

DOI: 10.5281/zenodo.19101280

SHAPING KHARTOUM: ARCHITECTURAL PRACTICES AND URBAN TRANSFORMATION IN THE PRE-WAR CONTEXT (1970S-2018)

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Received: 06/02/2026
Accepted: 05/03/2026

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ABSTRACT

In newly developing cities, such as Khartoum, the capital city of Sudan, the formation of contemporary architecture often undergoes a rapid transformation driven by international influences, globalization and shifts in the economic or political conditions. Although Khartoum has witnessed significant historical events that shaped its urban fabric, recent contemporary developments reflected a fragmented environment. Therefore, this research investigates architectural practices in Khartoum between 1970 and 2018 as an analytical documentation of the forces that shaped this context. An inductive, exploratory methodology was adopted, involving in depth interviews with architects and key experts engaged in Khartoum's urban development. The interview data were thematically analysed to identify recurrent patterns and underlying drivers. Consequently, findings indicated that incomprehensiveness of planning and building regulations, political influences, divergent design approaches, expatriation, inadequacies within architectural education and a weak connection between architecture and place collectively shape Khartoum's 'uncertain' contemporary architectural landscape. The research concludes that fostering an architecture that is rooted in place, nurtures the sense of belonging and local regional identity is essential for counterbalancing this uncertainty and appreciating Khartoum's layered urban fabric. Finally, these findings offer significance in the current post-war context, offering guidance for reconstructing Khartoum's architectural image as the city moves towards recovery.

KEYWORDS: Khartoum's Contemporary Architecture; Uncertain Urban Context, Regional, Rooted in place, Reconstruction, Architectural Identity.

1. INTRODUCTION

In any city rising from multiple periods of colonization the issue of identity is often contested. The debate is whether there is a rich architectural history to depend on and start from, or whether the task is totally new (Ricoeur, 1965).

In the latter case, the situation is more complex, as the city might be more influenced by different forces of globalization, immigration, government ideologies, economic situations, rapid urbanization and hence great diversities within the same city. Additionally, forces such as multiple or even contested national identities might also arise.

This is the situation in Khartoum, the capital city of Sudan, which is a relatively new city. Since 1821 the first colonizers - the 'Turko-Egyptian' - and, later the 'An-glo-Egyptian' from 1898, recognized its unique 'genius-loci' (Babiker, 2003). Therefore, they chose it as the centre of their newly colonized land, and only then, did the city start to emerge as an urban centre. Consequently, the architecture they had built came to reflect, be-sides their colonial intentions, the uniqueness of that location.

Today, these buildings stand as witnesses to that period: "Since its inception in 1821 - Khartoum has born witness to major dramatic events that shaped its destiny as well as that of Sudan. These events with all their turmoil were stamped on its face and to this day they remain evident in its form, buildings, streets and architecture" (Babiker, 2014). This city is now the centre of metropolitan Khartoum.

After independence in 1956, the new regimes witnessed the problems of rapid urbanization and immigration, resulting in focusing on the horizontal expansion of the city. Later regimes, on the other hand, fell under undefined forces of globalization and modernization of architecture that were not indigenous to Khartoum.

This concurs with Norberg-Schulz's description of Khartoum in the late 1970s, when he stated that: "the impact of the forces of 'modern life' starts to make itself felt...without slightest understanding of the genius loci" (Norberg-Schulz 1980, 137). Moreover, the contemporary city turned into a container that included people from all around Sudan (Bashier, 2012).

Hence, the urban fabric unquestionably reflected the consequences of those impacts through undefined horizontal expansion and architectural fragmentation in addition to poor quality urban streets and poorly utilized natural landscape.

Within this context, this paper focused on the architecture of this latter period. It investigated how it is being shaped by critically addressing the direct

and indirect influencing forces. In order to achieve this, simple hypothesis testing and qualitative exploratory and explanatory data collection techniques were adopted for this research. Accordingly, series of observations, photographic documentation and interviews with architects and other experts were undertaken to examine these issues.

This investigation focused on analysing architects' design strategies and their visual articulation of buildings' external forms. Furthermore, it examined their narratives and interpretations concerning the relationship between architectural form and its surrounding context, in order to critically engage with the study's central research question:

How did the architectural practices between the 1970s to 2018 contribute to shaping the city's contemporary urban fabric, and what factors influenced their development?

In order to commence such an investigation, a review of the literature on the context of Khartoum was crucial. However, the existing knowledge of Khartoum's architecture is lacking an empirical basis and tends to be less analytical, more descriptive and more of a historical narrative.

Moreover, a significant gap was noticed in the recent contemporary architecture (the 1980s to present) compared to several studies that focused solely on modern architecture which appeared after independence (1960s and 1970s).

These studies, besides being very few, mostly focused on the application of modern styles in Khartoum by Sudanese architects, leaving the contemporary situation as a question at the end (Osman, 2005, Osman et al., 2011, Bashier, n.d., Bashier, 2012). Consequently, this scarcity of data on the contemporary architecture of Khartoum has highlighted the gap in the Sudanese architecture in general, as an important part of it; which is shaping its present, its image and will shape its future, is being unstudied and neglected.

1.1. Khartoum's architecture: An exploration

An initial explorative endeavour commences by a series of observations and photographic documentations firstly at the scale of the city, then at the scale of urban quarters, and then down to the scale of the architecture. By looking into the map of Khartoum and focusing on exploring its architecture, some similarities and factors that determine its shaping can be observed.

Firstly, the fact that the city is divided naturally by the Blue Nile, the White Nile and the River Nile into

three main towns; Khartoum, Khartoum North and Omdurman (see Figure 1).

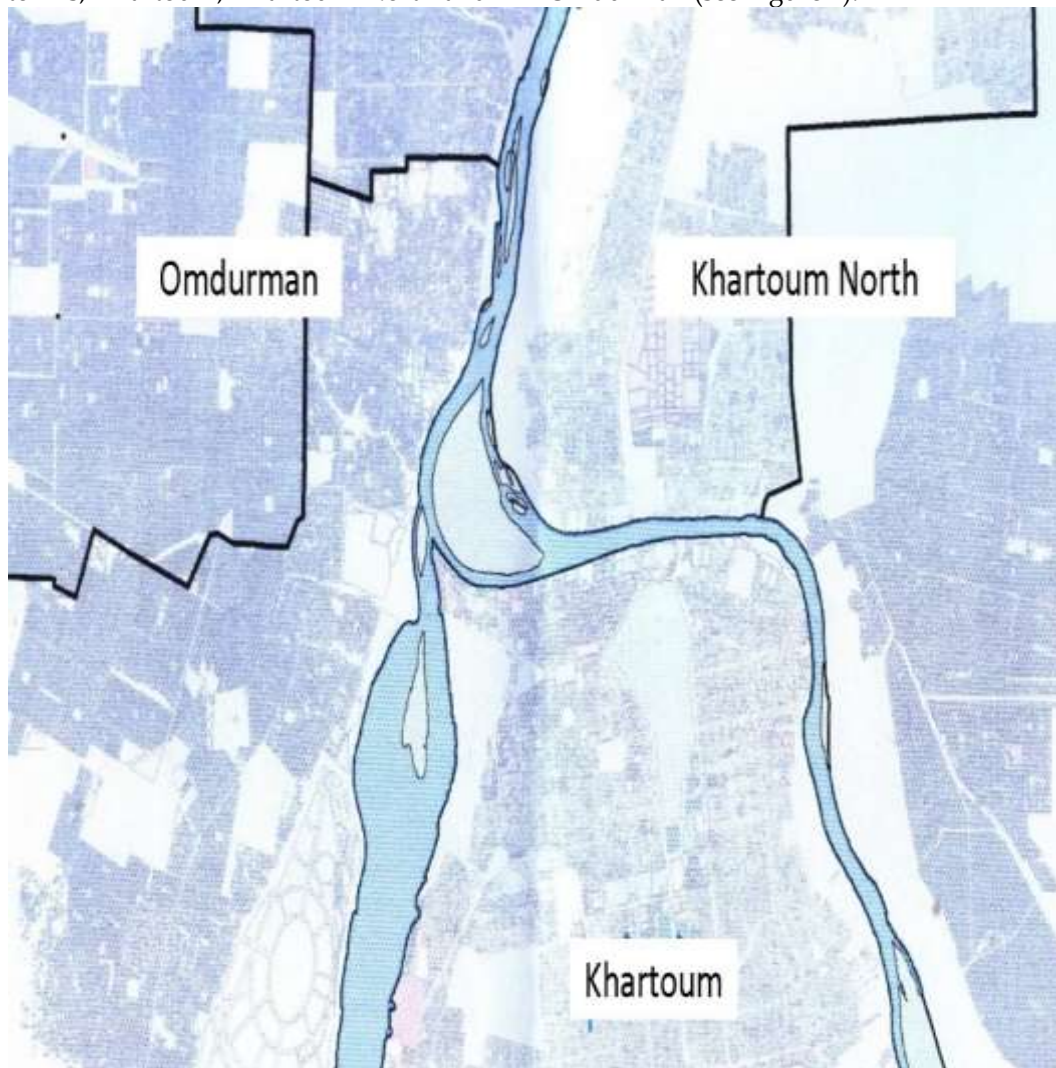


Figure 1: The map of Khartoum with its three towns. (Source: Survey Department – Ministry of Planning of Khartoum State/2018).

This has made the development nature of each town different, which has been reflected in their architecture. Secondly, each of the three towns evolved to accommodate certain functional zones including administrative, industrial/residential and historical/spiritual/residential, respectively. Thirdly, they were built according to and during the different historical events that the city had witnessed, from colonization and the post-independence period to the current regimes. This has resulted in different architectural layers and styles both geographically and chronologically.

Colonial Khartoum, now Khartoum city centre (KCC), resembled the colonial core for the British colonization. Hence, it is a house for the colonial-built heritage (see Figure 3). After independence, Khartoum, as a newly developing city, started to witness its first modern architecture that was influenced by international modernist architecture.

Osman (2005) argued that this was largely affected by the establishment of the first school of architecture in Khartoum with British staff who were supportive of the Modern Movement. Therefore, he asserts that the first cohort of Sudanese architects graduated with an obvious inclination to this ideology and hence their architecture reflected that and was the first beginnings of modernism in Sudan. It could be argued that this attempt to create modern architecture in Khartoum is thought to be successful as it created forms that were not only modern but also suited the context, the culture, the climate and the available resources. In fact, these attempts represented regionalist architecture that is similar to other similar contexts in Africa. Osman et al. (2011, p.77) even contended that this “Sudanese response to the International Style was in fact early experimentation in critical regionalism”. Examples of those Sudanese architects include Abdel-Moneim

Mustafa, AL-Amin Modthir and Kamal Abbas among others (see Figure 2).

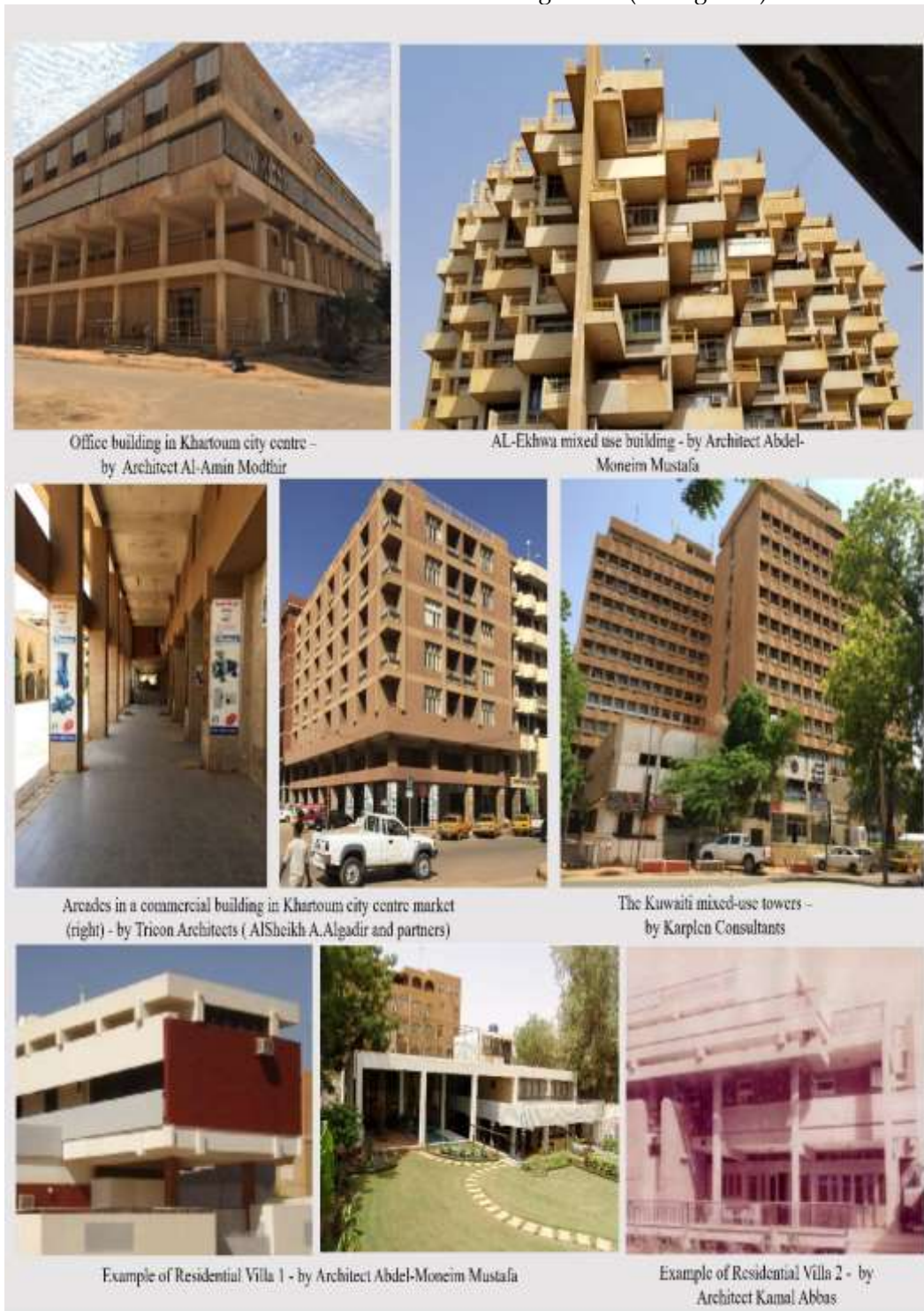


Figure 2: Examples of institutional, mixed-use and modern residential architecture in Khartoum city centre and Al-Amarat. Source: The Author, (Bashier, 2012) and (Bashier, n.d.).

In the 1980s, Sudan began to exploit its newly found oil resources; hence, opening Khartoum to the international market (Osman et al., 2014). Accordingly, during the subsequent economic boom, new architecture was borrowed and dominated the two new emerging civic centres to the

south (Al-Amarat) and the east (El-Riyadh) (see Figure 3). This new architectural language mainly manifests in institutional, commercial and mixed-use buildings which had flourished with new international styles, unfamiliar building materials and new patterns. It has been adopted as the style for

the government and private companies' headquarters. This rapid flourish was supported by the fact that even architectural schools have shifted from the previous seed of Modernism to freedom of contemporary styles. This chronological transformation of the architectural scene has been classified into architectural paradigms; namely, the Traditional, The Colonial, The Modern and Contemporary Paradigms (Hamid et al., 2018). The latter paradigm, however, appears in a very wide range of styles compared to the previous traditional and modern paradigms. Bashier (n.d.) moreover

argues that its period has broken up with the evolutionary process of the architecture of Khartoum as a result of abandoning past experiences (from traditional, colonial and modern architecture) as well as the reliance on the imitation of foreign styles and the replacement of local culture.

Consequently, this architectural shift was then mirrored in the contemporary architectural identity of Khartoum's urban fabric as a whole, as it started to flourish also in the newly emerging institutional and mixed-use architecture in Khartoum North and Omdurman.

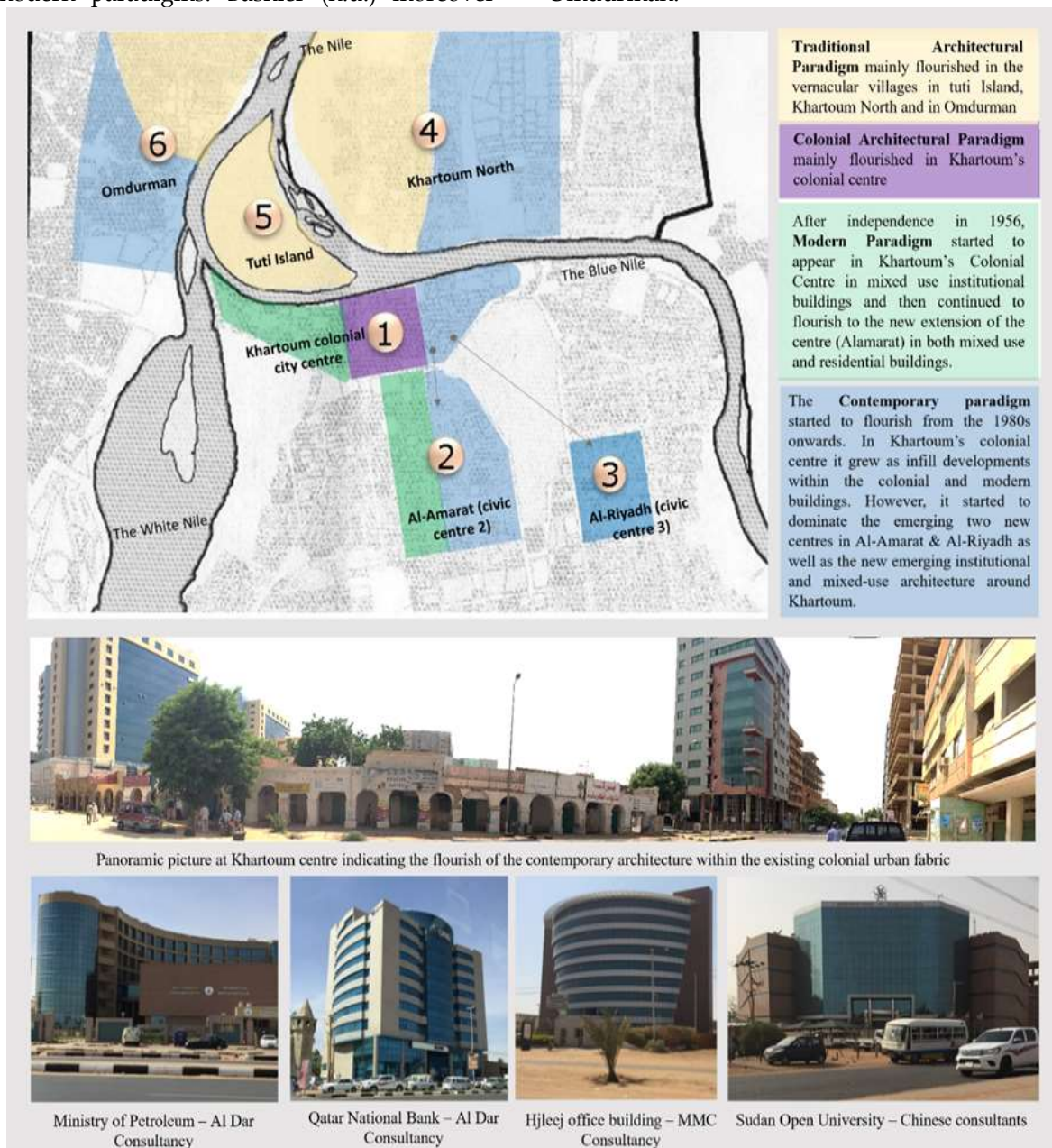


Figure 3: The different architectural layers in Khartoum's urban fabric and examples of contemporary institutional buildings in Khartoum's city centre (middle) and outside of it (below). Source: The Author

2. RESEARCH DESIGN AND METHODS

The research's interest in exploring Khartoum's

contemporary architecture resulted in adopting Case Study as the research method. However, with a lack of comprehensive literature on Khartoum's architecture, investigating the case study undertook an exploratory nature. Hence an inductive qualitative approach was adopted to allow for the exploratory investigation on the case of Khartoum's architecture. Within this, informative and in-depth interviews with Khartoum's experts (architects, planners and educators), was considered as the main data collection technique for this study as interviews suit the exploration needed. As such, the facts, backgrounds and insights were understood from examining the participants' perception of Khartoum's contemporary architecture and the relevant planning or building regulations that are shaping them. The inductive process was defined by Creswell (2007, p.43): "we ask open-ended research questions, wanting to listen to the participants we are studying and shaping the questions after we "explore".....Our questions change during the process of research to reflect an increased understanding of the problem". Hence, the results are data-driven from the interviews rather than being based on a theoretical framework.

2.1. Interviews

The selection process of participants was

concerned with exploring the shaping of Khartoum's contemporary architecture. The sample is thus a non-probabilistic, purposive sample of experts in this field. It is a sample that is generally used when the research is less concerned about generalizing to the larger population and more concerned about discovering useful patterns of information about particular groups (Kitchenham and Pfleeger, 2002) and in this specific research case, the interest is on how these experts interpret Khartoum's contemporary architecture.

The process of choosing those experts underwent a screening stage commencing with nominations from eminent educators who identified key architects having prominent roles in the contemporary architectural scene in Khartoum, as well as other relevant experts (planners, educators and academicians). Interviews were conducted with the most-repeated names across all the nominations. After these initial interviews, the researcher asked the respondents to name other experts with prominent roles in the contemporary architecture of Khartoum. Overall, 17 semi-structured interviews were conducted with key architects and experts in the field. This number was not decided from the beginning, but rather, it depended on reaching the saturation point at which no new information was gained from the interviewees (See Table 1).

Table 1: interviewed experts and their professional roles in Khartoum's Urban Development until 2017.

NO.	INTERVIEWEE	DATE	ROLE
1	Fadl AlSeed, K.	Jan. 2017	Senior Architect and Cofounder of ProMang Architects one of the prominent consultancy firms in Khartoum.
2	El-Misbah, M.	Jan. 2017	Senior architect and CEO, Octantis Architects. He was one of the few to return to regionalist qualities in his architectural practice.
3	Osman, S. M.	Feb. 2017	Is an academic, architect and urban planning expert. He has contributed to the planning of Khartoum's Master plans and was co-founder of Sinan Consultancy Group in the 1990s.
4	Hamid, G.	Feb. 2017	Is an academic, architect and urban planning expert. He served as a Senior architect and was co-founder of Sinan Consultancy Group in the 1990s
5	Ishkhanes, J.	Feb. 2017	Is a distinguished architect who worked with the Ministry of Works, then as a partner in ACE Architects. He is famous for reviving the Vernacular architecture as a representation of the Sudanese architectural identity.
6	Merghani, A.	Feb. 2017	Is an academic, senior architect and CEO, Abubakr Engineering, an active consultancy practice during the 2000s.
7	Khalifa, H.	2017	Is an architectural educator and historian critique. He has a website, various articles and critical writings on Khartoum's traditional and contemporary architecture.
8	Elamin, M.	Jan. 2017	Senior architect and CEO, Centecs Consultancy, one of the leading consultancy firms in Khartoum since the 1990s.
9	Ahmed, A.	Jan. 2017	Is a senior architect and partner of Karplen Consultants, one of the leading consultancy firms in Khartoum since the 1970s.
10	Saleh, Y.	Jan. 2017	Is a Senior architect and Co-founder of Tecnicon Consultancy. This consultancy is a descendant of Arch. Abd Al-Moneim Mustafa leading practices during the 1970s-1990s.
11	Abd-ALRahim, Y.	Jan. 2017	Is an academic, seasoned architect and educator, he served as the head of the Sudanese Institute of Architects.
12	Saeed, T.	Jan. 2017	Is an academic, senior architect and CEO, SudArch Architects.
13	Ali, H.	Jan. 2017	Senior architect and CEO, Hayder A. Ali Architecture. He was one of few architects to revive the regionalist motifs in his works.
14	Hamdi, M.	Jan. 2017	Is a seasoned architect and CEO, Hamdi Consultancy. His office, established in 1976,

			played a significant role in Khartoum's modern and contemporary architecture.
15	Osman, O.	Jan 2017	Is an academic, senior architect and critique, he wrote extensively on the Modern architecture of Khartoum.
16	Muaaz, M.	Feb. 2017	Senior architect and CEO, Murtada Muaaz Consultancy one of the large consultancies with leading roles in Khartoum's contemporary architectural and urban development.
17	Merghani, O.	Jan. 2017	Senior architect at AlDar Consultancy which played significant role in Khartoum's contemporary architectural landscape.

The interview questions with the interviewees were designed as an explorative model that consisted of three main parts:

- Understanding architects' ways of thinking in their designs by questioning their design approaches. Questions included: how do they approach the design and the types of analysis before and during the design phase? How has their education influenced their design approach?
- Interview questions with other experts: here questions were tailored to get insights from their area of expertise. An example of this is when the interviewee is an educator, questions will be added about how architectural education links students with practice and the real world? And how do they train students to think inclusively about the role of their design in its surrounding place? This would also apply to other experts such as planners as more questions would be added. Therefore, the design of the questions played an important role in extracting the interviewees' ideas and perceptions. This also resulted in continuously evolving the questions to tailor the exploration of the research while it progresses.
- Examining participants' interpretations on how the contemporary architecture of Khartoum impacts its surrounding context through presenting images of a number of selected contemporary buildings in Khartoum. Questions included What is the image reflected by those buildings? And whether they positively/negatively impacted their surrounding context? Notably, this part aims at obtaining information that cannot usually be obtained through simple direct questions to the architects about their buildings.

Thereafter, data from the in-depth interviews were thematically coded firstly, according to the three parts of the explorative interview questions. Then they were analyzed to reveal the commonalities and differences in the views of the architects and the other experts. The results indicated that there are five common themes across the three parts that could be presented and labelled as the factors that are

currently shaping the Contemporary architectural paradigm in Khartoum. Hence, these emerging themes/factors were derived directly from the data and the inductive exploratory methods. The discussion section then interprets these themes and synthesizes them into an overarching perspective that brings the various factors into a coherent understanding. During the preparation of this work, the author used a COPILOT AI tool to support the final revision stage, specifically to enhance the academic clarity of selected statements. After using this tool, the author reviewed and edited all content as needed and takes full responsibility for the final version of the manuscript.

Finally, it is worth mentioning that, the fieldwork of this research was conducted between 2017 and 2018, hence the documentation period is only up to that period. However, its findings now offer an essential analytical foundation and insights that can contribute meaningfully to the dramatic distortion of Khartoum's urban fabric after the 2023 Civil War. These insights will also inform the subsequent discussion on the city's future path to reconstruction and recovery and will also shape the study's concluding arguments.

3. FINDINGS

3.1. Factors That Are Shaping Khartoum's Contemporary Architecture

The interviews commenced with the aim of understanding architects' recognition and comprehension of the place Khartoum being the case study for this research and how they link it with their contemporary architecture. One notable finding was that the majority of architects conceived Khartoum's urban fabric as a rudimentary and in-harmonious fabric. This is because it represents an eclectic architecture as architect Fadl AlSeed, K. (personal communication, 2017) described: "there is no dominating character". This perception about the urban fabric of Khartoum continued to rise, repeatedly, from the early stages of the interviews. As such, architects believe that it is unworthy of consideration during their design process. A representative quote from this is by El-Misbah, M. (personal communication, 2017) who emphasized:

“the surrounding context often holds little relevance in my design approach especially in the small housing projects, since it is usually not harmonious”.

Within these, five factors that are shaping Khartoum’s contemporary architecture and its inharmonious fabric, were identified as follows:

1. *Incomprehensive planning and building regulations and absence of urban design role*

Since its inception Khartoum witnessed five urban planning schemes: namely, Mclean Plan of 1910, Doxiadis Plan of 1958, MEFIT Plan of 1974, Doxiadis and AM Mustafa Plan of 1991, and MEFIT and CENTECS Plan of 2008. Those schemes were authorized by national or sub-national governments in order to direct the growth and development of Greater Khartoum for an average of one to two decades each. Those master plans addressed primarily Khartoum’s land use, housing, and transportation issues (Hamid and Bahereldin, 2013). However, little attention was paid to environmental issues and architectural design, the image of the place or the emerging architectural identity.

Moreover, the overwhelming urbanization or rather ruralization of Khartoum as the capital confused all the masterplans and rendered them as a failure. Hence, they were abandoned before taking off (ElKheir, n.d.) and the attention was shifted to maintain this urbanization in the form of a rapid horizontal expansion of Khartoum’s urban fabric. With building by-laws being under the umbrella of the planning regulations, they were also influenced by these failures. Ahmad (2000, p.317) explains: “violations of planning laws and building regulations became commonplace since the late 1970s and so were changes of land uses and intrusions by a flood of new buildings especially those offered by ‘do-gooders’. The responsibility slid from the hands of planners to those of profiteers”. Therefore, building regulations in Khartoum “are promoting prejudice against traditional building materials, they limit innovation in design, layouts are climatically inappropriate and monotonous they are not promoting communal development and promoting inappropriate zoning of activities” (Osman, 2000, p.3).

Within this, Osman, S. (Personal communication, 2017) stated that: “the current building regulations do not have any considerations to non-materialistic, aspirational or conceptual issues such as architectural identity, style or aesthetic qualities”. Additionally, Hamid G. (personal communication,

2017) emphasized that: “the current building regulations do not specify or force to respect the place”. Interviewed architects collectively agreed on that and claimed that the building by-laws are not sophisticated and detailed enough and consequently architects do not face strict regulations during both phases of designing and executing. Architect Ishkanes, J. (personal communication, 2017) emphasized: “Khartoum is generally not developed yet, so we have a lot of freedom in what we design. There’s very little in the surrounding context or adjacent buildings that influences or constrains our work”. Consequently, this has become evident in Khartoum’s built environment that seems to be ‘uncertain’ and ‘unfinished’.

Between the planning regulations and the building by-laws, an absent role of urban design was evident. This was reflected in the former’s emphasis on the city’s physical expansion, while the latter lacks sophistication and fails to adequately address key urban design considerations, such as enhancing the public realm and reinforcing the city’s image. Yet, to realize this role, political influence that promotes the positive image of the place is highly important as it will encourage all parties to achieve better places and consequently apply positive aspects of urban design in the current contemporary architectural practice (Saleh, 2001). The disregarded role of urban design was manifested in many examples in the city such as in Khartoum city center (KCC). Even though it represents the heart of the city, life and vitality have disappeared from it due to the lack of night activities. It represented an unbalanced investment as most of the governmental projects focused on constructing new grand, expensive and isolated projects that were added as infill projects beside the colonial buildings. Instead of acting as active urban design projects that are responsive to the climate, will respect the image of the place with its rich historical layers, harmonize with it and open KCC more to the public, they added isolation and imposed sublime into the place.

2. *Political Influences*

Political influences on Sudanese architecture appeared from the early 1980s, during Nimeiri’s regime¹ which has witnessed many changes. These changes included a shift in the government to a more Islamic approach announced officially by Nimeiri in 1983. However, the impact of the Islamic approach on architecture became more apparent with the new regime that took over through a military coup in 1989 (Osman, 2000). Nevertheless, similar to Nimeiri, “at

¹ The era of Nimeiri extended from 1969 to 1985 which was such a long period that by early 80s Nimeiri lost the popular support. Therefore, to neutralise the opposition against him, in 1983 he announced an increase

attention to the role of Islam that would attract mass support (Holt and Daly, 2000).

the end of 1991, the regime announced its intention to impose the Shari'a" ²as its official source of legislation and, hence, it was known as the Islamic National Front regime (Holt and Daly, 2000). Consequently, they utilized religion as their strongest weapon and ideology, which is difficult to question and highly likely to win mass support. They imposed it on everything such as legislation, education, culture and for sure, it had its influence on architecture. They called for a return to a forgotten Sudanese identity through Islamic architectural authentication, or what is known locally as 'Ta'seel'³. Osman (2002, p. 10,11) considers this newly created identity as a "Religious Fanaticism" identity rather than an authentic one. Accordingly, it could be argued that this Islamic authentication is a serious problem that negatively affected the architecture of Khartoum. This is because what had happened is a "narrow-mindedness" (ibid). This outcome reflects a reductive design mentality that confines Islamic architectural expression on one motif or element, exemplified by the arch. Theoretically, this act can be described as an 'Elementalization of the architecture'

in one pattern to represent a certain identity (see Figure 4).

Within this, Hussain, A. (personal communication, 2017) described: "This is evident in the features used, which are meant to give a symbol of an Islamic state. Examples of these features are 'Arches'. Yet those arches were used in different shapes and forms. Therefore, most of the times, they were mistakenly used". Khalifa, H. (Personal communication, 2017) believes that it could have been "a great chance to look afresh into Islamic architecture and to come forward with a modern model, to regenerate and to recreate the Sudanese Islamic architecture". Additionally, other political influences on architecture are imposed on the building elevations by introducing new boundary walls with gates decorated by certain forms such as arches, or by forcing the architects to use green color in all main elevations. Interestingly, green was the color that the government adopted as its representative color as another form of political infringement on the architecture of Khartoum.

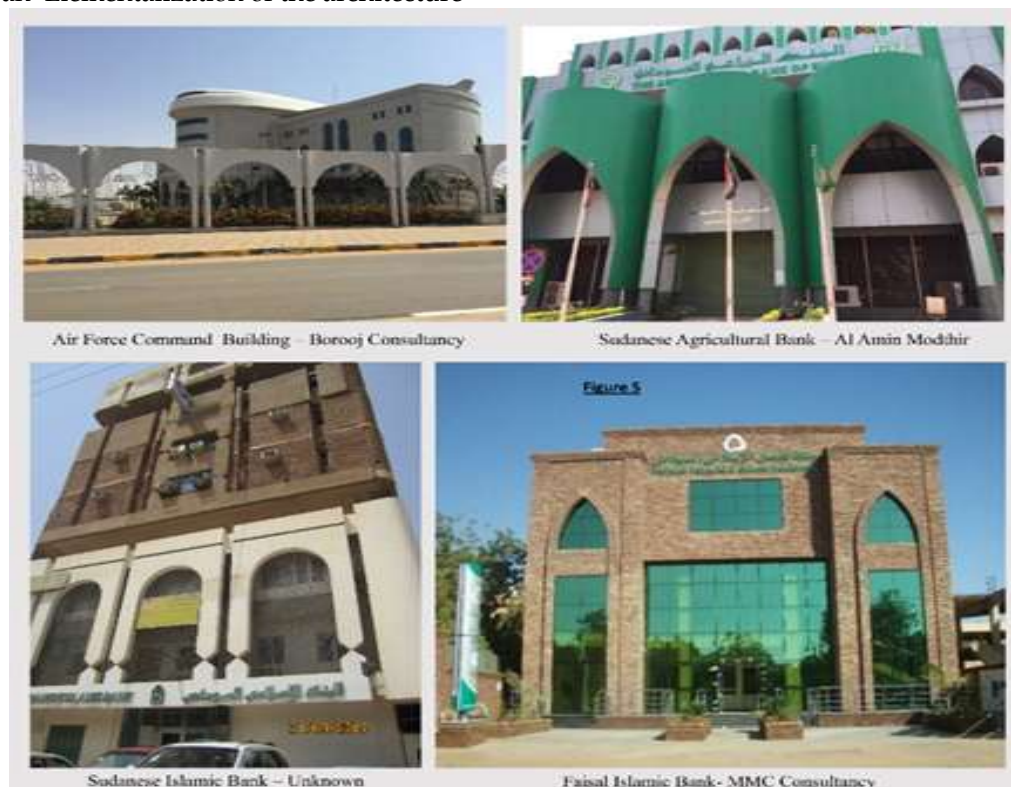


Figure 4: Islamic authentication in the Sudanese contemporary architecture through Elementizing it in one design element (Arch). Source: The Author.

Nevertheless, it is important to draw attention to the fact that this Islamic authentication is not limited to Sudan. It is an international tendency that has been

adopted in different contexts and with different characteristics.

Interestingly, the various political influences had

² The Arabic word for Islamic legislation.

³ The Arabic term of authentication and what has been known locally as the phenomenon that accompanied the regime.

their direct effect on architecture and the practice of many architectural offices. An overall observation from the interviews revealed significant transformation within some of the offices that have key roles in the architectural scene of Khartoum. It was noted that the older the office was, the more architectural change it underwent as it probably had witnessed the shift from the Modern Paradigm to the Contemporary Paradigm in parallel to the different political and historical developments in the city and the changes in the economic situation. Examples of these offices were highlighted during the interviews and examples from their architecture were organized and sequenced in a timeline indicating this transformation (see Figure 5).

The timeline indicates that the architectural language of these offices, in the beginning, represented a modern regionalist approach. However, another architectural language appeared in response to the notion of the Islamic authentication ideology by applying some "Islamic" features to reflect the Islamic identity. Moving on in the timeline to the late 1990s and 2000s, with the new-found oil resources, an unexpected increase in wealth and commercialization resulted in opening up the country to the international market. This change brought with it new demands and aspirations that were reflected in the urban fabric of Khartoum and accordingly, a new contemporary architectural language was required. At this point, the majority of architectural firms suddenly drifted with the international architectural trend. This is because, in a short period, they copied some common practices from the international scene such as the intensive use of cladding materials and high-rise buildings to simulate international architecture. Notably, some of

the practicing architects expressed satisfaction with this approach, despite its total disregard for the context. Elamin, M. (Personal communication, 2017) stated about the use of cladding and glass: "we used luminum cladding and glass in areas that we want to express modernity, and their use is intended, they give, in our view, a good feeling".

Moreover, when the architectural practice in Khartoum is viewed at a larger scale, another aspect that adversely affected the significant transformation can be their position vis-à-vis the Islamic National Front political regime. (Hussain, A. and Ahmed, A. Personal communication, 2017). They emphasized that architects who represent opposition towards it were marginalized from governmental projects and their role became limited to private projects. Saleh, Y. (Personal communication, 2017) continued explaining that: "there is no healthy process of assigning projects to someone competent. For example, they do not give us jobs unless they do not find someone else to do them" and consequently his office became "marginalized in its impact" (ibid). Similarly, Architect Ahmed, A. (Personal communication, 2017) stressed this, and added that this affected the architectural identity of Contemporary architecture in Khartoum: "a lot of offices have been eliminated from the market, and the architectural work has been monopolized. Therefore, the identity is being confined to certain hands", that are predominantly adopting "towers of glass" (Ishkanes, J., Personal communication, 2017). Consequently, the effect of this on the practice has led to some practices being permanently closed. This is because the deposed regime had ruled the country for a long period that lasted for almost 30 years (1989-2018).

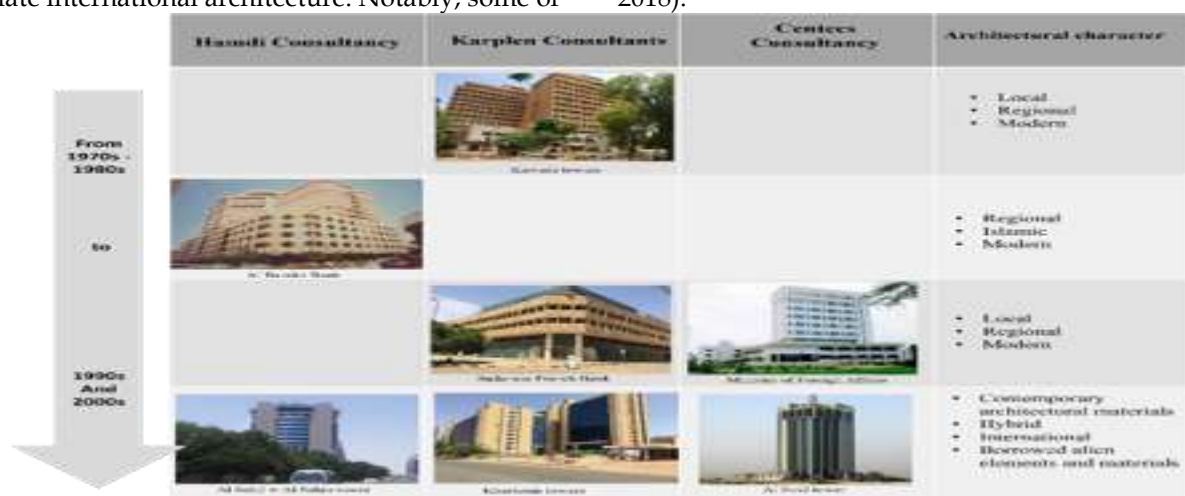


Figure 5: A timeline table showing the transformation of the architectural language within some of the key practices in Khartoum. Source the Author

3. Architects' Design Approaches

Interviewed architects highlighted the extreme

freedom they had when designing in Khartoum – as

a result of the overly permissive and weakly detailed building regulations, which ultimately produce architectural practices and built forms driven by subjective—and often biased—individual interpretations. Bay (2001) argues that in similar situations, such judgements are based on the likelihood of uncertain decisions and are not based on quantitative thinking (based on numbers and facts) or qualitative analysis (based on memories and meanings) collected from the public from their experiences. Within this, architects' design approaches in Khartoum were investigated and it was found that most of the interviewed architects adopted those uncertain and idiosyncratic approaches that are based on personal decisions and interpretations.

Examples of these approaches are, Mixing old with a modern approach: with great differences in the recognition of 'Modern form' between architects and the variations of its implementation, Islamic

architecture approach: which is based on a superficial application of Islamic features such as arches, domes, ornamentations.... etc., Creating an outstanding architecture: that is unconsciously overwhelmed by the mere imitation of what is novel in the world of architecture or an Artistic approach: that is based on applying artistic decorative patterns in the elevations....etc. (See Figure 6). These decisions are, in most cases, experimental as they are not being developed enough to reach a certain character or a style that the architect/firm is to be known for. On the other hand, few architects represented practical regionalist approaches that respond to the place and its peculiarities, from the early stages of the design process. Architects who represented this approach based their design philosophy on exploring the local materiality of the place, adopting local technologies and environmental approaches, and working with local people to understand their needs and their cultural backgrounds

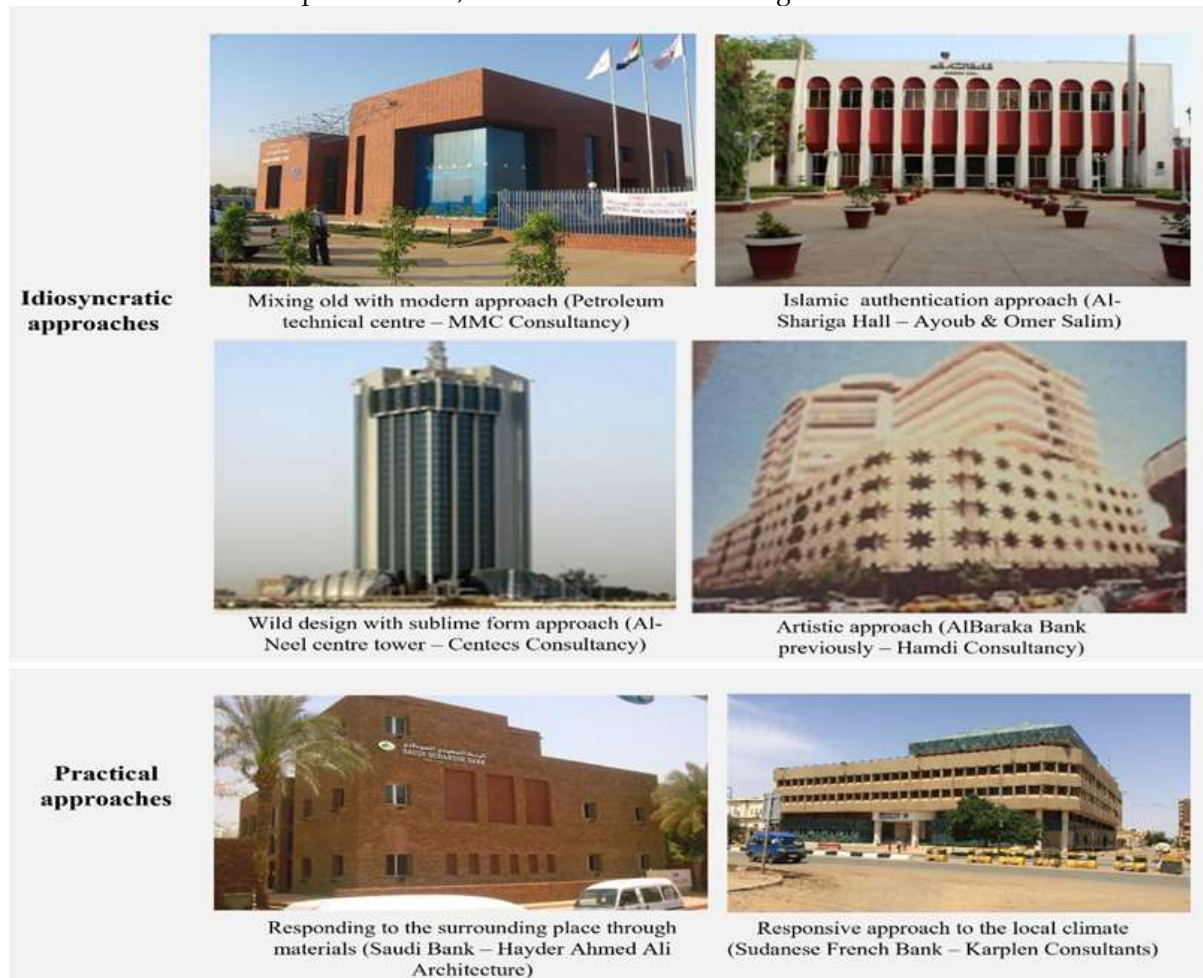


Figure 6: Architects' design approaches to the external form as described by the architects who designed each building. Source: The Author, Arwa Ahmed photography and Hamdi Consultancy.

Notably, those who followed the idiosyncratic approaches based their designs on various visual, impressive, perceptual and materialistic expected

impacts. Those materialistic impacts include, for example: gaining the satisfaction of the client at the expense of the context and the wish of architects to

promote themselves regardless of what their architecture reflects. Results of the interviews revealed that around 89% of the interviewed architects aim for gaining materialistic impacts while only 11% of the architects followed practical approaches and aimed for conceptual, immaterialist and aspirational impacts. It could be argued that those latter impacts mostly result in concretizing the place as a result of using local materials and construction techniques from the surrounding context. Unfortunately, seeking the materialistic impacts, only, might result in Khartoum's contemporary architecture becoming confined by the willingness of both clients and architects.

Nevertheless, the problem of the willingness of the client, as Abd-AlRahim, Y. (Personal communication, 2017) explained, lies in their background as they vary in their frames of reference. For example, for some clients the ideal model is the local architecture, for others, their ideal is ultramodern architecture such as the towers they had seen in the Arabian Gulf or anywhere else. Additionally, other clients would request the architect to make a tour with them in Khartoum to select the buildings/elements that they like. All these preferences are being made without any cultural -informative- background, and, as a result, they expect architects to imitate those styles as they are. At the other end of the spectrum, some clients do not formulate exactly their requirements, and they do not list them in detailed brief, marking complete freedom for the architect.

Another factor that influences the design approaches of architects is that the architecture profession lacks a rigorous accreditation system that determines the level of expertise and practice needed to carry out certain projects. Rather, the profession is based on the act of exploration from inexperienced recent graduates as well as experienced architects from older generations. Paradoxically, their designs could be executed without proper supervision. Architect and educator Saeed, T. (Personal communication, 2017) argues: "our current building code neglects the role of experience making a graduate architect equal to an architect who has 20 years of experience". As an example of this, Architect Ali, H. (Personal communication, 2017) described the different transitional periods in his practice life. He discussed how he started his practice with an exploratory approach that was not controlled by any proper supervision. He argued: "my practice commenced with no character and no certain philosophy ... a trial and error" (ibid). While this architect had realized his early experimental practice

and has later redefined his work, it is likely, with the lack of supervision, that others will still be lost in the mere experimental practice as %42 of the interviewed architects indicated that they follow the same approach.

4. Expatriation

The era of the 1980s witnessed the beginning of the influence of expatriation as a significant factor in shaping the city (Hussain A., Personal communication, 2017) due to the economic recession and unstable political conditions (Bashier, n.d.). Consequently, this has also affected the architectural practice as architects were forced to search for better working and living conditions abroad. "This migration movement has drained the profession of rare expertise and young graduates who became more acquainted with the culture of globalization. As a result, a gap occurred between the generations and a shift away from the continuum of architectural traditions finally took place in the 1990s giving way to the stylistic fashions of the late 20th century" (ibid). Thus, this shift was described by Khalifa, H. (Personal communication, 2017) as the "period of loss" as people suddenly started to consider new architectural alternatives brought in from foreign contexts, in a country with a poor economic situation (Osman, 2002).

Within this economic recession, expatriates were mainly those who had the money to build in Sudan. They returned to Khartoum with architectural dreams from the affluent oil-producing countries of Saudi Arabia and the Gulf (ibid) and other international examples aiming to copy them in Khartoum. Moreover, it could be argued that the influence of expatriates is more apparent in the housing sector. It is manifested in introducing a new housing prototype which includes a private house on the ground floor level and flats on upper floors. Through this new design, they were able to rent out the flats as the most secure means of investment. This phenomenon thus explains the sudden thriving building industry in the degraded situations of Sudan where the unstable political and economic situation do not encourage any other investments (ibid). Accordingly, this new housing prototype has changed the image and the architectural language of housing in Khartoum. Hamdi, M. (Personal communication, 2017), emphasizes this and considers this change as a serious deformation of the housing architecture in Khartoum because an architectural language that is completely new to the place has been introduced; one that has changed the residential architectural fabric in the city forever.

5. Inadequacies of Architectural Education

The issue of the inadequacy within the architectural education in Sudan has been raised repeatedly by the interviewees. They highlighted the gap between education and actual practice, in that the former does not adequately prepare the students for the latter. Therefore, graduate students tend to pursue a somewhat unrealistic design approach with creative forms that are, in most cases, alien to Khartoum's context. They lack the awareness of respecting the surrounding urban fabric and integrating it within their designs.

As the leading institution for architectural education in Khartoum, the University of Khartoum -Department of architecture firstly established in 1950s- has experienced a series of shifts as well as inadequacies that have significantly shaped the Sudanese architectural practice over several decades. One of the main inadequacies is the lack of appreciation of the local context in the teaching of the design process. Osman (2002), who studied at the University of Khartoum during the period 1988-1992, agrees with this and confirms that awareness about the context is crucial especially in developing countries or newly emerging cities and that new designs should not contradict the real context.

Moreover, Osman (2002, p.5) expanded on this and listed other aspects that should be considered in architectural education such as: "creative brief formulation, achieving consensus between different government officials and departments, becoming aware of the socio-political motives behind government decisions, interacting closely with communities, contextual approaches to design that enable one to make relevant decisions at all stages of a project rather than to be confined to the boundaries of the site and the given brief: these were the aspects lacking in our education".

Another example by Architect El-Misbah, M. (Personal communication, 2017) who also studied at the University of Khartoum during the period from 1991-1996 has emphasized this and added that although they were taught architecture in a rational approach, it was a rigid approach that lacked basic contextual knowledge and consequently it does not allow for creativity.

These inadequacies within architectural education persisted into the early 2000s in which sublime form, extravagant artistic and abstract compositional approaches took the lead, resulting in generations of architects increasingly detached from Khartoum's economic challenges and their responsibility towards enhancing its urban identity.

4. DISCUSSION

While those previously mentioned factors have

significantly shaped the overall urban fabric of the city, an overarching factor could be highlighted that somehow affects all these factors; that could be summarized as the disconnection between place and architecture. It could be argued that there is considerable lack of appreciation and comprehension of the role that architecture could play in concertizing and enhancing its surrounding place. This factor was evident from examining the planning and building regulations (Centecs and Meffit, 2008). It was also observed repeatedly when architects were interviewed about the way they visualize their architecture in relation to the surrounding context. The results emphasized that there is an evident absence of proper approaches to contextual design as few architects and experts expressed their awareness about the importance of that while the majority expressed total disregard for it.

Moreover, the series of observations and photographic documentation in Khartoum's urban fabric had also documented this factor. This was reflected in the prevalence of buildings enclosed by boundary walls that disconnect them from their surroundings, as well as in the emergence of isolated high-rise structures. The former approach produces complete spatial isolation within the urban fabric, while the latter generates placeless environments characterized by architectural forms that feel alien to their context due to their excessive newness. Pallasmaa (2012, p. 20) describes these alien buildings as "monuments of selfishness" that "flatten the sense of history and time" and "leave us as outsiders in our own domicile" (see Figure 7).

The adoption of alien architectural forms plays a fundamental role in shaping the image of a place and, consequently, the identity of the city. Within this, it should be highlighted that in such a dynamic context of modernization, architecture should play a pivotal role in shaping the country's physical as well as cultural landscape (Abowardah, 2025).

Hence, within this documented period of Khartoum's architectural and urban practices 1970s to 2018, contemporary buildings introduced in the urban fabric of Khartoum have caused identity conflicts as the urban fabric became eclectic. The return to architecture that stems from the region became minimum and the return to existing historical architecture was not adequately celebrated or adopted in Khartoum's contemporary architecture. The latter specifically is important as it gives an identity to the country by preserving cultural heritage so that people's identity and collective memories about their city's cultural and urban heritage do not dematerialize (Moscatelli,

2024).

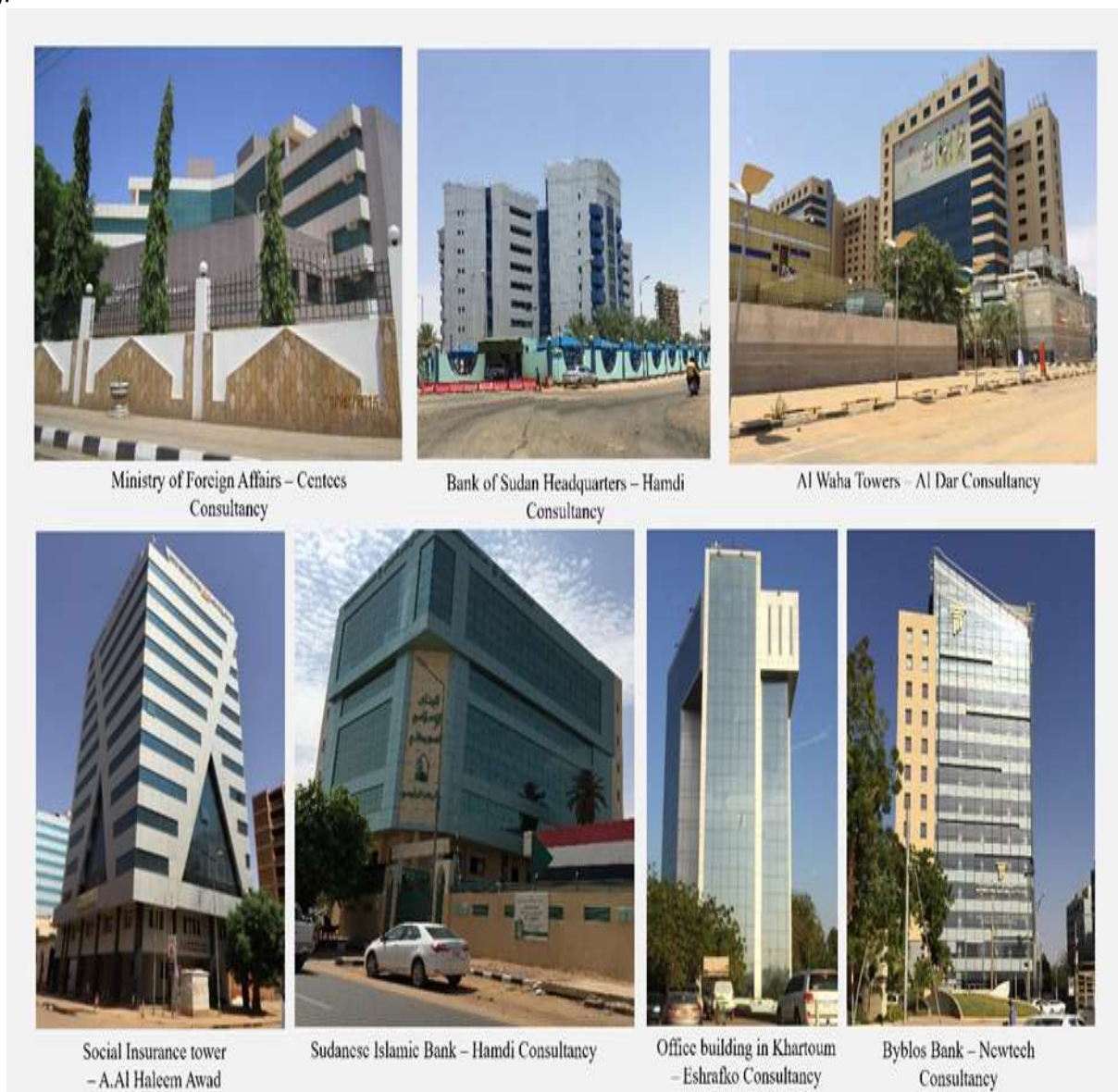


Figure 7: Examples of contemporary buildings with boundary walls (above) and high-rise towers with excessive newness in Khartoum (below). Source: The Author.

Inevitably, this was the case of Khartoum pre-war. The case now has dramatically changed after the civil war that burst in Khartoum in April 2023. The city has witnessed massive destruction and burning of its infrastructure and buildings. As evidence of this, most of the buildings documented in this study were damaged, burnt or destroyed (See Figure 8). This has resulted in complete disturbance to the city image as well as mass displacements. . Consequently, this will have an impact on people's memories about their city. Although these memories are painful, they remain integral to the city's historical narrative and should not be erased.

Therefore, in order to rebuild the future Khartoum, it should be acknowledged that city's

architectural legacy conveys an identity that bridges memories of remarkable events, such as war traumas, and everyday life, demonstrating how urban and architectural forms can embed collective meanings (Husukić & Zejnilović, 2020) within its layers. These layers - including urban forms and buildings - do not merely serve functional needs but act as repositories of memory, culture, and identity – shaping how people narrate and negotiate their sense of place across time and socio-political transformations (Zejnilović & Husukić, 2019). Thus, post war reconstruction decisions directly influence the future urban quality, sustain-ability practices, and resilience. They should not be tackled as a technical exercise of rebuilding infrastructure, but as

a deep political and cultural process that reshapes the long-term path of cities (Bădescu, 2021).



Figure 8: Buildings in Khartoum post-war context _all used in this research study_ showcasing the distortion of Khartoum's image. Source: Photographer: Kamal Omer <https://www.facebook.com/kamal.omer.92/photos>

Building on the findings from this documentation study, this research suggests a way forward for the architecture of postwar Khartoum. It calls for an architecture that is rooted in place that is akin to what Brislin (2012, p.9) described as an architecture that is rich with meanings and emotional rooting as it "valorises the human spirit through its focus on place, the senses and the memory". One that resists the extreme neutralizing and alienating tendencies and tends to celebrate the variety of human experience, the sense and the memory (ibid). Hence, choices that are to be adopted in the reconstruction process -whether restoring heritage city cores, modernism renewal or a hybrid approach - should determine how the city is remembered and experienced (Husukić & Zejnilović, 2020). Within

this, lessons could be learned from the past architectural practices in Khartoum which celebrated the excessive newness and disregarded the characteristics of the region as well as the local built heritage. Hence, it is possible to recommend that concertizing the place could be achieved through some essential qualities that would ensure an enhanced architecture with a better link to its place and one that would nurture the local character and respects the local built heritage. Those qualities are:

- Analysing the surrounding urban fabric to identify and reinforce dominant and unique architectural patterns thereby re-establishing regional identity.
- Integrating buildings with their surroundings through context-sensitive design, appropriate

materiality and harmonious colour schemes.

- Eliminating the isolating features common in the architecture of Khartoum such as boundary walls to foster spatial continuity.
- Promoting environmentally responsive designs through strategies such as proper shading, orientation, passive cooling design...etc.
- Advancing sustainability using local building materials.
- Achieving a sense of rooted architecture, that is not only visual but also experiential which ensures that spaces resonate with cultural identity.

5. CONCLUSIONS

This research has documented the shaping of the contemporary architecture of Khartoum from the point of view of practicing architects and experts from the 1970s to 2018. It explored the reasons that caused it to be sometimes chaotic, other times alien and uncertain. The results indicated that five main factors were shaping it spanning between the incomprehensiveness of the planning and building regulations, freedom of design approaches, the political influences, the economic impacts, inadequacies of architectural education. The research had discussed each of these factors and highlighted how they directly or indirectly affected each other. Nevertheless, the significant finding of this research lies in identifying the main gap in Khartoum's architecture which overarches all other factors: that is the lack of appreciation and comprehension to the role of the architecture in concertizing and enhancing its place. Inevitably, the impact of this factor detaches architecture from its surrounding place and negatively impacts the shaping of the place identity in Khartoum, causing it to be exploratory, chaotic and uncertain.

In light of the war that struck Khartoum from April 2023 to March 2025, this research documented the city's pre-war architectural practices and urban fabric, much of which has since been ruined, burnt,

or erased – now forming a distorted yet significant layer of Khartoum's modern built heritage. The future plans for the city should not only to be reconstructed, but also revitalize people's sense of belonging to their city. Therefore, lessons learnt were drawn from these practices to be considered in the reconstruction process of Khartoum. Inevitably, those lessons need to be backed up by building codes and planning legislations that aim for a reconstruction process that addresses the fragmentation of Khartoum's urban fabric as well as that in social life which resulted from the war through context-sensitive architecture that is rooted in the place's unique characteristics and appreciates its layered urban fabric.

Moreover, strong awareness initiatives should be implemented to establish the role of urban design in rebuilding the new urban identity as well as the role of architecture education which should nurture the students' sense of responsibility to reconstruct the city with respect to the local context's characteristics. Within this, architecture that is rooted in place and concretizes it could be considered as the main guideline that should be implemented to inform architects in their future reconstruction of the contemporary architecture in Khartoum. Through this, an architecture that is reviving the city image, distinctive and equivalently tailored to the place can be obtained. Hence, introducing hope once again in Khartoum.

The practical implication of this research is that it acts as an important reference to understand the shaping of the previous architectural practices in Khartoum and consequently fill a gap in the limited literature on Sudanese architecture. As for future research, it could expand on guiding the reconstruction of the post-war architectural image of Khartoum shedding light on comparative cases from similar contexts. Moreover, the main finding of the need for an architecture that is rooted in place can also be examined in different African and regional contexts and the approaches to achieve it could be well documented as guidelines for architects and critics of contemporary architecture.

Acknowledgment: The author would like to acknowledge the support of Prince Sultan University for funding the publication fees associated with this research and for their continued academic guidance. Moreover, the Author would like to thank the research participants for their valuable time and contribution to the study

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