

Architecture in Sudan: The Post-Independence Era (1956–1970)

Focus on the Work of Abdel Moneim Mustafa

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THIS article is part of a study on the Sudanese social and political context during the formation of the Modern Movement and the manifestations in built form and spatial expression during the period 1900–1970. The study has been on-going for several years and includes a literature search, local surveys (of unpublished and undocumented information) as well as photographs taken by the authors, sourced from architects or published material. It is argued that the Sudanese response to the International Style was in fact early experimentation in critical regionalism.

The most notable architectural heritage in the Sudan are the archaeological remains at Kerma and Napata as well as the remains of ancient Meroe about 180 km north of Khartoum. These cultures demonstrated sophistication in building materials and construction techniques. Due to climate changes, political changes and religious changes over a large stretch of time (642AD with the signing of the Bagt Treaty–1898 at the demise of the Mahdist era) the qualities of the built environment became more transient and rudimentary in character with a greater focus on manifesting tradition through body images, clothing and rituals that were not necessarily tied to a particular physical location rather than through monuments. With foreign interest in the strategic location of the Sudan, and as a part of the scramble for Africa, came specific stylistic and technical manifestations.

Stylistic and Technical Manifestations: the Influence of the Foreign Invaders

Periods in history perceived to have influenced the development of a Sudanese modernism range from the Turkish era, through the Mahdist era and the British Egyptian rule in the Sudan till independence. There was significant focus on construction during the Turkish/Egyptian era of 1820–1882 which gave the central region its spatial and physical identity. Khartoum is representative of that era in layout and by virtue of certain iconic buildings. The Mahdiya state established in 1885 led to the development of Omdurman in a unique manifestation of a typical pattern of Sudanese Urbanization. Settlement patterns revealed a dynamic relationship between the Mahdist government policy, traditional practices and social interaction. Condominium forces, led by General Kitchener, defeated the Mahdist army in 1898 and found the

country in ruins due to fighting off foreign invaders, lack of sustained economic activity and political instability. Local construction expertise and building practice had suffered. However, industry was flourishing in Europe, from which the dominant invading forces originated, where the architectural arena was bustling with new ideas and a new Middle Class was campaigning for better housing and more humane working conditions. Thus 2 cultures and vastly different conditions met due to the invasion of Khartoum.

Several architectural movements in England in the late 19th century were oriented towards the abandonment of classical approaches. Ebenezer Howard published his book *Tomorrow: A Peaceful Path to Real Reform* in the same year of the invasion of Khartoum 1898. Howard advocated the creation of garden cities of limited size, combining the merits of the urban and rural life—some features of his “ideal” plans are a rectangular grid and

diagonal arteries which had immense influence on his contemporaries. Kitchener’s plan for Khartoum (consolidated by McLean in 1912) was influenced by the trends in England at that time—working on layers of the city established by the Turkish administration before him.

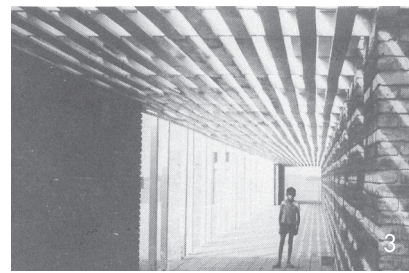
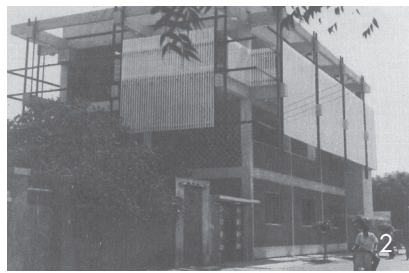
Kitchener appointed Gorringer who went on to design a variety of large public buildings fronting on to the Blue Nile. Calling himself ‘Eureka’, Gorringer described his work in *Building News*, 1902, under the heading ‘A New Style’. Inexperienced as he was, Gorringer, with his ‘New Style’ approach, set the ground for the subsequent introduction of the Modern Movement to the Sudan. His buildings showed Islamic features of Byzantine legacy such as sandstone courses sandwiched between load-bearing brick and pilasters integrated into the external walls with small balconies in between and plaster mouldings made of a mix of sand and slurry of Gum Arabic. Building techniques were commonly used in the buildings in Khartoum and other provincial capitals during condominium rule were reinforced concrete slabs, supported on mild steel I-sections on the roofs, and good quality bricks and roof tiles that were produced at Soba. Other features were symmetrical plans—similar to British colleges and public buildings at the time and eclectic inclinations borrowing from Gothic or Romanesque vocabularies. The plans of Gorringer’s houses have had substantial effects on later domestic Sudanese Architecture.

All Saints Cathedral (1909–1912) designed by Robert Weir Schultz Weir also went on to influence the future of architectural practice in the country—Weir’s buildings were characterised by simplicity of form and detailing and use of local materials. With these and budgetary constraints, Weir was able to develop distinctive and highly appreciated building forms.

A new form of architecture developed during the recession years around 1929 which included composite structural frames of mild steel and reinforced concrete slabs. The first reinforced concrete frame building in the country, and the first building with a basement – was designed by Stefanidis, a Greek contractor who came to Sudan in 1948. The horizontal concrete shading elements that he introduced were a novelty at the time.

Post-independence Construction Industry in the Sudan

The year 1950 marked an important turning point in the economy of the country due to unprecedented high yields of the Gezira cotton harvest for the season. The construction industry also benefited from Atbara Cement Factory (400km north of Khartoum) which started its production of



Portland cement of a high quality in 1948. This affluence came as saviour for the colonial regime. The government had come under strong pressure during the recession due to demands for education and health care—perhaps a cover for the real agenda— independence and self-rule as people saw education as a priority in the attainment of sustainable independence. So to address the need for numerous new buildings and construction projects, the British supplied engineers in most cases, but builders were mostly recruited from Egypt. Thus transformation of the construction industry was achieved.

The political turbulence that followed the 1956 independence delayed progress in almost every aspect of life. Rebellion had already irrupted in southern Sudan in 1955 – becoming one of the longest running civil wars in history. Consequently most developmental plans were brought to a total standstill. Under such conditions, the new regime saw as its main role the integrity and unity of the country – many times at the expense of development. The first Sudanese Prime Minister declared a telling motto that defined the priority of his government: “to liberate and not to construct”.

Under such conditions, the construction industry in the public sector was one of the areas that suffered most during the first four years of independence. However, the private sector continued to build small-scale projects such as family homes, two-storey commercial buildings and minor light industry projects—many having minimal architectural significance. Nevertheless, several government units had inherited unfinished jobs that could not be terminated abruptly. British engineers were given the choice of keeping their jobs with new contracts or cashing their after-service benefits and quitting the country—most opted for the latter option. The Sudanese Public Works Department included a construction division responsible for designing or reproducing architectural drawings, proposing construction specifications suitable for the country and initiating building by-laws and regulations. The early staff of the Public Works Department were British, Egyptian or Syrian. However, the great depression that hit the country in the 20s forced the government to send most of those experts back home.

The Emergence of the Architectural Profession in the Sudan

As need for local replacement was accentuated, extra efforts were made for training for Sudanese to take over from the foreign officials. The pioneers who shaped the newborn engineering profession were Mirghani Hamza (1895–1973) and Hassan Atabani (1916–1997). Atabani became the first Sudanese architect at the Department. He later became the Chief Architect in 1950 and also held the office of an Honorary Corresponding Member of the RIBA in the Sudan.

Gordon Memorial College developed to encompass several professional colleges, one of the first being the College of Science and Engineering which recruited its first batch in 1940. In 1947 the Gordon College was upgraded to a University College in a special relationship with the University of London, awarding University of London external degrees. After independence in 1956, the University of Khartoum appointed Alick Potter, who then recruited four second-year engineering students to join the new Department of Architecture in 1957. Abd ElMoneim Mustafa joined the staff of the architecture department at the University of Khartoum in the mid-sixties and was the first Sudanese national in such a post.

By 1961, the Khartoum School of Architecture graduated its first batch. The first architectural practice in Khartoum, that of Peter Muller, attracted the top two graduates: Omar El Agra and El Amin Mudathir.

Seeds of Modernism: Influential Architects, Planners and Practices in Sudan

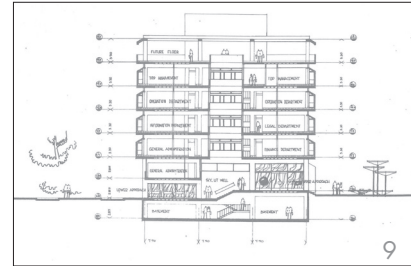
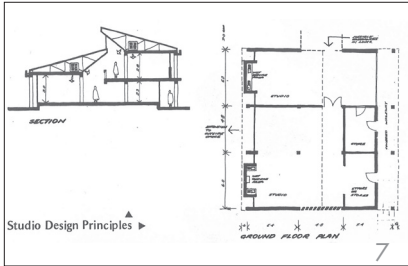
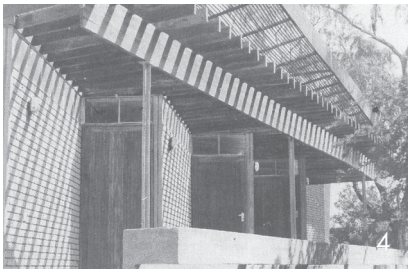
Peter Muller, an Austrian architect, designed and executed some of the most outstanding architectural projects of the early post-independence era. Despite the severity of 6 years of military rule (1958–1964), the construction industry as well as architectural practice did well during that period. The military regime managed to attract funding from the American Aid Programme which focussed mainly on the field of technical education. Muller designed the Senior Trade School (1962–1964)

which expressed architectural authenticity through reinforced concrete frame structures, free plans, free façades and wide windows. Unique roof shading not only added dynamic visual impact but was also able to create a good response to the prevalent climate. Many of Muller's buildings were built by local builders using mostly local building materials. His plans, while innovative, had much in common with Gorrings' plans. The focus on transparency and lightness, maximisation of natural daylight rendered his contributions prominent examples of the architecture of the 60s which had immense impact on the Sudanese architectural scene. Pure, functional, dynamic, transparent and embellishment-free forms were a source of inspiration and admiration for generations of young architects and architecture students, many of whom had the opportunity to get training in Muller's office or on his building sites. The heritage remaining from that practice is still evident.

During the early years of independence, the national government became aware that, the capital needed a Master Plan to replace Kitchener's plan of the city. By 1958, Doxiadis, the renowned Greek town planner was requested to propose a comprehensive town plan for Greater Khartoum.

Following the directives of Doxiadis' Plan, the first qualified Sudanese town-planner, Salah Mazari, prepared the detailed plan for the new housing extension of Khartoum city comprised of about fifteen hundred house plots. The municipality of Khartoum issued new building by-laws and regulations which specified the percentage of the plot area to be built, the materials used and most important, the plans must be prepared by a qualified architect or engineer-architect, referring to the civil engineers who were trained in the construction division of the PWD.

A major aspect of the new plan was the new residential townships proposed as extensions for all three cities of which the capital Khartoum is composed. Khartoum New Extension came as a blessing for the new-born profession. It provided a testing arena for new architectural ideas and construction methods. The great construction boom thus initiated, created a great demand for the service of architects. Four architects who were educated at Lester were



lucky to come back at the apex of that demand. They all had opportunities to explore the relevancy of the knowledge they acquired in Britain to their home land. Two of them; namely, Abdel Moneim Mustafa and Hamid ElKhawad, were able to distinguish themselves through authentic design approaches. Most of the residential designs that each of them started with immediately after they returned, still stand as models of adaptation of the ideas of the Modern Movement to a tropical environment.

H.E. Kramel described the dominant architectural character of Khartoum extension in the following passage: "...the search for a new residential architecture at this phase has never had as its objective a traditional revival or local continuity. The current impact of the international style and its tropical adaptation by European architects in Africa, Asia and Latin America has been so pervasive that for all intents and purposes it has set both the vocabulary and the structure of residential architecture of Khartoum for this phase. The most obvious manifestations of the international style in the residential architecture of Khartoum can be summarized in five points:

- Disappearance of the veranda and the porch as distinctive and characteristic semi- enclosure in the house space composition
- The emergence of the enclosed central living hall as the main family living area. In most designs it was flanked by other spaces (bedrooms, guest reception salon, bathrooms and kitchen).
- The central hall, of an open type is, in fact of Mediterranean origin initially used in Khartoum by Greek and Italian residents;
- The tendency towards a more compact building form with abrupt juxtaposition of the outside space and the inside space i.e. unroofed space and roofed space.
- The inclusion of the kitchen and the bathroom as

integral elements in the building block to achieve a compact form and an integrated composition. The excessive use of concrete, glass, and hence, air cooling and air conditioning.”

(Kramel, 1995, p40-41)

While some characteristics of the new architecture represent progress, in the later years, some adopted design and building forms were not so desirable as deviation from climatic considerations became more and more apparent. These are unfortunately the characteristics of many buildings in the Sudanese capital today and have affected even the buildings in smaller towns and cities throughout the country, making them thermally uncomfortable, spatially inappropriate to meet the socio-cultural demands of the society and environmentally inadequate due to the reliance on mechanical cooling.

Abdel Moneim Mustafa's role in establishing a Sudanese Modern Architectural Language

While both Moneim and ElKhawad had their own distinct styles, there are certain common features in their designs. The most obvious of these are purity of form and honesty of expression. They both used reinforced concrete frame structures and red-brick infill walls. Moneim tended to clad the external walls in coloured cement/sand

Figures 1, 2. The interplay of voids and solids in two private houses. Scans from office pamphlets.

Figure 3. Rural primary school, Elturabi village. Scans from office pamphlets.

Figures 4, 5. Lecture theatre, Khartoum University. Scans from office pamphlets.

Figure 6. Omdurman University campus. Scans from office pamphlets.

Figure 7. College of Fine and Applied Art. Scans from office pamphlets.

Figures 8, 9. Arab Bank for Economic Development.

Figures 10, 11. Nifidi and Malik mixed use developments in Khartoum.

bricks and to extrapolate the regular and smooth forms of the bricks to produce decorative relieves. Furthermore, he used to introduce additional features through interplay of voids and solids and by inserting delicate projections in the cladding surfaces [figures 1, 2].

He also attempted to integrate the buildings and their plot by reducing the visual dominance of the boundary wall. Following in the tradition established by Weir, he focussed on the use of indigenous materials and forms of construction attainable by Sudanese contractors and also reflected structural systems in his built forms. By optimum orientation

he was able to achieve maximum shading and good natural ventilation. By designing and building more than 40 private houses in the three towns of Khartoum, Bahri and Omdurman (Greater Khartoum) the practice left a clear imprint in people's minds with regards to residential styles and this influence continues till today.

In addition to the numerous private villas that Moneim designed in the early years of his career, he also worked on other building types. The rural primary school he built in Elturabi village 75 km south of Khartoum completed in 1967 is a unique as both the plans and the superstructure of the school are striking in their simplicity and functionalism, yet still manage to achieve a strong and memorable visual language and presence through shading strategies and strong emphasis of the circulation routes [figure 3]. Innovative technical developments in the school included the use of a type of Vierendeel beam in the foundations to overcome unstable soil conditions.

Moneim also collaborated with other architects, one of them being Rimner of the University of Khartoum in the design of a lecture theatre on campus completed in 1970 [figures 4, 5]. The contrasting lightness of the steel structures and the roof are used with visually heavier brick panels, a juxtaposition of elements that distinguishes this architect's work. The layered language of the façades and deep overhangs are very important for protection from the heat and excessive glare that can be experienced in this particular climate. These elements are also used to scale down the large building.

Moneim also collaborated with Ayoub and Omer Salim Architects in the design of the Omdurman University campus [phase 1 - built, figure 6] and the College of Fine and Applied Art [unbuilt, figure 7]. The logic and order of the planning as well as the spatial qualities aimed for have influenced architects and architecture even though the developments have remained conceptual to a large extent. The completed buildings for the University of Khartoum's Faculties of Agriculture and Engineering respectively again rely on layered façades and horizontal panels for shading.

The most distinctive Moneim landmarks are perhaps the headquarters of the Arab Bank for Economic Development [figures 8, 9] and the Nifidi and Malik mixed use developments in Khartoum [figures 10, 11], both by virtue of their respective locations but also because of the strong imagery and scale. The bank, completed in 1980, is a box, albeit an interesting one due to its proportioning and spatial qualities of its section. In addition to its simplicity, the bank was also unique at the time for its panel cladding and a resistance to emboss traditional building idioms onto the building.

The staggered façades of the Malik building still maintain a distinctive presence in the centre of the city. The formal response to the urban scale and orientation has created a visual language that is highly relevant and outstanding. Brick panel and beams of the Nifidi building as well as the horizontal timber panels on the balconies became fixed features in many Khartoum buildings for many years. These types of apartment blocks, with rentable shop space at the bottom, came into appearance in the 60s and 70s and are still common in Khartoum.

Concluding remarks

By the end of the 19th century, and after the Mahdya regime, Sudan was very detached from the architectural developments in the rest of the world. Moreover, it was equally detached from scientific and artistic knowledge beyond its closed borders. Due to various other factors—such as religious changes, foreign occupation, climate changes, the lack of wealth and natural resources, and political changes—there was a lack of continuity of the rich architectural heritage that was prevalent in the earlier historical eras of the country.

The arena was thus set for accepting the ideas that the invading forces of the condominium regime intended to introduce. There was little opposition to the built forms of the colonizers or their construction methods. At the time, the Modern Movement was well under way in England as well as in most European countries, therefore influencing colonial architects who had free reign to experiment and shape the practice as they wished.

Coupled with all the above mentioned factors were the limited funds available, the limitation of choice in building materials and the rarity of skilled labour. The architects had to prove themselves within the constraints of all those factors. Thus, whimsical features were abandoned in favour of a more pragmatic approach, in the process satisfying some requisites of the Modern Movement. This situation demanded simplicity of plan forms and adaptation to prevailing weather conditions. The shallow plan extending along the east/west was an intelligent device to offset the extreme heat and to provide day light. While the architecture was clearly influenced by the Modern Movement, it also then developed with an appreciation for regional factors that make it unique to the Sudan and other contexts with climatic, political and historical similarities in Africa.

Abdel Moneim Mustafa and his practice played a key role in the development of this trend by building on existent heritage up until that time. They therefore had much influence on architecture for many years. These gradual developments of a Sudanese

regional architectural language may have been completely severed the complete political and cultural isolation of the Sudan starting in the mid 80s and the consequent opening up of the country following the new-found oil wealth in the 90s—which brought with it foreign interests in the country, foreign materials and an alternative language and scale of buildings. That, however, is a topic for another discussion.

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Notes

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Most images are scans of office pamphlets sourced from Monim's practice.