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Reframing African School Architecture: A Critical Regionalist Perspective Based on Kenneth Frampton's Principles

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Abstract: ***"There is the paradox: how to become modern and to return to sources; how to revive an old, dormant civilization and take part in universal civilization[1] ." This paper explores the evolution of African school architecture through the theoretical lens of Kenneth Frampton's critical regionalism. By analyzing typology and the six core principles of critical regionalism, the study critiques the homogenization brought by colonial legacies and globalization. Using case studies from Burkina Faso, Niger, the Democratic Republic of Congo, and Nigeria, the paper demonstrates how architects reinterpret educational space by emphasizing local materials, climate responsiveness, and cultural identity. The findings underscore that context-driven school design not only serves educational functions but also fosters social cohesion, resilience, and sustainable development.***

Keywords: Critical regionalism, African school architecture, Architectural typology, Climate-responsive design, Community participation

1. Introduction

In architecture, the concept of a 'type' refers to a standardized building form or model that establishes order based on functions, social norms, and symbolic significance [2]. While fundamental to architectural classification, recent studies show that architectural types are in fact fluid and dynamic, constantly redefined by culture, history, and environment [3]. Frampton posits that typology stems from civilization and culture, reinforcing the perspective that architecture types evolve contextually[4]. It reflects the cultural evolution of human settlements as they adapt to place and respond to regional qualities, becoming an iconic element identified with place through a vernacular principle passed down through time [5]. Therefore, a built type is a cultural response to place and context. However, architectural theory challenges a purely theoretical understanding of typology, presenting it as a flexible framework that adapts to various contexts [3].

The fluid nature of architectural types is challenged by globalization, which has led architecture to gradually lean towards uniformity and homogenization, often disregarding the cultural, climatic, and social particularities of place [6]. While the process of universalization benefits humanity, it concurrently causes nuanced erosion of traditional cultures, effects that may not be entirely irreversible [7]. It is evident that, in public architecture, particularly in schools, global design trends often predominate, overshadowing the specific needs and cultural identity of the local community. This leaves behind structures that feel contextually out of place, lacking the warmth and meaning that is derived from being anchored in a place [8]. The outcome is an environment stripped of the richness and meaning derived from engagement with local traditions and lived experiences [5].

In response to the homogenization of culture brought about by globalization, African architects are adopting critical regionalism, a theory based on Kenneth Frampton's 1983 essay "Towards a Critical Regionalism: Six Points for an Architecture for Resistance," which offers an alternative paradigm [7]. Frampton advocated for opposing the globalization of modern architecture by re-engaging with local contexts, materials, and traditions. Rather than falling into nostalgic revivalism, critical regionalism seeks a balance between the global and the local, the modern and the traditional [4]. The objective of this paper is to explore how African architects, through the lens of critical regionalism, reinterpret the "school" as an architectural type. By doing so, they create learning environments that are both functional and deeply rooted in local identity, heritage, and climate, decisively moving away from generic, standardized designs.

Through a combination of theoretical analysis and case studies, this paper explores the theoretical basis of critical regionalism, specifically Kenneth Frampton's ideas, to understand its application as a critique of the universalism and homogeneity inherent in modern architecture. This theoretical framework will be combined with an examination of contemporary school projects by architects such as Francis Kéré and the MASS Design Group. These case studies will demonstrate how these architects synthesize global architectural discourse with local traditions and materials, producing innovative and contextually appropriate educational spaces.

2. Understanding Architectural Type

Typology has remained central to architectural discourse since the 18th century[9]. Inspired by Newton's revolution in physics, Enlightenment thinkers argued that systematic thinking could be applied to all forms of human activity [10]. Although typology's origins lie in the Enlightenment's attempt to align architecture with natural order, its vocabulary has since been used in both modernist critiques of mass culture and neo-rationalist explorations of continuity and meaning [3]. Despite its prevalent use, the precise function of typology in design remains ambiguous. Efforts to connect its academic foundations with architectural form, notably by

Gottfried Semper in the 19th century and Giulio Carlo Argan and Aldo Rossi in the 20th century, have not successfully integrated the two; instead, they have distanced typology from practical application. A rational deconstruction of architecture to its notional origins [9].

While theorists have explored the concept of type and its origins, its practical application often reduces to fundamental functional similarities, which may not fully capture the complexity of typological discourse [11] [9]. This simplification gained credibility in Pevsner's History of Building Types, where structures were classified and ordered along a spectrum from "the most monumental to the least monumental, from the most ideal to the most utilitarian, from national monuments to factories[12]." However, Pevsner reveals the fundamental challenge of this categorization by noting the overwhelming number of types that a comprehensive catalogue would need to include [9], [10].

The architectural type has a long history and has been interpreted in various ways. Early theorists like Quatremère de Quincy and Jean-Nicolas-Louis Durand established the approach to studying architectural types, transforming how we understand and create architecture [13].

Quatremère de Quincy was among the first to manipulate type as a tool for classifying architectural form based on its essential features [14]. He viewed architecture through the lens of topology, seeing buildings not just as isolated objects but as part of a broader system of meaning. Instead of treating design like a rigid prototype to be copied down to the last detail, he embraced the idea of a "type," something more flexible, more conceptual. A type is not a fixed mold; it is a guiding idea that shapes design while leaving room for interpretation and context. It is less about copying a perfect image and more about capturing an underlying principle, a kind of guiding element that shapes design without dictating every detail [9]. As famously written by, the word "type" does not mean an image to be perfectly imitated, but an idea that acts as a guide or rule for creating something new [14].

Jean-Nicolas-Louis Durand more fully developed this notion in the early 19th century. Durand's architectural essay introduced a system for classifying buildings by function and structural design [9]. His typology was groundbreaking because it sought to establish a universal architectural language, enabling architects to convey their concepts more effectively [3], [9]. By methodically examining images and their corresponding types, Durand laid the foundation for subsequent discussions of typology. He underscored the significance of type in architectural design, highlighting how form and function shape architectural expression [2]. His work, particularly his Précis des Leçons d'Architecture, emphasized the practical application of types for different building functions (e.g., hospitals, libraries, theaters) through standardized layouts and structural grids. While offering a highly rationalized approach, Durand's system, in its pursuit of efficiency and universality, inadvertently contributed to the formal homogenization later critiqued by critical regionalists [10].

As architectural practice developed, the idea of typology evolved from being seen simply as repetition, where forms and stylistic patterns were replicated across different contexts [13]. This way of thinking often led to a conservative view of architectural types, in which buildings were seen as replicas of existing ones [10].

However, in the second half of the 20th century, this perception changed. Academics and architects began to see typology not as a static collection of forms, but as a responsive process that could accommodate evolving conditions [9]. Hodgett discusses this shift in thinking, one that theorists like Anthony Vidler brought into focus in "The Third Typology". It is the idea that architectural types are not fixed templates, but flexible structures that evolve [15], [16]. Vidler's take highlights how deeply context matters. He argues that types are not just repetitive patterns churning out the same forms; they are shaped and reshaped by the specific rhythms and needs of the places they belong to [9].

Aldo Rossi, in The Architecture of the City, did not see architecture in isolation. He understood how deeply it is tied to the city and its public spaces, how each shape responds to the other [17]. Rossi did not treat architectural types as fixed formulas. He saw them as living expressions born from the shared memory of place and shaped by its evolving history and culture [10]. For him, design was not something you imposed from the outside. It was about listening to what is already there, honoring the layers of meaning woven into the city's fabric over time [17]. These ideas derive from the belief that architectural types are neither rigid nor predictable. They are flexible frameworks, not universally applicable formulas [13]. Rossi's approach was not about pure functionality; it was more about the lasting forms and patterns of urban spaces. He was drawn to how these shapes endure, shift, and carry meaning as they move through different social and cultural moments [10].

2.1 Type is Not Fixed

Architectural types are not fixed. History shows that new types emerge over time. Modern architecture is a relatively recent development in architectural history [2], [9]. Take schools as an example: as education needs changed, so did the form and design of school buildings. We moved from traditional classroom layouts to flexible, open-plan spaces. This shift shows how architecture can shape and support diverse learning approaches. These changes make it clear that architectural types evolve in response to social needs, new technologies, and fresh teaching ideas [9], [17]. A modern school is a unique creation shaped by today's requirements. This flexibility is central to how "type" works. It is continually formed in relation to function, place, society and culture [9].

2.2. Type as Responsive Design

I would argue that the most crucial aspect of the architectural type's theoretical framework is its responsiveness. A type is a historical artifact that evolves from one iteration to the next. It is a living concept shaped by societal needs and cultural evolution. Moneo writes in "On Typology" that one essential idea is that form follows function, meaning a successful type responds to its context by incorporating trends and elements from its built environment [18].

Today, various patterns demonstrate responsiveness in contemporary architecture. One apparent example of types responding to the context is the focus on sustainability. Green ideas in construction have led to the emergence of a new kind that focuses solely on solving the issue. For example, green buildings represent a new architectural approach, significantly influencing societal design choices amid the threat of climate change and resource scarcity [8]. Notably, this type of building emerged because all existing types needed transformation to address the issue seriously.

Another prominent way in which types respond is through the effects of globalization on typological unification. This implies that various types become hybrid, influenced by practices from different cultures, further proving the flexibility of types to adapt to the ever-changing context of the world [9].

3. Frampton's Critical Regionalism and the Fight Against Homogenization

Kenneth Frampton's 1983 essay, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance," explores how contemporary architecture can reconcile local identity with global architectural trends, and vernacular traditions with advanced building technologies. Critical Regionalism is an architectural concept that seeks to combat the placelessness of the international style by contextualizing building forms, embodying 'an anti-centrist consensus' [19].

In theory, Critical Regionalism emphasizes the distinction between local and global built forms. It discourages nostalgic copying of the built form. However, Critical Regionalism diverges from regionalism by avoiding direct replication of vernacular architecture while engaging with universal architectural principles. It is regarded as a distinctive postmodern response, particularly relevant in developing countries [20], [21].

Frampton asserts that Critical Regionalism needs to selectively incorporate modern architecture for its broadly advancing features, all while prioritizing reactions unique to the surrounding environment [20]. His theory for architecture is a resistance to the homogenization of globalized modernism and to creating architecture that contextualizes and engages with local materials, climate, and cultural identity [21].

Frampton defines six main points that guide critical regionalism[4], [5]:

1) A critical but open approach to Modernist attitudes and technologies was technical and technological aims, such as normative optimization.
2) A consciously bounded architecture concerned with the territory to be established by the building
3) An interest in creating an integrated whole, which Frampton calls a 'tectonic fact' rather than a series of scenographic episodes.
4) A stress on local conditions and responsiveness to local climate
5) An emphasis on the tactile as well as the visual architecture that is not only for the sight but for a complete human experience
6) An opposition to sentimental simulation of the local vernacular, combined with a willingness to reinterpret and use these local formal motifs, and a willingness also to introduce foreign sources.

As illustrated in **Table 1**, these six principles can be mapped into African case studies

Table 1: Application of Frampton's Six Principles in African Case Studies

Principle	Gando Primary	Ilima Primary	Hikma Complex	Makoko Floating
Local Material	Mud brick	Timber/ adobe	Clay, stone	Recycled timber
Climate Response	Ventilation, mass	Shading, roof	Courtyards	Floating base
Community Engagement	High	High	Medium	Medium
Tactile Experience	Earthen finish	Timber texture	Courtyards	Informal
Vernacular Reinterpret	Modern mud use	Refined local	Religious blend	Hybrid design
Tectonic Expression	Brick Tectonics	Timber craft	Monumental form	Lightweight

3.1 Critique of Globalized Modernism and the Placeless Architecture

Frampton's critique of globalized modernism is evident in his warning about placelessness, where architecture loses its 'home' and becomes a byproduct of the 'world culture' of capitalism [22]. This push toward global design results in cities looking the same everywhere, eroding their unique character. Architecture that neglects the site-specific context and adopts generic shapes and materials actually jeopardizes cultural and environmental identity.

Frampton observes that this placelessness transcends the facade of buildings; it becomes social. Architecture erodes the sense of place and isolates people from it, without a genuine connection. By contrast, his solution promises to be a form of regionalism that directly and responsibly addresses these concerns through careful design introspection [6].

3.2. Critical vs. Sentimental Regionalism

A key contrast in Frampton's work is between critical and sentimental regionalism. Sentimental regionalism often relies on nostalgia, romanticizing the past and repeating old styles. Critical regionalism, by contrast, is rooted in a fresh understanding of place. It engages with local identity but does not automatically regard traditional images as good. Instead, it seeks a balance, bringing tradition into dialogue with modern ideas [4], [5].

Frampton's critical regionalism invites architects to engage critically with their context, but only if it is relevant. This is a recognition of modernity rather than an effort to integrate it into indigenous practices and beliefs [5]. This approach enables architects to produce work that is both innovative and deeply rooted in place.

Yet, according to Frampton, architecture should extend beyond the visual sense, aligning with the principles of

critical regionalism. He critiques modernist and postmodernist buildings for privileging the visual and advocates, instead, a haptic architectural experience that embraces all five senses [20]. Accordingly, the architecture of critical regionalism is not noticed but instead felt. It addresses local climate conditions through passive strategies such as natural ventilation, sun shading, thermal mass, and sensory materials[7]. As a result, this approach to building fosters a more intimate relationship between people and their environment.

3.3. Regionalism as a Tactic to Reinvent Architectural Typologies

In Frampton's conception, critical regionalism is part of the modern trend of regionalism in architecture. It can be considered a framework for redefining architectural typology, reflecting the tendency to combine regional influence with pragmatics. This mode of operation enables the co-cultivation of tradition and modernity by offering the potential for a more nuanced debate about the built and cultural contexts. This is a synthesis not only of the fractures of globalization but also of the reality of place and of a more sustainable, culturally responsive practice of architecture. [15].

Frampton's ideas resonate with reflections on schools. They have become among the most replicated forms of construction globally, often stripped of any real connection to the places where they are built. They are usually viewed as models of advancement imported wholesale from the West, with little or no attention paid to local culture or climate. This is precisely what Frampton is against in critical regionalism: a one-size-fits-all mentality [4]. According to him, even a neutral object, such as a school, must be reconsidered in relation to local traditions, needs, and lifestyles.

Frampton's influence extends beyond theory to practice, as evidenced by the application of his ideas in regions such as Africa, where architects adapt his principles to local contexts. In African contexts, especially where imported school models have often failed to serve local communities, critical regionalism offers a pathway toward architectural types that are both contemporary and grounded.

Furthermore, critical regionalism is also a medium for uncovering change in type. For example, educational methods like this exist in many African countries. Initially, education was simple, conducted under trees or in courtyards and open plazas; today's common educational structures are more complex [23]. However, these spatial traditions fail to conform to standard models of education and have other social or educational significance [24]. People often model new typologies on them for inspiration.

Frampton's theory of critical regionalism, in brief, challenges architecture to move beyond mere formalism or mere duplication. The campaign recasts how standardized structures, such as schools, might reflect local wisdom, construction methods, climate, and cultural conditions.

4. Homogenization and the African Context of School Architecture

Global trends, colonialism, missionary activities, and post-independence modernization ideologies heavily influenced the design of African educational spaces[25]. Consequently, school buildings often mirror imported designs and ideologies [26].

During the colonial era, educational administration in many African countries was primarily in the hands of European colonial governments and missionary organizations[25], [27]. The architectural forms that accompanied this academic program, predictably, were modeled after European architecture[28], [29]. Classrooms were built with standardized dimensions and imported materials to simplify construction and reduce expenses [25]. Climatic or cultural considerations influenced these buildings less than did symbolic authority and discipline. As a result, the school building type functioned more as an instrument of cultural assimilation, designed to make people feel a sense of pride in their education, not through the spaces in which they learned but through the architectural expression of colonial ideology [25], [30].

The Types imported from the West could not accommodate the African context. In most cases, they were designed without consideration of the local climate, resulting in excessive indoor heat, poor ventilation, and a generally uncomfortable learning environment [25]. Furthermore, these buildings disregarded the spatial traditions of many African societies that emphasized openness and gathering in shaded areas, as well as collective interaction [31]. This disrupts traditional modes of learning and spatial organization.

Many African nations have continued to build schools and educational institutions in the 21st century; however they have retained the colonial-era educational structure [32]. The new educational provisioning system has led to significant differences between urban and rural education and between school and home cultures. Many communities lacked teachers, resulting in insufficient teacher interaction and unproductive time for students[32].

With support from development donors and agencies, governments in newly emerging countries accelerated their efforts to build schools to expand access to education[32]. However, most of these buildings were designed using standardized plans created in remote offices, with little to no local input or consideration of local needs and conditions[27]. The World Bank, UNESCO, and other global organizations have long been promoting modular building methods and mass-produced school designs that are quick to construct, cheap, standardized, and easy to scale [25], [31], [32]. While well-intentioned, such interventions resulted in the transformation of all educational buildings across Africa into a single, homogeneous architectural type[25], [33].

This homogenization also extended to cultural aspects. The architectural forms of schools in postcolonial Africa often failed to reflect the identities, values, or educational traditions of the communities they served [34]. However, a growing number of architects and organizations in Africa are

challenging this monotonous approach by adopting a more context-sensitive, culturally relevant approach that better reflects local needs, traditions, and environments [35]. This shift aligns closely with the principle of critical regionalism. In this sense, the reimagining of school in Africa goes beyond aesthetic concerns. It raises fundamental political and ethical concerns for architects who seek to redefine the school as an architectural type.

In this context, Frampton's critical regionalism becomes particularly significant. There is a concrete expression for his petition that architecture should be diverse. These schools are constructed with durable materials and designed for local community maintenance and adaptation, reflecting a shift toward more sustainable and context-based architecture. Rather than imposing fixed conditions, these architects reconceptualize schools as evolving structures shaped by their contexts. Capable of evolving and revitalizing itself, the school can take root in the concrete realities of local life.

African School architecture has evolved through five eras, as shown in Figure 1 and Table 3, from indigenous communal spaces to colonial impositions, post-independence modernization, globalization's homogenization, and today's critical regionalist approaches rooted in culture and community[25], [36].

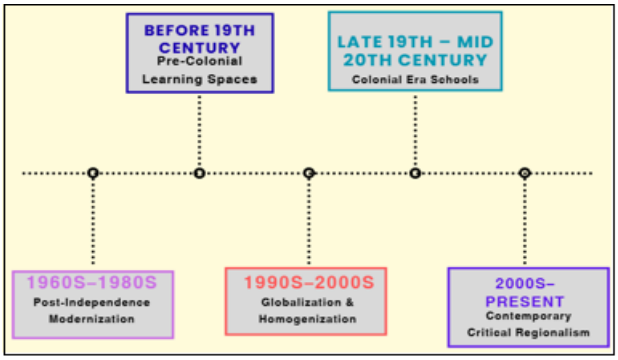

Figure 1: Five Eras of African School Architecture

Table 2: Colonial vs. Critical Regionalist Models

Era	Characteristics	Implications
Pre-colonial	Informal, communal spaces	Cultural continuity
Colonial	Imported prototypes	Authority, rigid
Post-independence	Donor mass schools	Places, generic
Globalization	Standardized models	Homogenization
Contemporary African	Local, participatory schools	Sustainable, rooted

As summarized in **Table 3**, colonial and global school models relied on standardized, imported forms, whereas critical regionalist approaches emphasize local materials, climate-responsive design, and community participation.

Table 3: Colonial vs. Critical Regionalist Models

Feature	Colonial /Global	Critical Regionalist
Materials	Concrete, corrugated	Local (mud, timber)
Climate Response	Poor ventilation	Passive cooling
Cultural Identity	Western imposition	Locally embedded
Community Role	Top-down	Participatory
Learning Space	Rigid classrooms	Courtyards, flexible
Sustainability	Short lifespan	Durable, adaptable

5. Case Study

5.1. The Gando Primary School- Francis Kéré

Gando Primary School is located in the Centre-East Region of Burkina Faso, where the climate is generally hot and dry. Many educational buildings in the area suffer from Poor lighting and ventilation [37], [38]. The Gando Primary School offers an exemplary opportunity for innovation and community engagement through the integration of local and modern architectural elements. Francis Kéré designed a building that demonstrates architecture's capacity not only to serve a function but also to foster a sense of identity and pride within a community.

Kéré emphasizes the importance of designing educational facilities that respond to local needs and conditions[37]. The use of mud bricks, a representation of the regional architectural tradition, provides thermal mass that helps regulate indoor temperatures, as shown in **Figure 2**. The design incorporates passive cooling strategies, such as a ventilated roof, to maintain comfortable interior conditions even in hot weather (**Figure 3Figure *2***). This typological innovation in school architecture transformed a school from a mere provider of education into a vital component of the household community, reflecting the cultural realities of its environmental context.

The Gando Primary School becomes much more than a shelter for learning; it fosters a sense of community and identity by engaging local laborers who earn money and invest in the building project. Collective investment leads to ownership of pride in education, aspirations, a collective space, a place for the community, and belonging for educational purposes.

Kéré's philosophy represents Frampton's values of tectonic expression and materiality. The school develops a regional identity, enabling sustainable, valuable, and traditional development (**Figure *4***). Kéré's architectural language reflects the landscape and environmental conditions of Burkina Faso, demonstrating how architecture can express and respond to its surroundings.

The Gando Primary School represents a redefined architecture of community spaces and heightened identity; it not only addresses the agenda of the rural school context in Burkina Faso but also offers a new interpretation of educational facilities as a nested logic within the community (**Figure 5Figure *1***). This project can serve as a model for future projects in rural or similar contexts, where design can lead to significant real-world changes.

Figure 2: Picture showing local materials and the construction process, and the participation of the community

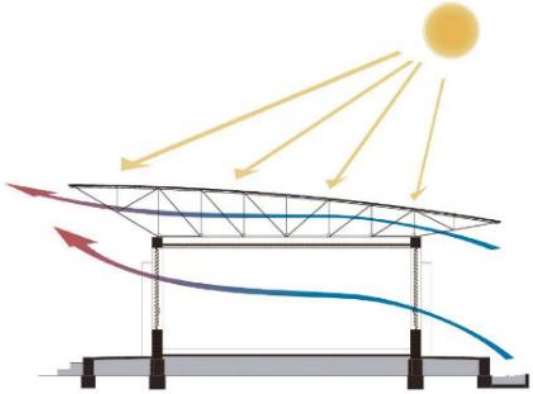

Figure 3: Section showing the ventilation to reduce the heat

Figure 4 : Picture showing the well-ventilated classroom

Figure 5 : Picture showing the community using the school

5.2. MASS Design Group- Ilima Primary School

The Ilima Primary School, designed by MASS Design Group in 2015, demonstrates critical regionalism through an extreme engagement with context to redefine the educational building type. The school is located in a geographically and situationally remote village in the Congolese rainforest that lacks infrastructure. The project used its geographical and infrastructural limitations to develop innovative design principles. As shown in **Figure *6*** The architects designed and built the school using primarily local materials, harvested timber, and on-site earth adobe bricks - within a 10 km radius, using zero-waste techniques[39]. While the design respects vernacular precedents, MASS further innovated durability and performance (**Figure 7**). The large, overhanging thatched roof provides shading, rain protection, and passive cooling in the tropical climate.

Most critical, however, is the community-centered process. More than 120 Local villagers were trained and employed to help with construction; many were first-time builders[39], [40]. The building process fostered skill development, ownership, and community resilience (**Figure 9**). This approach aligns with Frampton's view of architecture as a cultural/tectonic act grounded in labor.

Design space is reinterpreted through an openness and connection to place. Internally light and naturally ventilated spaces feature large operable shutters and screened openings. wide porches encourage informal gathering typologies; these elements reflect the Congolese tradition of communality in shaded transitional spaces. This harnessed local customs and cultural connections within the educational typology (**Figure 8**).

Ilima embodies MASS's philosophy of "architecture that heals" by bolstering local knowledge, restoring cultural confidence, and committing to sustainable practices, thereby promoting social and eco-stewardship. The design team focused on aesthetic regionalism. Crucially, Ilima disrupts the modes of school construction driven by standardization and donor-centric models for the developing world. It rejects scalability and homogenization, demonstrating effectiveness through deep specificity and responsiveness to local context and materials, rather than replication. It sets a precedent for an approach to school buildings, showing how architecture can properly engage with climate, culture, and community (**Figure 9**).

Through a discursive differentiation of place, people, and purpose, rather than imported minimalism and efficiency, Ilima schools could become an educational type defined by culturally and environmentally appropriate realities, rather than standardized forms. It models Frampton's critical regionalism; it resists global flattening and asserts that architecture can transform people into a specific reality for education, community, and survival.

Figure 6 : Aerial view of Ilima School

Figure 7 : Villagers cutting shingles

Figure 8 : Side view of the school showing openness

Figure 9: the participation of the community in the design of the school

Figure 10: the community using the school

5.3. Atelier Masōmī- Hikma Religious and Secular Complex, Niger

The Hikma Complex is a proposed library, mosque, and educational space in the village of Dandaji, Niger. This project, from Atelier Masōmī, is led by Nigerian architect Mariam Kamara. While not a school in the conventional typological sense, it is a hybrid of religious and educational functions, combined into a single complex (**Figure 11**). As is typical among many recently constructed African educare projects, it is located in a more rural, remote village. The project reimagines the learning space as a community-engaged, culture-embedded space.

The design features evocative forms that reflect traditional Hausa architecture, using locally produced materials and courtyards, both integral to the project's educational and cultural context[41], [42]. The building's monumental scale evokes historical memory while remaining rooted in the present. Learning is understood as occurring beyond enclosed classrooms, and expansion is accommodated in transitional spaces, shaded arcades, and outdoor gathering/viewing areas. This multiplicity of space recalls an African way of learning, in which knowledge is orally exchanged among multiple parties, a community engages in constructing knowledge, and the learner has intimate relationships with their spiritual, social, and physical environments[43].

Kamara's work can be understood through Frampton's concept of "resistance through culture," as it challenges colonial educational systems and global aesthetic homogenization. She reconsiders the Hikma Complex as a spatial, spiritual, and educational infrastructure that exhibits architectural legibility, in contrast to both the colonial educational system and the homogenization of global aesthetics. She considers the possibility of a learning environment that evolves by reimagining the sacred and secular, modern materials and/or means of construction drawn from the traditions of ancient cultures, and by allowing the community to exist in a space that mitigates the separation between 'school' and 'community'.

Figure 11: Hikma Religious building

Figure 12: The community using the library

Figure 13: library at Hikma Religious

5.4. Makoko floating school- NLÉ

Makoko Floating School in Lagos, Nigeria, serves as a case study in the radical rethinking of educational architecture in flood-prone urban environments. First built in 2013, this educational experiment was situated within the informal water-based community of Makoko and aimed to address the urban educational infrastructure deficit in a flood-sensitive environment[44].
This school is a triangular structure on a floating platform, consisting of salvaged barrels, timber framing, and a thatched roof (**Figure 15**). Although the Makoko School was temporary and eventually dismantled, it represents a radical rethinking of educational typology. It organizes space to engage with environmental constraints and considers the community's socio-spatial realities. The school also questions the landlocked assumptions of academic architecture. Furthermore, it proposes alternative educational infrastructures to address urban risks posed by climate change.

The project exemplifies critical regionalism by responding to topography, utilizing community agency, and leveraging available resources, rather than relying solely on typological precedent. Furthermore, by providing a contextually relevant place for learning, it serves as architectural resistance, allowing dignity in the erasure of the informal.

Figure 14 : The Makoko, the floating school

Figure 15 : The school is built with local timber

6. Discussions

The case studies collectively offer a radical rethinking of architectural "type" by challenging traditional notions and integrating local contexts. They reject the idea of type as a static, universally applicable form and instead present it as a mobile and inventive concept that operates across geography, culture, climate, social practice, and time. They manifest Kenneth Frampton's critical regionalism, which is not purely a style but a design approach that meaningfully engages local traditions with contemporary techniques. As shown in **Figure 16** reliance on local materials highlights cultural identity, climate response, and community engagement, and **Figure 19Figure *18*** contrasts global and regionalist models, showing that local schools excel in these areas. These projects incorporate climate-responsive strategies, material specificity, community engagement, and cultural meaning, avoiding nostalgia for vernacular revival or externally imposed Western models.

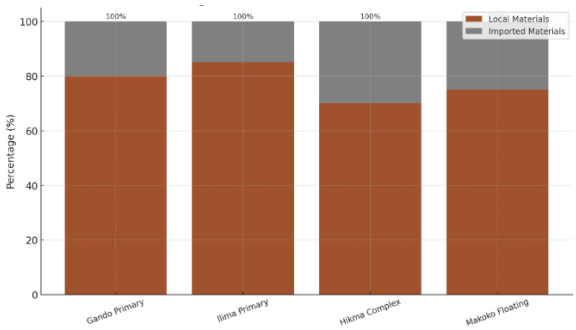

Figure 16: Material Usage in African School Architecture

As illustrated in **Figure 17**, the case studies demonstrate varying levels of climate responsiveness, with Gando excelling in ventilation and thermal mass, Ilima in shading, Hikma in open courtyards, and Makoko in water resilience.

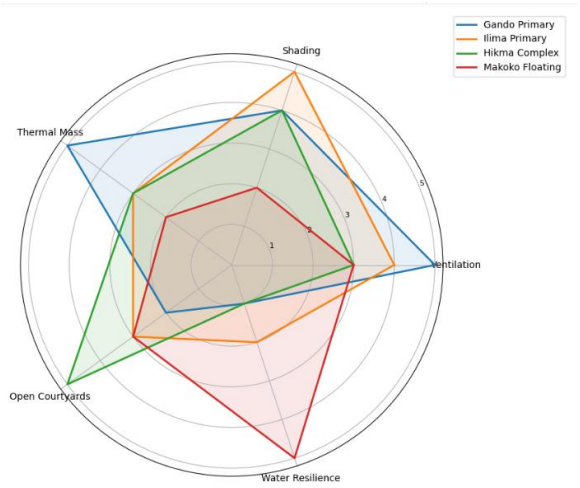

Figure 17: Climate Responsiveness Features in African School Architecture

As shown in **Figure 18**, both Gando and Ilima schools achieved high levels of community involvement, while Hikma and Makoko engaged communities to a moderate degree.

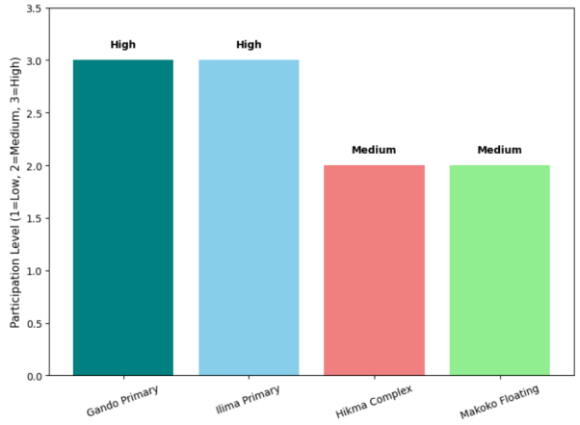

Figure 18: Community Participation in African School Architecture

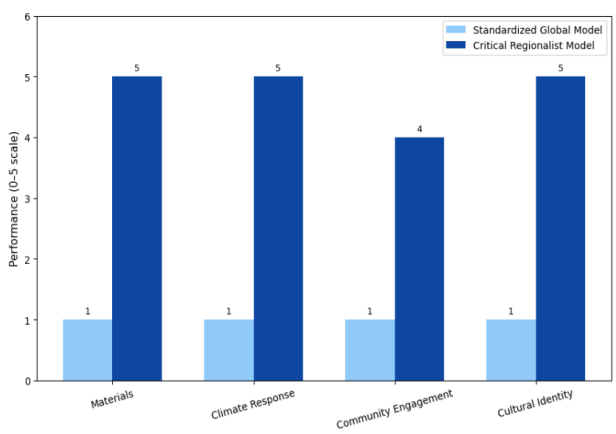

Figure 19: Global vs. Local School Typology

Within critical regionalism, school architecture is understood not as a fixed model to be replicated, but as a context-driven and socially produced spatial system that negotiates between global educational needs and local ways of living. This perspective can be summarized through four key principles:

1) Redefining School Spaces: The school changes from a place for ordinary teaching into a comprehensive living environment. It considers learning to be an Africa-wide, socialized, and future-to-present form of creativity. Spaces such as courtyards, verandahs, and thresholds are typological innovations that draw on traditional designs and serve as sites for development and informal human interaction.
2) Resisting Top-down replication: They are opposed to the universal "one-size-fits-all" models often imposed in various contexts. "Type" should emerge "from below" through dialogue in context and through popular action.
3) Fluid Typological Method: Design evolves from only selecting pre-existing types to becoming a process without a predetermined end, defined by intentions, relationships, and environmental intelligence. Spatial form is inseparable from cultural expression and ecological sensibility.
4) Qualified Modernity: Critical regionalism is not anti-modern; it represents a modernity that is enlightened by its ability to listen, adapt, and respect traditional values. It combines innovation (higher craft, new materials, passive measures, programmatic blending) with traditional wisdom.

The African school demonstrates that architectural typology can be a flexible means of shaping space. Its form arises from local needs and challenges imported models that ignore context. It is not only a place for teaching but also a center of community life, cultural continuity, and design reflection. This approach to typology highlights a model of school building that is adaptive, rooted in place, and meaningful for wider architectural practice.

7. Conclusion

African school design has been shaped by history and society, but it requires consistent rethinking to address contemporary social needs. Many school building types have become outdated, making it necessary to revisit and re-evaluate them through their contexts, culture, and community needs. This paper, through the case studies, examined how Kenneth Frampton's concept of critical regionalism provides a framework for designing buildings that resist one-size-fits-all global models[21].

Frampton's approach shows architects how to avoid the generic, standardized designs by focusing on structure, sensory experience, and cultural continuity. The case studies show that schools can evolve to reflect the balance between the global influence and local cultural identity, adapt climate-responsive strategies, and integrate modern construction techniques and materials with the local ones without necessarily reverting to nostalgia. They reveal that innovation emerges not from rejecting the past but from reinterpreting it through a critical lens.

However, the paper also recognizes the limitations imposed by rapid urbanization and accelerated development, which prioritize cost-effectiveness, speed, and standardization. These pressures can limit the engagement that critical regionalism requires. Nonetheless, the case studies affirm that

context-based design remains possible through engagement with both local and global forces.

Rethinking schools in Africa is about more than just design. It is a cultural and ethical responsibility. As the world becomes increasingly homogenized, these projects demonstrate that a building can both celebrate what makes a place special and drive positive change for the community and the space itself.

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