand, construct large houses, some resembling small windowless fortresses, built with materials obtained from nature: wood, earth, and straw.

3.1 Ouagadougou

Ouagadougou, founded in the 11th century, became part of the French colony of Upper Volta in 1896, remaining under its influence and control until 1960, the year in which Burkina Faso gained independence.

The stay in the capital made it possible to formulate the first considerations on settlement principles, building typologies, construction techniques, and the materials used.

Traditional architecture, consisting of dwellings built with sun-dried earthen bricks, still partially found in the outskirts, has gradually been overlapped by the colonial style of the many public, commercial, and residential buildings constructed in the 19th century and the first half of the 20th century, together with examples of contemporary architecture, which emerged in the 1960s.

This is an eclectic architecture that sometimes incorporates elements borrowed from the local tradition. Buildings with Renaissance-inspired columns alternate with reinforced concrete constructions clad with ceramic tiles or synthetic plasters, some of which recall the color of earth, a material traditionally used in local building practices (Fig. 2).



Fig. 2: View of Ouagadougou.

Many of these buildings feature architectural elements that reflect local needs, particularly the careful design of systems with specific functions for adapting to the environmental conditions of the area, which is characterized by a hot tropical climate. Passive ventilation and solar shading strategies, such as overhangs, shutters, brise-soleil, claustra, shaded and ventilated verandas, and covered passageways, are integrated with the structural system to improve the thermal comfort of the dwellings (Fig. 3).



Fig.3: Examples of contemporary buildings: at the top, a public building; at the bottom left, the headquarters of the Banque Ouest-Africaine de Développement (BOAD); at the bottom right, university residences.

The Maison du Peuple (Fig. 4), designed by René Faublée and inaugurated in 1965, combines elements of the local tradition with the new trends of post-war Brutalist architecture. The large covered theatre, with 2,500 seats, was included in the World Monuments Watch in 2022 and is now considered an emblem of Burkina Faso's rise to freedom and a symbol of its identity. Alongside its compact reinforced concrete structure, the limited openings, the skylights integrated with traditional ventilation chimneys placed on the roof, and the red-earth cladding form an architectural ensemble that enhances the traditional style of Burkina Faso.



Fig.4: Maison du Peuple with detail of the solar chimneys.

More closely linked to the local tradition, at least using earthen materials, is the Cathedral of Ouagadougou, one of the largest in West Africa. The building, constructed in the 1930s on the initiative of the Apostolic Vicar Joanny Thévenoud, is entirely made of adobe bricks and follows a mixed architectural style, inspired by both local tradition and Neo-Romanesque architecture.

Built of reinforced concrete and brick is the Grand Marché Rood Woko (Fig. 5), erected on the same site as the old market, which was destroyed in 2003 by a devastating fire. Particularly interesting are the decorative patterns that adorn parts of the façades. These decorations are created according to the style of the Gourounsi ethnic group, which traditionally entrusts women with the task of painting the houses in their villages. Working together, they spread a layer of plaster by hand over the external sun-dried earthen brick walls, mixing pressed cow dung with clay soil.

The second layer of plaster is made with clay diluted with water and colored pigments (generally red), which forms the base on which the decorations are applied. Black-and-white dichromies are also common.



Fig 5: The remains of the old market destroyed by the fire and the new structure with Gourounsi-style decorations, like those created by women on the huts in their villages.

The designs are created using a guinea fowl feather, which is dipped in black pigment (obtained from basalt) and white pigment (derived from limestone). The decorative motifs are geometric stylizations of everyday objects and rituals or anthropomorphic figures, ancestral symbols linked to the traditional animism typical of these places.

The triangle represents the *calabash*, a container made by drying the fruit of a cucurbit plant. The rectangle symbolizes the traditional garment. The circle represents the full moon, an essential reference for nighttime illumination, since the villages lack electricity. The rhombus represents the *macarami*, a type of leather container or waterskin. Two triangles with their vertices touching symbolize the drum, a musical instrument widespread throughout the African continent.

The anthropomorphic figures include the snake, the crocodile and the lizard, animals considered sacred in animist religions. Other signs are combined with these main motifs, helping to make family affiliation visible, much like the facial scarifications found in some African communities.

To create a shiny effect, the drawings are finally coated with *neré*, a product obtained from the carob tree. Every year, once the rainy season has ended, the women of the village repeat the ritual, applying the decorations to the plaster of the walls, which has deteriorated due to the rain.

The building that houses the National Museum of Music of Ouagadougou, restored by the architect Chiara Rigotti, also expresses the intention to preserve the spirit of African architecture by applying innovative techniques to local materials, such as the use of compressed and stabilized earth bricks. The architectural style is inspired by North African and sudanese architecture, with vaults and domes covering numerous small, interconnected rooms (Fig. 6).

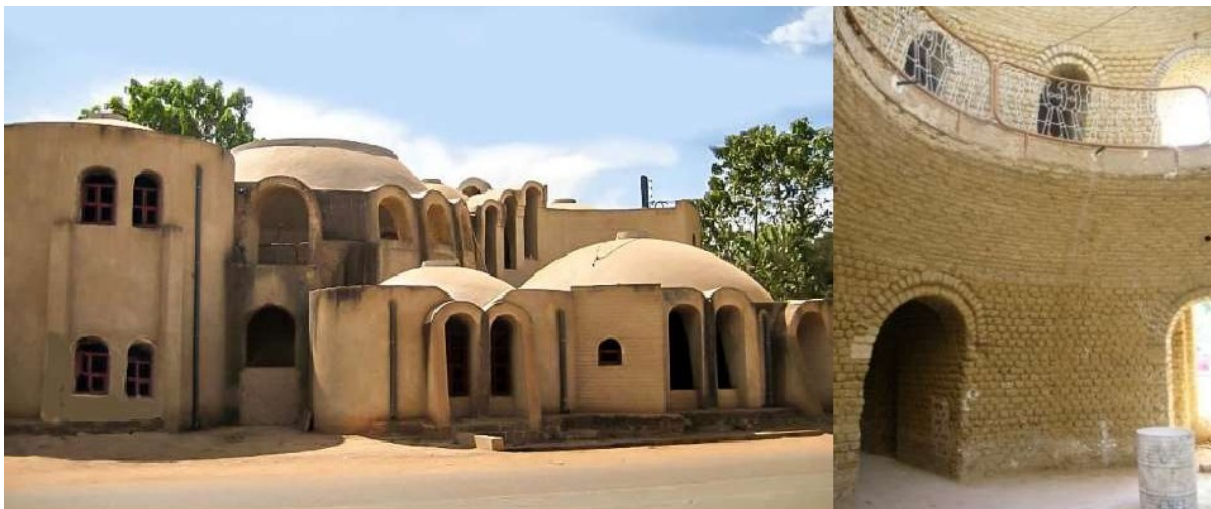


Fig 6: National Museum of Music.

In the poorest neighborhoods on the outskirts of the capital, until a few years ago almost all dwellings were built of adobe. These are small single-family houses, generally rectangular in plan and single-storey. The thickness of the masonry corresponds to one brick.

The roof structure is made of wooden beams resting on the masonry, often ending with a stone ring beam. On the wooden framework, a corrugated metal sheet covering is placed and held in position by brick blocks laid on top.

Doors and windows have rudimentary wooden frames and metal sheet panels. To promote ventilation and prevent overheating of the interior spaces, a ventilated cavity is created on the intrados of the roof, through which air flows via holes made at the top of the perimeter walls. In some cases, the masonry is plastered with a mixture of raw earth.

Almost all dwellings face an outdoor space enclosed by a wall, where most of the daily activities and everyday life take place. The interior of the house is in fact mainly used at night and for storing clothing, household items, and food supplies.

The toilet facilities are generally located outside the house, in a small masonry structure equipped with a squat toilet.

Also on the outskirts, along the river that runs alongside the city, it is not uncommon to find small open-air “factories” to produce sun-dried earthen bricks.

For some time now, adobe bricks have been replaced by concrete blocks, which make the houses unsuitable for the tropical climate because of the thermal discomfort they create.

In the wealthier suburban neighborhoods, one generally finds single-family villas with an eclectic style, built with reinforced concrete structures on two levels, equipped with interior finishes, bathrooms, kitchens, and water and electrical systems. However, there are also small realities in which a tendency emerges to build with locally sourced materials, such as cut laterite blocks and compressed earth bricks (Fig. 7).



Fig.7: Outskirts of Ouagadougou. On the left, an adobe dwelling; in the center, a house built with concrete blocks; on the right, a single-family villa in reinforced concrete.

Very far removed from the local building tradition is “Ouaga 2000”, the residential area located a few kilometers south of the capital. It was developed at the beginning of the third millennium, on the occasion of the France–Africa Summit of 1996, with the aim of providing comfortable accommodation for the international personalities attending the meetings.

The area hosts the new presidential palace, ministries and embassies, as well as imposing buildings, banks and large hotels, international schools, and luxury villas hidden behind high walls decorated with ornamental plants.

The buildings, constructed with reinforced concrete, steel, and glass, ensure indoor comfort through expensive and highly energy-consuming technological systems that regulate air quality, thermo-hygrometric conditions, and lighting, with significant economic and environmental costs.

The architectural style of the buildings is of questionable taste and, although it sometimes draws inspiration from the architecture of the great masters of the past, it does not achieve an adequate level of expressive quality (Fig. 8).



Fig.8: Architectures in Ouaga 2000: on the left, the Hotel Resort Silmandé; on the right, a single-family villa.

3.2 Dédougou

Dédougou is located about 200 kilometers west of Ouagadougou and is the main urban center of the Boucle du Mouhoun region. It is a transit point from which it is possible to reach the villages throughout the region, including those examined in the present study. It is an important agricultural center, known as the country’s “granary,” and for the International Festival of Masks and Arts.

The territory between Ouagadougou and the town of Koudougou, halfway to Dédougou, is dotted with villages of the Mossi ethnic group. These consist of groups of family dwellings called zaka, located at short distances from one another. Circular in shape, with conical thatched roofs, the huts are very small. The walls are built with sun-dried earthen bricks, covered with a plaster made of earth mixed with straw and cow dung.

The hut of the head of the family is square in shape. As these are polygamous communities, each wife of the head of the family has her own hut, which she shares with her sons under the age of ten and daughters until marriage. Boys over the age of ten live in a common hut.

After passing Koudougou, one enters Gurunsi territory and, for a short stretch, that of the Dafing, until reaching Dédougou. The town immediately shows substantial differences from the capital, both from an architectural perspective and in terms of urban organization. The streets are almost entirely unpaved, and the houses, mostly built of raw earth, are in most cases without plaster.

The use of reinforced concrete is limited to a few public buildings, some hotels, and a small number of private houses with a rather anonymous style. In some cases, the reinforced concrete structure is left exposed, revealing the infill of earthen bricks, which is also left visible (Fig. 9).



Fig.9: Top left, a panoramic view of the town center; top right, a dwelling built of raw earth. Bottom left, the reinforced concrete building housing of the University of Dédougou; right, a private residence.

3.3 Sanabà

The journey continues toward Sanabà, a municipality that administers a territory of 920 square kilometers, within which 19 villages of different sizes are distributed. The houses in Sanabà are all built of adobe, many of them covered with raw earth plaster. Here too, the material used for producing bricks is locally available, found in soil characterized by a high clay content (Fig. 10).



Fig.10: Sanabà. At the top center, exterior and interior views of a dwelling with a raw earth roof, showing the supporting wooden structure, and a dwelling with a corrugated metal sheet roof. In the sequence below, the construction phases of a small house.

In the oldest houses, it is still possible to observe the traditional technique formerly used for constructing flat roofs, consisting of a primary framework of wooden beams resting on forked posts driven into the ground and positioned at the internal corners and along the walls of the huts.

The secondary framework was composed of small beams, branches, and bark, arranged perpendicularly to the main beams. On this structure, a thick layer of well-compacted earth was spread. This type of roof required constant maintenance due to the erosion caused by rain, which is particularly heavy during the wet season. Moreover, the earthen layer was very heavy.

More recent houses have corrugated metal sheet roofs, a material that is easy to transport and practical for covering the building in a lightweight manner. The construction process is very similar to that observed in the houses on the outskirts of the capital.

A visit to a construction site managed by members of the local community makes it possible to observe the building of a small dwelling. The sun-dried earthen bricks, measuring $35 \times 20 \times 13$ centimeters, are produced on site and are laid on a base about 40 centimeters high, built with roughly shaped laterite blocks collected not far from Sanabà. Laterite, when exposed to air and sunlight, undergoes a cementation process that makes it compact and resistant. The best layers are the surface ones, from which it is extracted and cut by hand. The stone blocks are also used to create the ring beam on which the roof rests, composed of wooden joists on which corrugated metal sheets are laid.

3.4 Ziga village

Ziga is located only 5 km from Sanabà. The village does not appear to follow a planimetric layout regulated by a precise settlement principle; the houses are organized into residential clusters assigned to individual family clans (Fig. 11).

Surveys were carried out on several houses, both old and recently built, highlighting their characteristics and differences through photographs and video recordings.



Fig.11: Ziga village.

Each residential compound has a quadrangular plan layout, organized around a courtyard onto which the individual dwellings and other enclosed or semi-enclosed spaces open. These spaces are used for sheltering domestic animals, preparing food, and sanitary facilities (which are always built against the walls and are very small in size).

Many family compounds are built around a tree, located either in the center or to one side of the building complex. The courtyard is enclosed by a raw earth wall that connects all the dwellings.

The wall structure is built using the adobe technique. Depending on the economic means of the owners, some earthen walls are left exposed, while others are plastered and/or decorated.

In Ziga, as in Sanabà, some houses still preserve traditional construction techniques, but the majority of dwellings now use corrugated metal sheets for roofs and door and window frames.

For the community, enclosed space constitutes only part of the dwelling; domestic work and social relationships take place outdoors, in the inner courtyard, during meals, daily activities, and collective gatherings held around the tree or under shelters made of a wooden structure supported by forked posts and covered with woven straw mats. When temperatures remain too high even at night, people prefer to sleep outdoors.

Night lighting is provided by handmade lamps fueled with shea butter or, in the best cases, oil. A very common form of lighting for moving around within the village is that provided by mobile phones, which are now widespread throughout the territory.

In general, the houses are very similar to one another in terms of shape, size, and construction materials. Only the granaries, intended for storing food supplies, stand out and assume greater importance.

They are the only structures located outside the enclosure and are raised above the ground. They have either a circular or quadrangular plan: circular granaries are made of woven wicker and always have a conical thatched roof, while quadrangular granaries are built of raw earth and have a flat roof (Fig. 12).



Fig.12: Types of granaries.

3.5 Torobà village

Torobà is a village located about thirty kilometers from Dédougou, reachable via an unpaved track that branches off into a winding route through the forest from which the village takes its name.

Torobà lies in Dafing territory, far from the main communication routes, and lives in conditions of extreme backwardness and poverty. The community is profoundly different, in terms of traditions and religion, from the one living in the village of Ziga.

In Torobà, the animist religion is still practiced, an aspect that is clearly reflected in the architecture and the spatial organization of the village, which follows a precise hierarchical order. There are inviolable sacred areas reserved for religious rites, sacred buildings, and common dwellings, all arranged and regulated according to the principles of the practiced cult.

The most important decisions are entrusted to a group of elders, to whom every member of the village must show the utmost respect.

The houses are spread over a rather large area. No external influences can be observed either in the dwellings—all built of raw earth and wood—or in the infrastructure, which is virtually nonexistent.

The materials used in construction are entirely local, and there is no use of metal sheets, either for roofing or for door and window frames, which are all made of wood. Even plastic, which is generally present in other communities in the form of containers and bowls, is completely absent.

Photographic documentation, together with surveys and video recordings, made it possible to gather as much information as possible about this village immersed in the heart of the savannah (Fig. 13).



Fig.13: Views of Torobà village.

4. Conclusions

The visit made it possible to grasp the profound difference between cities and villages, which in contemporary African reality represent two worlds and two radically distinct ways of life.

Large cities, such as the capital Ouagadougou, are more strongly influenced by external models, both in the use of construction materials and in the adoption of advanced technologies, which must nevertheless be adapted to the needs of tropical bioclimatic architecture, but are not always supported by an adequate energy supply system necessary for their operation.

New buildings, while attempting to reproduce non-indigenous typologies and styles, still retain a distinctive character. However, there are also isolated attempts at “tropical architecture”, designed according to the principles of bioclimatic design and endowed with their own identity, which has yet to be fully conceptualized and developed on a large scale. This development must overcome obstacles related to pressure from foreign industries, the cost of local materials, and the shortage of skilled labor, which over time has lost many of the traditional building skills.

Furthermore, the adoption of imported materials and technologies is still linked to the concept of a status symbol and to the desire to overcome a condition of economic and psychological subordination toward industrialized countries.

Moving toward smaller towns and, even more so, toward villages, external influences become marginal, partly due to economic constraints and to a road network that is still inadequate. It is in rural areas that the different ethnic groups most freely express their traditions, culture, and connection with the territory. All forms of traditional dwelling share common characteristics, despite differences related to ethnic styles. However, even in these territories—in villages and communities far from the main communication routes—there is a growing presence of non-traditional materials, including metals and plastics, which have almost completely replaced those traditionally used for specific purposes.

Particularly widespread is the use of metal sheets for roofing, which, when properly installed with appropriate ventilation openings, are certainly much lighter, more durable, and easier to maintain than a traditional wood-and-earth roof.

The use of metal frames instead of wooden ones, however, seems to reflect a desire to free oneself from a condition of poverty, which forces the adoption of low-cost local materials rather than materials produced by industry.

In some cases, there are attempts to introduce construction techniques not belonging to the local tradition, as in the building that houses the village school of Torobà, whose load-bearing structure, most likely made of laterite blocks, is covered with portions of plaster arranged in correspondence with what might—or should—represent the skeleton of a reinforced concrete frame.

In a country where the local economic and technological level is still very low, one cannot and should not rely on what comes from external contexts. Instead, efforts should be directed toward instilling confidence in local communities, in their abilities and available resources, renouncing—when necessary—technologies incompatible with the local situation, in favor of solutions appropriate to the environmental and cultural conditions of the context.

Since 1975, the Association pour le Développement d'une Architecture et d'un Urbanisme Africains (ADAUA), based in Ouagadougou, has brought together architects, engineers, economists, and managers, mostly African, in programs of research, training, and knowledge exchange aimed at promoting cultural diversity and enhancing local identities through an architecture that is conscious, inclusive, and respectful of the environment.

Among the objectives pursued by ADAUA are:

- The promotion of the conservation of African architectural heritage.
- The continuation of traditional African architectural practices, adapting them to contemporary needs and challenges.
- The promotion of sustainable design and the use of local resources.
- The support of training for local inhabitants in the use of appropriate technologies.

These objectives are also reflected in the thinking of Thomas Sankara, President of Burkina Faso from 1984 to 1987, who encouraged his people to reclaim their cultural identity and to assert their economic independence by reducing the use of foreign resources in favor of the production and consumption of local ones, and by applying innovative solutions and alternative models to address social, economic, and environmental challenges.

His ideas related to the concepts of “consommez local” (*consume local*) and “osez inventer l’avenir” (*dare to invent the future*) are still today a source of inspiration for African communities.

This is precisely what Diébédó Francis Kéré, the renowned Burkinabé architect and Pritzker Prize laureate in 2022, seeks to achieve through initiatives aimed at improving the living conditions of his people by designing and constructing buildings in which technologies, typologies, and morphological and compositional aspects are rooted in the history of the places, skillfully integrating materials that, although not exclusively local, are readily available.

Kéré represents a reference point for a new vision of African architecture, founded on the principles of bioclimatic design, sustainability, and adaptation to the needs of communities.

The Gando Primary School, for which he won the Aga Khan Award for Architecture in 2004, marked the beginning of a path during which Kéré has produced a sequence of works that testify to his valuable contribution to African architecture over the past two decades, the result of a skilled combination of tradition and innovation.

Bibliographical References

ARECCHI, A. *Abitare in Africa. Architetture, villaggi e città nell’Africa subsahariana dal passato al presente*. Milano: Mimesis, 1998.

BINI, V. *Urbanizzazione e trasformazioni territoriali nel Sahel. Percorsi di ricerca nell’altopiano centrale del Burkina Faso*. Milano: CUEM, 2004.

BOURDIER, Jean-Paul; MINH-HA, Trinh T. *Vernacular Architecture of West Africa: A World in Dwelling*. London: Routledge, 2011.

BOURDIER, Jean-Paul; MINH-HA, Trinh T. *African Spaces: Designs for Living in Upper Volta (Burkina Faso)*. New York: Holmes & Meier, 1985.

DENYER, Susan. *African Traditional Architecture*. London: Heinemann, 1978.

DIÉBÉDO FRANCIS KÉRÉ; GIANI, Esther. *Diébédó Francis Kéré. Fare architettura in Africa*. Forlì: Foschi, 2010.

FIRRONE, T. Intonaci e decorazioni in terra cruda espressione di un’arte ancestrale che si rinnova nel tempo. In: GIORGI, A. *Guida pratica alle costruzioni in terra cruda*. Roma: Aracne Editrice, 2014, pp. 116-127.

FIRRONE, T. Nuove forme ed espressioni dell’architettura in terra cruda. In: GERMANÀ, M. L.; PANVINI, R. (a cura di). *La terra cruda nelle costruzioni. Dalle testimonianze archeologiche all’architettura sostenibile*. Palermo: Nuova Ipsa Editore, 2008, pp. 169-178.

KAGAMBÉGA, A.; KABORE, A. Vernacular housing practices in Burkina Faso: representative models of construction in Ouagadougou and walls hygrothermal efficiency. *Energy Procedia*, 2017, 122, pp. 535-540.

KÉRÉ, Diébédó Francis. *Francis Kéré: Architecture*. Ostfildern: Hatje Cantz, 2017.

KUNSMANN, Jeanette. *Utopia di terra. Domus*, 2012.

LIDÓN DE MIGUEL, María; JOFFROY, Thierry; MILETO, Camilla; VEGAS, Fernando. Burkina Faso through Its Traditional Architecture: A Century of Research on Built Vernacular Heritage. *Heritage*, 2022, 5(3), pp. 2370-2393.

MAY, J. *Architettura senza architetti*. Milano: Rizzoli, 2011.

MILETO, Camilla; VEGAS LÓPEZ-MANZANARES, Fernando; GARCÍA-SORIANO, Lidia. *Burkina Faso: Architecture, Culture and Cooperation*. Valencia: Universitat Politècnica de València, 2024.

PIREDDU, Alberto. Kéré Architecture – Una casa chiamata terra. *Firenze Architettura*, 23(2), 2019, pp. 36-43.

AV Monographs 201: Francis Kéré – Practical Aesthetics. Madrid: Arquitectura Viva, 2017.

Enciclopedia Italiana Treccani. Roma: Istituto dell'Enciclopedia Italiana.