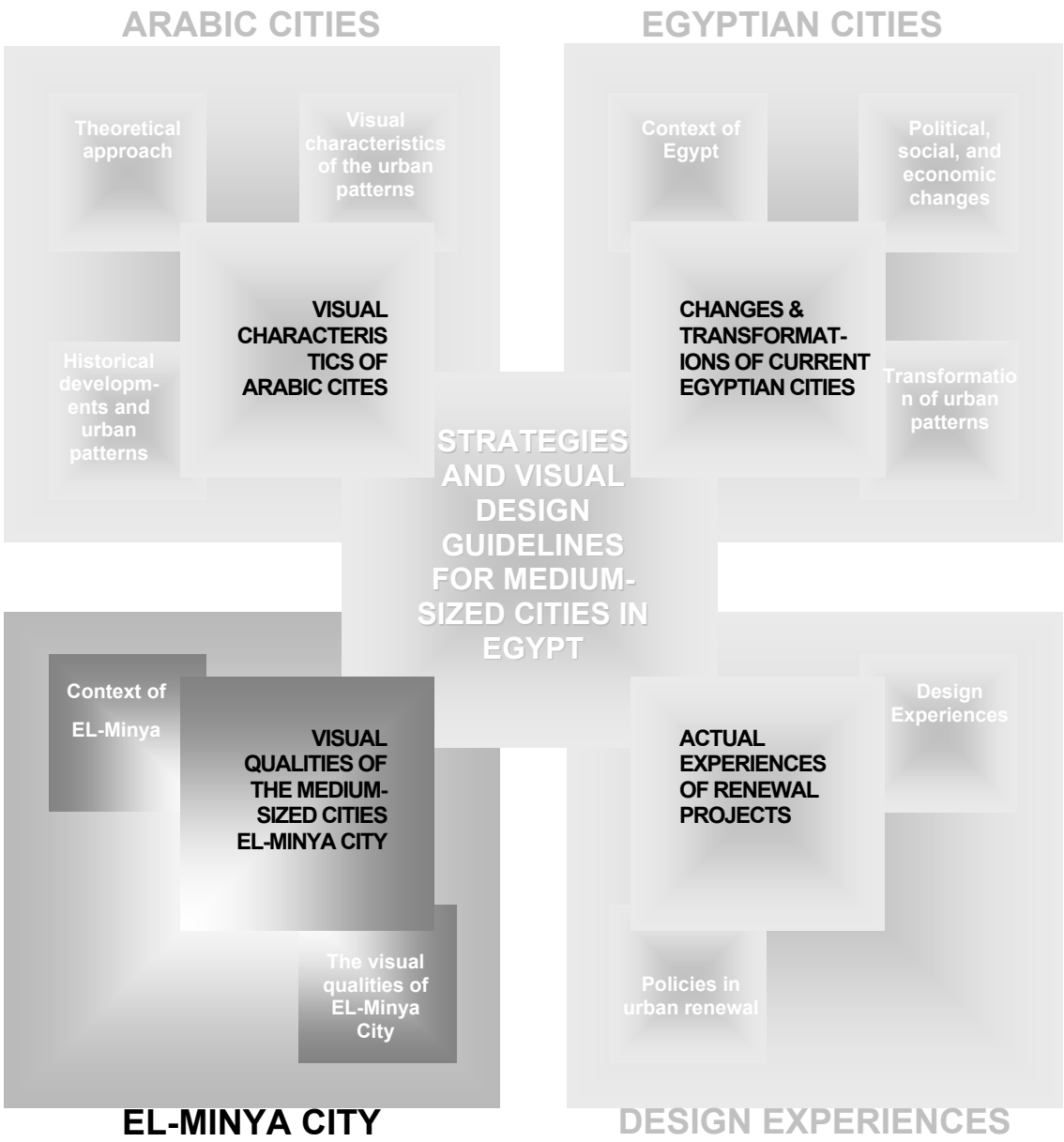
CHAPTER THREE

VISUAL QUALITIES OF THE MEDIUM-SIZED CITIES, EL-MINYA CITY-EGYPT



CHAPTER THREE

3. VISUAL QUALITIES OF THE MEDIUM-SIZED CITIES EL-MINYA CITY- EGYPT

3.1 INTRODUCTION

In the previous chapter, transformations of current Egyptian cities were identified. The findings in chapter two reveal that the social, political, and the economic changes in Egyptian cities have influenced contemporary patterns. Therefore, this chapter analyses the visual qualities of EL-Minya City as one of the medium-sized cities in Egypt. The chapter is organized in two sections. The first section deals with the geographical and physical aspects and the historical developments during the period from 1800 to 2000. The second section examines five different patterns of the urban environment: traditional, colonial, modern, public housing, and informal settlement. The visual qualities are analyzed in terms of townscape, urban form, public realm, and architecture. The chapter evaluates each pattern according to the design criteria and identifies the positive qualities, which should be enhanced and emphasized, and the problematic aspects, which should be eliminated. As a result, it will be possible to assess what improvements are needed in order to enhance the visual environment and the identity of the city as a whole.

3.2 CONTEXT OF EL-MINYA

3.2.1 GEOGRAPHICAL SETTING AND PHYSICAL CONTEXT

■ **LOCATION AND AREA**

EL-Minya Governorate, one of the oldest continuously inhabited settlements in the world, is also one of the most outstanding urban monuments from the Pharaonic to Islamic periods. The city of EL-Minya is the capital of EL-Minya Governorate. It lies on the western bank of the Nile River. The 245 km separate EL-Minya from Cairo (elevated at 37m).

Geographical Setting

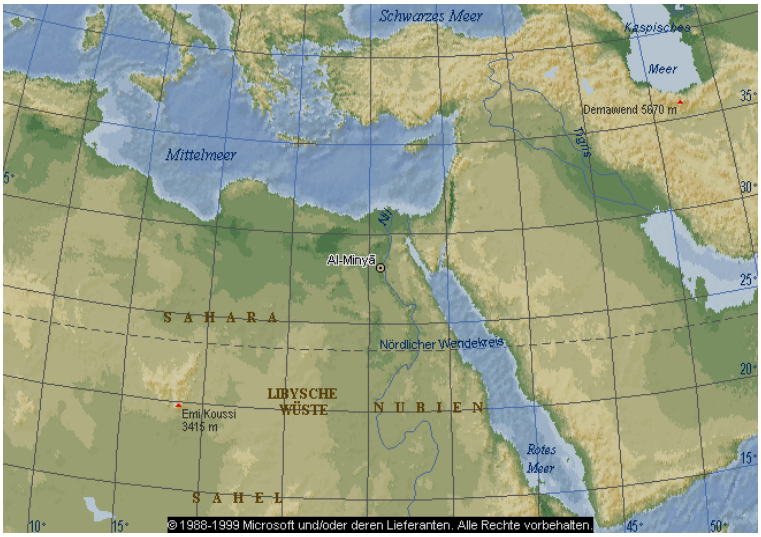


Figure 3-1 The location of EL-Minya.

Figure 3-2 EL-Minya City. Satellite view.

Figure 3-3 Main cities and sub-cities in EL-Minya.

■ GEOGRAPHY AND CLIMATE

EL-Minya City has a linear shape parallel to the Nile River. The location of EL-Minya represents a narrow strip of cultivable land along the banks of the Nile. The city includes many of the advantages of an urban setting while retaining the natural beauty of the eastern desert mountains and clear air with a dry climate. The summer day temperature is around an average of 37 ^{0}C and the winter day temperature ranges around an average of 15 ^{0}C.

■ **DEMOGRAPHY**

In the 2000 census, the population of EL-Minya was 211,000. Its area is 15 sq Km (1500 hectares). The distribution of the population is 339 persons per hectare. The education rate was 80.7% in 1996.

Table 3-1 Demographic evolution of EL-Minya City and Egypt

Year	1986	1996	2000
EL-Minya City Population	173,136	201,360	211,000
Egypt Population	48,205.049	59,313,000	69,536,644

Table 3-2 Demographic distribution of EL-Minya City according to ages (1996 est.)

EL-Minya City Population	Age Structure				
	0 - 6 years	6 -10 years	10–15 years	15-60 years	60 years and over
201360	27330	16043	20126	125835	12026
	13,6%	8%	10%	62,5%	5,9%

Table 3-3 Demographic distribution according to educational states (1996 est.).

EL-Minya City Population	Educational States				
	10 years and over	Illiterate	Read and write	Qualified	Higher
201360	157987	30383	25794	83436	18374
	100%	19,3%	16,3%	52,8%	11,6%

■ **ECONOMY**

The city, as a chief town of the government and a considerable commercial and industrial town, is situated between the Nile and the Ibrahimiya Canal with a museum and mosques of great historical importance. The public sector predominates in industry, controlling most of the production of capital and intermediate goods. Among the state-run industries are automotive manufacturing, mining, cement and fertilisers. The private sector is active in manufacturing of consumer goods, particularly in small enterprises in and around the city. The principal private industries are food products, furniture, and woodworking.

3.2.2 HISTORICAL DEVELOPMENTS

■ **BEFORE 1880**

EL-Minya City was founded around the year 1050 AD by sultan Ibn Khasib, a descendant of the Fatimid dynasty from Cairo. It was during this period that the Mosque of EL-Lamaty and the Mosque of EL-Amrawy were built, an outstanding example of Islamic architecture, with a remarkable structural and decorative use of stonemasonry. The bulk of the historic urban fabric was formed by the residential districts, which covered an area of approximately 1 sq km.

EL-Amrawy Mosque

Figure 3-4 Different views of the Mosque of EL-Amrawy, an outstanding example of Islamic architecture, with a remarkable structural and decorative use of stonemasonry.

The city suburbs development from the 16th/17th centuries onwards show the usual non-planned urban structure, based on the direction of pedestrian traffic flows, location of markets and the irregular plot-shape. The elite resided mostly along the canals while the merchants tended to live in or near their suqs and wikalahs along the main commercial streets.

The beginning of the modern era dates back to around 1870, when the Ottoman administration started modernizing the city and constructed the first residential extensions. The decorative features were borrowed from Classical and Rococo architecture in addition to Western-type apartment houses, which distinguished the street fronts in this era.

■ COLONIAL PERIOD 1880-1950

Around the turn of the century, land speculation and a general building boom marked the beginning of EL-Minya's dramatic twentieth-century expansion. In the year 1873, the Ibrahimiya Canal was built, which gradually led to a noticeable development in the urban growth especially in the western areas of the city. Improvement of the transportation network, particularly the introduction of the building of bridges across the Ibrahimiya, permitted developments of housing to grow haphazardly on private agricultural land of the west suburban banks of the canal. In the beginning of the 20th century, the establishment of the railway to join Cairo and EL-Minya began. Later, the city extended east and west on the railway sides, which penetrated the current city.

The colonial city was built between 1908 and 1940. Utilities, serving mainly the new developments, were introduced under long-term franchises granted to foreign enterprises: a courthouse in 1927, the city council in 1937, the fire department in 1931, and the administration building in 1937. The wide paved streets of the modern city diverted commercial activity away from the old city, hastening its deterioration. Extensions to the north consisted of two sharply contrasting zones (new and old). Despite conscious use of some Islamic-style motifs in the facades, the houses were all distinctly European in layout and use of space.

The movement of upper-income groups to the new developments in north suburban area was followed by the leaving of the traditional district to the poorer classes. Rural migrants, who had started pouring into the city after the turn of the century, settled on the periphery of the traditional district. The modernization of EL-Minya introduced a number of problems such as the growing social rift between a new local bourgeoisie choosing to live in a Westernized environment and the population accumulating in the traditional district, which was suddenly stigmatized with backwardness and a lower social status.

By the end of this period, the old and new cities remained isolated and distinct. The traditional district was relatively homogeneous, with uniformly high densities and low socio-economic status, while the colonial district was socially heterogeneous, with generally lower densities. The deterioration of the traditional district was further promoted by the concentration of public and private investment in the new areas. The colonial district today is a thriving sector of Minya. It has developed into a completely independent sub-centre with a full range of commercial activities and services. It is a prime location for new businesses, and a major pole for new office and residential construction.

■ DEVELOPMENT AND CHANGE AFTER THE REVOLUTION 1950-1980

By this period, the internal population movements further accentuated disparities between the two parts of the city: the traditional district with its legacy of obsolescence and poverty, and the colonial district with its modern buildings and services. Densities continued to increase in the traditional district, where there were inadequately community facilities. The resultant overcrowding accelerated its deterioration of both infrastructure and the standing housing stock.

Throughout this period, Ard AL-Mowled district as a public housing scheme was built. Generally, it favoured lower-income groups, diverting scarce resources to the benefit of upper -and middle-income groups as well.

By the seventies, the modern district of Ard Sultan begun to be established according to land subdivision laws and inhabits by upper-and middle-income groups. It had carved in by a number of new urban corridor streets, which were complemented by a system of perpendicular roads. These main new axes are parallel to the Nile River and bordered recently by freestanding buildings with heights of up to 30 metres. The north-south access of Taha Husein Street formed a new linear central area intended to represent modern EL-Minya.

■ NEW URBAN DYNAMICS 1980-2000

At the beginning of the eightieth century, the city extended in all directions. It extended in the north where Ard sultan district completed, Shalabi district (as a modern movement according to land subdivision law) begun to be established, in the south where the urbanization of the informal settlement in Mecca district (in southern Ard AL-Mowled district) started, subsequent to the increasing migration of labourers to other Arab states, in the west where the new public housing schemes in Jaheen district, are now under construction, and in the east through the Nile River to the New EL-Minya City project.

The New EL-Minya City is now under construction and lies on the opposite side of the EL-Minya City, east of the Nile Valley. It is 15 km away from EL-Minya City and 248 km away from Cairo. The total area of the city is 102 sq km, of which 19 sq km are urbanized. The City's land is allocated to serve two purposes; residential and industrial purposes. The residential area (8 sq km) has been allocated for residential use. The total number of housing units in the city is 3,814 units allocated to serve the different housing levels. Each housing level area has its own services centers. The total industrial area of the city is 1 sq km. The industrial facilities are limited to a group of light and average industries such as food, and paper products. Currently none of the factories is operating yet; there are five factories under construction.

Modern Development

Figure 3-5 Views in Taha Husein Street showing the multi-storey apartments which were built with heights of up to 30 m.

By the nineties, the high-rise structures were mainly designed and built because of a scarcity and high cost of land and expressed the power and wealth of the owner. The extensive construction projects throughout the city cater to no more than 20% of the population, and are beyond the reach of people in the remaining social strata. It is even common for members of the upper and upper-middle strata to own more than one flat for investment purposes. Those caught in the dilemma are the middle and lower-income groups who cannot afford high-cost housing. This situation often results in the migration of labour to oil-rich countries, especially among the younger generations whose only prospect to afford housing is through such means.

The main factor of the city expansion was the establishment of EL-Minya University in 1976s, which led to a cultural and an economic prosperity for the city on the one hand, and increasing demand for buildings to accommodation on the other hand.

Historical Developments

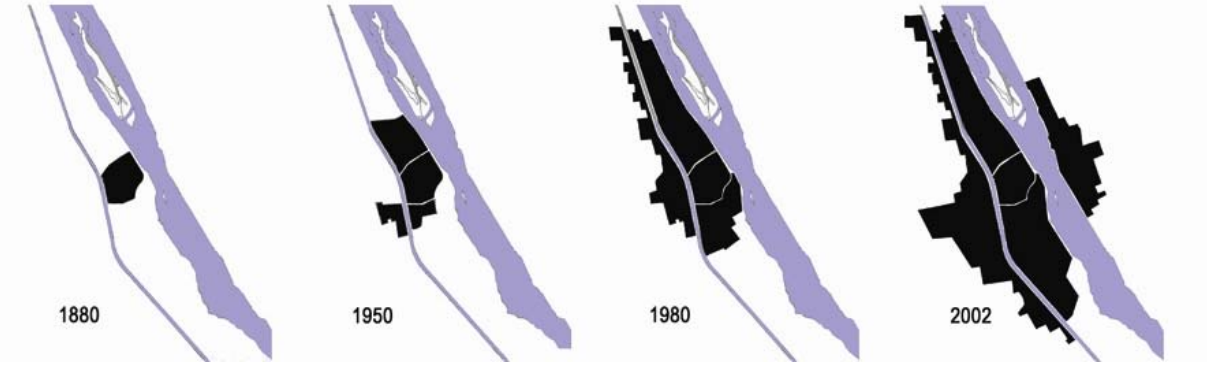


Figure 3-6 Historical developments of EL-Minya City

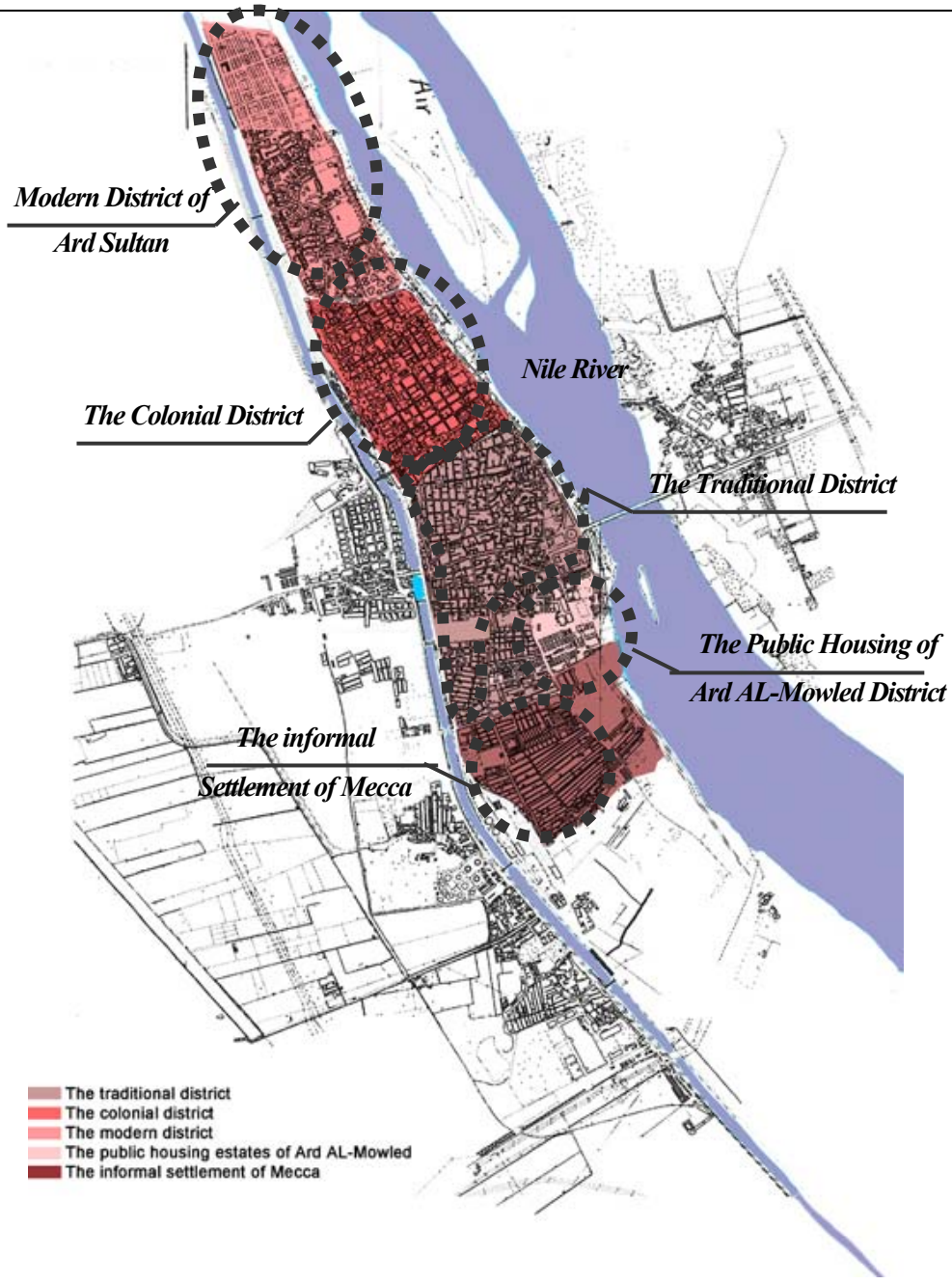


Figure 3-7 Diagrams showing the residential districts within the city of EL-Minya.

In the traditional and colonial districts, the housing stock cannot support further subdivision or vertical expansion, and development pressures are leading to conversion from residential to commercial and industrial uses. At the same time, increased prosperity is allowing many people to move from the overcrowded areas out to the suburbs, while newly arrived rural migrants settle in the numerous informal settlements proliferating on the edges of the urban area.

The fact that formal housing has not been able to meet rising demand is due to many reasons, including the increasing number of rural migrants to the city and the increasing number of cairenes whose homes have fallen to ruin and who are provided temporary shelter by the state until more permanent residence could be found. Because of the already existing shortage in housing, these two categories of the target population - the rural migrants and the homeless - are forced to seek an alternate solution in the form of squatter settlements.

Although there are some inside the city, squatter settlements are located mainly on the outskirts of the cities where the living conditions are usually very poor. The inhabitants using whatever material is available either for temporary or permanent residence build dwellings. However, because of the private parcelling of land, these areas were developed without a plan, infrastructure, or transportation network; in short, basic services are not provided. Lack of domestic water, sewerage, energy, garbage collection, transportation, green areas etc. create environmental and health problems.

Today, the city of EL-Minya represents an agglomeration of several separate but interconnected entities: first, the traditional district, composed of the old city until 1880 and neo-traditional housing from the colonial period; second, the colonial district, which was laid out in the early twenties parallel to the Nile River; third, the modern district of Ard sultan located on the north of EL-Minya; fourth, the public housing estate of Ard AL-Mowled,

established in the 1965s. The informal settlement of Mecca built by rural immigrants, whom have developed spontaneously around the southern periphery of the city, should also be added to these entities. The particular character of this agglomeration is due to its poly-nuclear layout, which separates the various urban entities by the wide linear axes.

3.3 THE VISUAL QUALITIES OF EL-MINYA CITY

■ SETTING

EL-Minya City has a very clear topographic boundary on the east side by the Nile River together with the Green belt. In contrast on the other three sides, the boundaries of the city are not clearly defined. The Ibrahimia Canal and EL-Minya-Cairo railway running through the city gave it negative boundaries. EL-Minya's districts have various types of boundaries.

Figure 3-8 View of the city from the Nile River

Some boundaries are hard, definite, and precise, such as at the wholesale commercial area, while others are of more fluid nature and more or less identifiable by tradition and use. EL-Ezabi Street and Port Said Street are the main streets between the different city districts.

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Districts of EL-Minya can be recognized according to their social, economic, and cultural domains. Each may also possess unifying physical and environmental characteristics. The city, thus, became highly distinct by the heterogeneity of its urban form and the interacting different developments. The resulting pattern is a multi-layered assimilation of several political, social, and economical influences.

The modern district has a best rating for its condition compared to the other districts. It was observed that many of the traditional houses in EL-Minya are in poor condition, through lack of maintenance, structural failures, or loss of character due to alterations or extensions. Likewise, the structural and maintenance condition of the colonial housing is poor. The reasons behind the poor condition are a shortage of skilled artisans and money to carry out repairs, and the use of new materials in extensions and alterations.

EL-Minya's streets define three categorical levels, according to their proportion, shape, scale, and density. Firstly, the city streets; those play a major role in the access and orientation of the city's road network, i.e., Saâd Zaghlol Road, where the vehicular movements dominate the space. Secondly, local streets, which are smaller and more intimate in scale than the city streets, where vehicular movements share the space with the pedestrians rather than dominate it, EL-Huseini Street and Ibn Khasib Street, are examples of this type. Thirdly, the intimate streets those are more suited for pedestrian use.

The open space of the green belt along the Nile River is distinguished by its scale and activities. It represents a recreational place for residents. Besides, it represents also by its scale, one of the remarkable landmarks in the city.

The concentration of retail shops along EL-Huseini Street is an important feature of EL-Minya, where people guided their activities largely along the street following the main stream of movement. It is the north-south spine running through the city reflecting its historical development.

Landmarks are the prominent visual features of the city. They may be enhanced and reinforced in their prominence by a historic meaning, location, or activity associated with them. EL-Amrawy Mosque, for example, is important as a major visual, religious, and social focal point. Palace Hotel, Courthouse, the city library are other powerful landmarks of EL-Minya, because they provide a reminder of EL-Minya is history and heritage.

The following sections examine five different patterns of urban environment: traditional, colonial, modern, public housing, and informal urban patterns. The visual qualities are analyzed in terms of townscape, urban form, public realm, and architecture. Relevant information on these areas has been gathered mainly by surveys and census data. The limitations on resources did not allow the researcher to undertake detailed studies of the whole city.

EL-Huseini Street

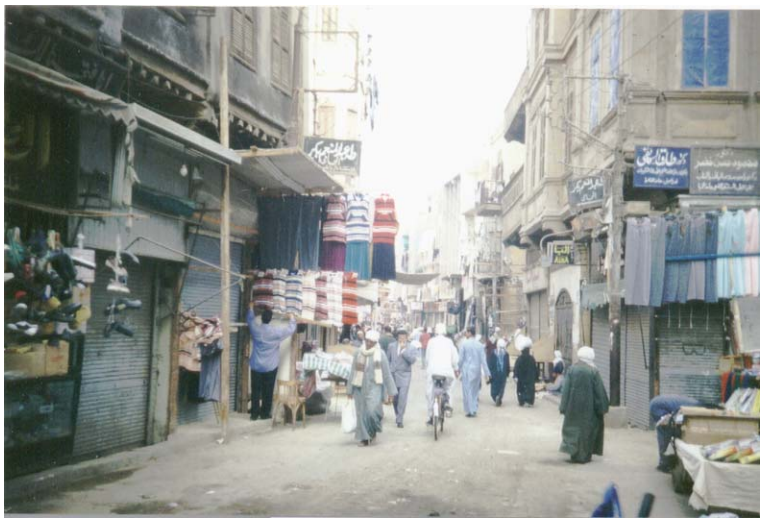

Figure 3-9 EL-Huseini Street running through the city reflecting its historical development.

3.3.1 DECLINE OF THE TRADITIONAL DISTRICT

■ BACKGROUND

The traditional district, with an overall population of some 50,000 in 2000, covers approximately 78.4 hectares and is limited by EL-Ezabi Street to the north, Ben AL-Gnayen Street to the south, Saâd Zaghlol Road to the west and EL-Corniche Street to the east.

The relatively good physical preservation of the traditional district in the beginning of 20th century is because the colonial powers consisted in setting up a completely new colonial district on virgin land north of the traditional district without seeking any interface with pre-existing urban structures. The district remained the predominant element of the urban structure until well into the sixties, both in terms of the number of inhabitants and in terms of economic activities and employment. It has managed to retain and to develop commercial activities, but not without considerable changes, in the traditional production and distribution system. Many industrial goods are brought from outside into the suqs to be sold there at cheaper prices, often to customers from the new city or from the region.

Meanwhile, most of the traditional crafts survive and continue to manufacture products for local consumption, for rural customers and for a tourist clientele inside and outside EL-Minya. As a result, the economic activities of the traditional district have increased and exerted considerable pressure on the fabric, especially with regard to semi-industrial production. The remaining local production has changed from the traditional crafts to semi-industrial manufacturing causing congestion and creating precarious environmental conditions.

The more subtle physical changes at the micro-level of the traditional district have to be seen against the background of major socio-economic transformations, which have affected the old city since the middle of this century. The departure of the local bourgeoisie towards the new town (the colonial district) has deprived the traditional district of major socio-economic forces. The parallel immigration of a new predominantly rural population was not able to ensure the physical maintenance of the traditional urban system. The massive influx during the sixties and seventies meant that the complete traditional district became an intermediate station for a poor population in search of employment and education. The old houses left by their owners were subdivided and let room by room to families, who often could not afford to maintain the buildings. The resulting densification together with ever-increasing poverty exerted tremendous pressure on the physical fabric of the district. While the major monuments were easy to restore and maintain, many private houses of historic value were used for, either multi-family lodging facilities or manufacturing workshops, which fell into a precarious condition.

Traditional District

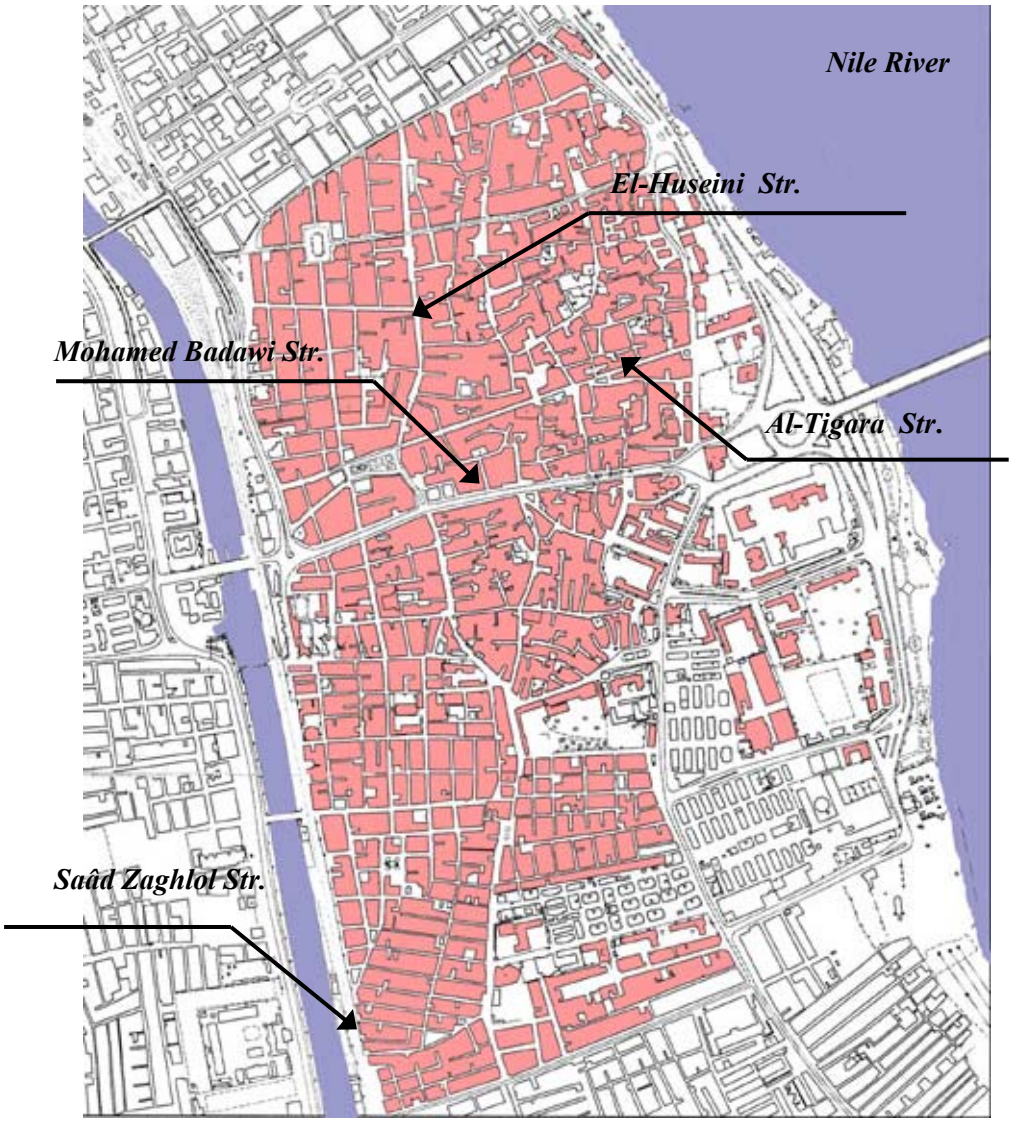

Figure 3-10 Plan of the traditional district of EL-Minya.

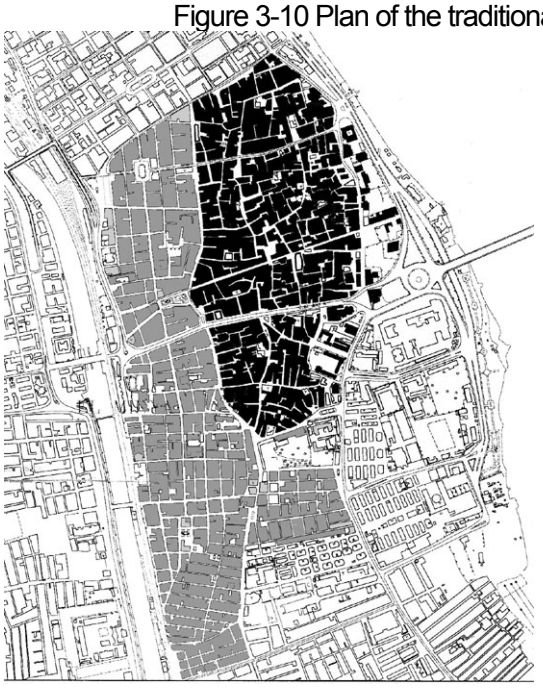

Figure 3-11 Diagram showing the development of the residential fabric within the traditional district of EL-Minya. The old city that was built until the early nineteenth century is shown in black, the neo-traditional housing from the colonial period is in grey.

■ TOWNSCAPE

The character of the traditional district was distinct by a remarkably intact skyline, which has survived because of its historic significance. The urban tradition occurred not only in architectural style but also in the sense of locality and regional identity.

Today, the form and structure of the traditional district has suffered substantially from, insufficient infrastructure, amenities, and social facilities and is inhabited by crowded, predominantly poor population.

The area at the eastern side of the district, opposite the EL-Minya Bridge, posed a critical problem: a whole section of the former residential district had been demolished which caused a major townscape disruption in a sensitive location. It became thus used as a quarry for the multi-story buildings. No attempt was made to reconcile the two urban systems (old and new) and adapt urban interventions to the existing context.

Lanes and their buildings are popular with the public and users for being more traffic-free, quieter, more intimate, and more human. Shopkeepers are willing to accept some inconvenience of vehicular access in exchange for the other benefits such a situation bestows.

Townscape

Figure 3-12 The minarets are designed as landmarks, which can be seen from long distances.

Figure 3-13 The street can form a framed view when the minaret of a mosque, which lies in the street beyond, the only visible building on that side, is sufficient to complete this perfectly framed view of it.

■ URBAN FORM

The urban form is very tightly knit in the traditional district so that the street feels like an elongated courtyard carved out of a dense building mass. With the width varying between 4 m and 6 m, the horizontal to vertical ratio of street width to building height varies from 2: 3 to 1: 2. The buildings are two to three storeys in height, frequently with a balcony on the second floor. Due to slight meanderings, there are no views down the entire length of the street. A strong sense of enclosure makes the district kinaesthetically stimulating.

Figure 3-14 Urban form of a traditional district, composed of building blocks

The street network of the district follows the well-known hierarchy composed of central streets, residential streets and semi-private cul-de-sacs giving access to the houses. The dense residential district tends to swallow the street space and to convert it into private access corridors. The built fabric tends to be continuous, i.e. undisrupted by massive freestanding religious and public buildings; it also shows a clear internal differentiation into a series of self-contained cells, which protect the private and sacred character of individual spaces.

The traditional district is shielded off from the main stream of public life. The houses, often closely knit together form inward-oriented autonomous units, which are protected against visual intrusion from the street or from neighbouring buildings. The alleyways, totally absorbed by the built form, were meant for pedestrian circulation only and made a clear distinction between areas of public and private control. The access from the public areas to residential quarters is usually tortuous and broken into successive hierarchical sections, which indicate increasing degrees of privacy.

Urban Form

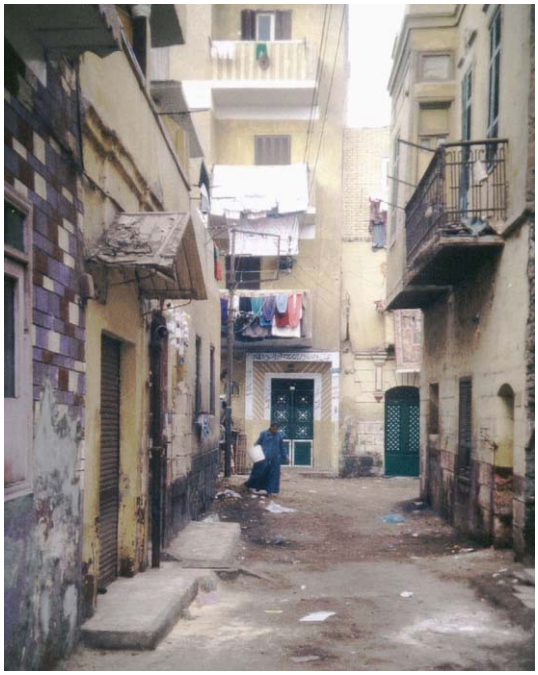

Figure 3-15 The urban form is very tightly knit with a strong sense of enclosure.

The urban form produced an extremely dense and compact architectural texture. The inner structure of the urban form is distinct by a series of buildings of continuous or overlapping pin cells of varying degrees of complexity. Within this cellular system, interior corridors are used to adjust the degree of privacy required for each cellular component of the district.

Very often, a narrow site, which has exactly the same plot width, has survived periodic rebuilding. Whole groups of such narrow plots are still a common feature in the district. The plots show the transition from multi-polygon to rectangular shapes, which allow for better integration of the single units into compact houses. The narrow site, which has exactly the same plot width, has formed the backbone of the traditional street and has been a basis for combining a variety of styles and local materials in city.

Facing needs for new vehicular corridors after 1950, EL-Minya municipality established two modern vehicular roads linking the western and eastern ends of the district. These new roads, A-Jdid Street and Mohammed Badawe Street, were cut through the traditional fabric and were given over to wholesale redevelopment. While the new traffic channels are carved out from the compact urban structure, the traditional district is confronted with a new scale of transportation, and then is transformed by the redevelopment opportunities arising from increased vehicular accessibility. Speculative pressures develop along the new roads, and new street-oriented blocks are built according to a foreign typology.

Modern Vehicular Roads Cut Through the Traditional Fabric

Figure 3-16 The east-west spine of Mohamed Badawi Street cut through the old city and constituted an erratic block, in both function and architectural terms.

The district suffers the worse conditions of dampness, poor ventilation, and poor lighting. There are sites of buildings that collapsed in the 1992 earthquake and due to the freeze set on any construction activity in the districts of EL-Minya, the owners of these lots could not reconstruct them. Such vacant lots provided an inexpensive means of waste disposal, especially workshop debris. Some residents built up existing windows to shut out the nuisance of adjoining vacant lots. This behaviour led to other health hazards related to poor ventilation and lack of sunlight.

The housing stock is one hundred years old and due to the rent control laws in effect for over half a century; most of the tenant-occupied buildings have not been maintained by the owners. The result is that windows are in poor condition, not shutting well and lacking glass panes. In addition, the rising water table and leakage from the public water supply and sewage systems have contributed to the rising dampness in the old buildings.

Lighting and ventilation are generally poor on the ground floor where entire housing units may be windowless. Even those units with a street front that did have windows suffered poor ventilation because the residents would not open those windows for privacy reasons. This was particularly so in the buildings along the main street whereas ground floor windows in visually sheltered, residential dead-ends, were usually open during daytime. While the sun reaches many building facades due to the low height of buildings, still the narrow alleys and dead ends deter it from entering inside many dwellings. The habitual use of rooftops compensates for the lack of exposure to direct sunlight particularly for the elderly. The building stairwell is open to the sky and serves as a light well upon which some inhabited rooms are often ventilated.

Facilities for both collection and treatment of sewage in the district are woefully inadequate. The existing system is physically and functionally obsolete. Street cleaning is generally carried out by the municipality, but the removal of household and business waste is contracted for privately with zabbaleen, who collect waste in return for the profits from recycling it. Once effective, this system can no longer handle the current volume of trash. Moreover, since the resource recovery value is higher from trash in wealthy areas, the service tends to bypass many low-income neighbourhoods.

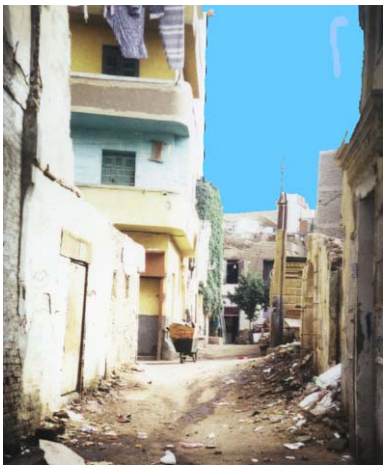

Figure 3-17 Facilities for both collection and treatment of sewage in the district are woefully inadequate. The service tends to bypass many low-income neighbourhoods.

■ PUBLIC REALM

The streets of the traditional district became subsidiary to the cellular urban structures and are often transformed onto narrow internal corridors. The public street network was reduced to ensure the selective accessibility to private areas. The major circulation was channelled around the residential areas and protected private domains, so as to avoid an inappropriate mix of activities.

Social structures of the traditional quarter were enhanced by shared values and sustained by direct human relationships, such as kinship and neighbourhood solidarity. Administration could be minimized, because the various social groups functioned as responsible and self-supporting units within a larger framework, which had developed its own system of checks and balances.

Today, the district poses a tremendous accessibility challenge, with its decentralized commercial system of numerous small markets and businesses, and its complex social organization. Modern vehicular traffic penetrating into the narrow, winding streets and alleyways not only causes terrible congestion, blocking pedestrians, animals, and small carts, but also causes damage to buildings because of vibration, pollution and alteration of buildings to create access for larger vehicles.

The north-south axis EL-Darraba Street, the main traditional suq, suffers intense through-traffic. The traditional use of the street as an area where people live and work, children play, and peddlers produce and sell their goods, conflict with the requirements of modern traffic. The repair of traditional streets is both difficult and expensive, needing special materials and

skills. The intricate and convoluted street pattern and the high densities make the introduction of badly needed infrastructure systems difficult, yet leaking water pipes and inadequate sewerage and surface water drainage are contributing to the rapid decay of buildings, due to the rising water table and the corrosive salt content of the ground water.

Public open space was detached from the main arteries in order to differentiate it according to specific uses and to integrate it into corresponding public buildings, such as mosques. Available open spaces in the residential areas were absorbed by the housing clusters. The market areas tended to be neglected and rapidly appropriated for other uses. The recent concentration of commercial facilities destroys the interface between various facets of social and public life and undermines the quality of public spaces and generates a fatal increase in traffic volumes that generate heavy pollution. No space is provided for car parking nor are there areas for children to play.

Public Realm

Figure 3-18 Due to slight meanderings, there are no views down the entire length of streets.

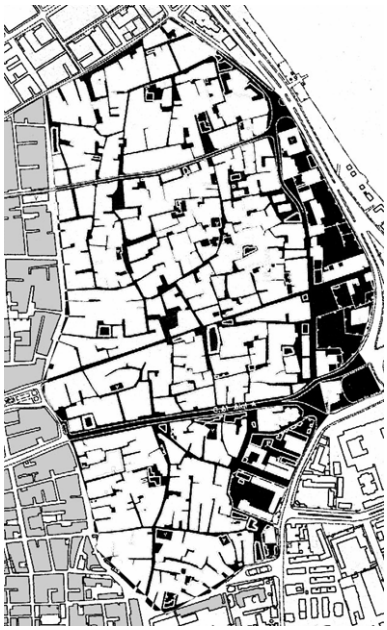

Figure 3-19 Public realm of the old city.

The district is default of the water elements, which are an essential resource for survival in the most practical sense and an aesthetic dimension. The streets do not receive adequate maintenance and have become so uneven that the local inhabitants add layers of clay and rubbish to smooth them out, resulting in concentrations of mud in times of rain and heavy dust during the dry season.

Decentralized Commercial System

Figure 3-20 Both residential districts and markets are suffering due to production activities.

Streets

Figures 3-21 Narrow lanes restrict and in some cases prevent motorized traffic from penetrating the shopping area. The carts serve an important function as the vehicle, move speedily through the pedestrians, and carry goods along the main streets.

Figure 3-22 Streets are not receiving adequate maintenance, resulting in concentrations of mud in times of rain and heavy dust during the dry season.


Figure 3-23 Modern vehicular traffic penetrating into the narrow, winding streets and alleyways not only causes terrible congestion but also causes damage to buildings.

■ ARCHITECTURE

The building usually extends over two or three floors, although one-storey buildings are found. Each main floor is usually four to five meters high and occasionally two-metre-high storage rooms are interjected above the building. The building materials used are burned clay bricks, stonemasonry, and wood. The lower part of the façade is a solid stone construction, while the upper part of the façade is enhanced by arabesques and calligraphy. Some of the buildings tend to look like rural architecture, which are often built of mud-bricks.

In order to protect the buildings and to avoid mixing with alien influences, windows are often veiled by a wooden “mashrabiya”, or dissimulated by the ornamental patterns of the wall. Doors often have smaller door leaves to minimize the aperture wherever possible. Entry vestibules are positioned in such a way as to prevent the view of the inner realm of the home. Women are the privileged users of the roof terraces, which offer a wide platform of female space on top of the city. The minaret and several larger domes are the only elements emerging from the continuous roofscape.

Part of the richness of the architectural heritage springs from the use of local building materials and methods on the one hand; on the other, local building styles have played their part. Local building tradition has become known as vernacular in local style and materials to local interpretations of national architectural styles. Both arabesque and geometrical patterns represented the main tools of artistic expression and building decoration in the traditional district. The recent buildings in the district show lack of decoration.

Architecture

Figure 3-24 The building materials used are burned clay bricks, stonemasonry, and wood.

Figure 3-25 Windows are often veiled by a wooden “mashrabiya”

Recent Building

Figure 3-26 Recent buildings in the district show a lack of decoration.

3.3.2 DETERIORATION AND VERTICAL EXPANSION OF THE COLONIAL DISTRICT

■ BACKGROUND

The colonial district covers approximately 54 hectares and is bounded by Port Said Street to the north, EL-Ezabi Street to the south, Saâd Zaghlol Road to the west and EL-Corniche Street to the east. The district is a modern service centre catering to the needs of the upper middle class. It features Western-type shops, banks, government administration buildings, offices, hotels, restaurants, and cinemas. By the eighties, the district was exposed to massive redevelopment, which completely ignored the existence of old buildings and exacerbated the existing rupture between old and modern. The new buildings were inhabited by people for various purposes. This includes commercial (office, store and shops, and public utility), residential (apartment and hotel), industrial, institutional, public assembly, or multiple use.

The authorities, recently (after 1995) introduced the conservation plan by identifying single monuments to be restored, but the character of the new buildings ruled out any real dialogue with the old urban fabric. A significant number of early twentieth-century buildings should be listed as being of special architectural or historic interest. In case the building is listed, this provides protection against demolition for the building completely such as garden, walls, and railings. However, there is no assessment of the unsure impact of any new scheme on the context. Planning authorities are not asked to consider the impact of new proposals on views in their area.

■ TOWNSCAPE

The significant buildings in the colonial district present a most extravagant urban skyline. This sequence of elaborate buildings complements the cupola of the classic period. The introduction of the flat roof has allowed building plans to assume any configuration and have often reduced the skylines created by recent buildings to harsh, unrelieved horizontals, occasionally interrupted by rectangular plant room enclosures.

The district, generally, began to lose its residential function and a predominantly commercial, and offices in various styles became the predominant buildings. However, many other buildings of architectural, cultural or political importance are located in the city centre, including the Democrat National Party building, Omar Sultan Pasha Palace (The old Cultural City Centre), Mohamed Bahgat Bey Palace and many others, all of which could be restored or adapted for re-use, creating other important landmarks.

District Plan

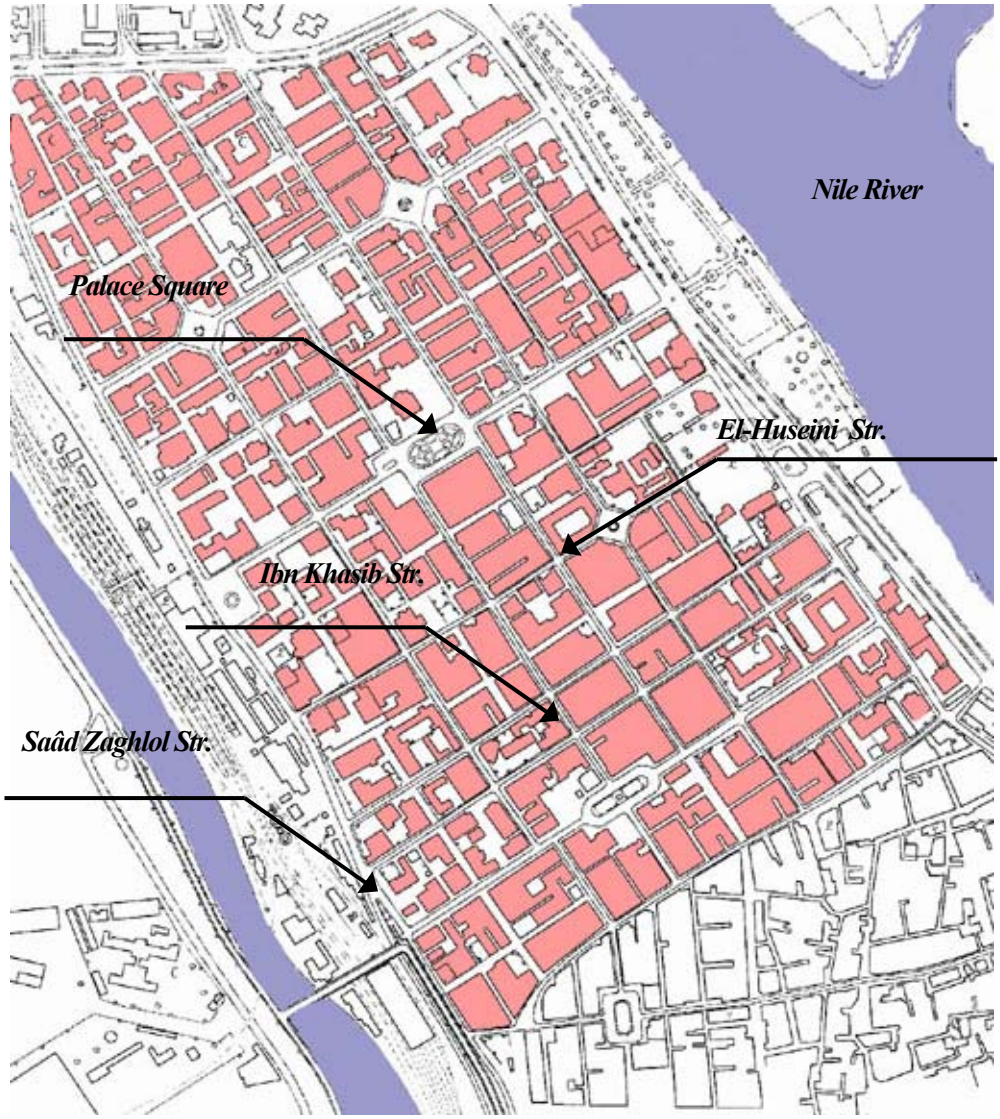

Figure 3-27 Plan of the colonial district of EL-Minya

Later legislation actually prohibited any demolition within a conservation area without prior consent. Although conservation buildings were only selected because they were the most interesting parts of a city, the idea of building with respect for its context did not begin to be recognized.

Streets are not only spaces where vehicles move or side-walks where pedestrians walk, but also the way they look and function, which often depends on the way buildings are formed and used. The characteristic architectural treatment creates a sense of identity and continuity, as with Ibn Khasib Street facade. The district houses are distinguished by displaying pilasters, terraces, cornices, and door cases, displaying classical details. But, the modern buildings introduce a disunity into the street scene, a contrast with classical and new emphasis on the individual buildings.

Shop windows with the biggest possible sheets of plate glass hide the rest of the buildings behind brash fascia boards. A common trend in the district today is to amalgamate sites to form larger trading units, which is not able to establish a dialogue with the scale of their neighbours. The problem is intensified by the desire of traders to maximize their shop frontages while the character of the city is derived from groupings of small-scaled units, which require less destructive, more imaginative solutions. Moreover, aesthetically, pollution is generated by the aggressive and chaotic use of advertisement signs, which cover the facades of shops.

Townscape

Figure 3-28 Modern building does not attempt to compete with the existing townscape on its own terms.

Townscape

Figure 3-29 Buildings appeared to be in competition with each other to achieve the maximum visual impact-something that clients have always required but this was accomplished at no cost to the general townscape.

Figure 3-30 The new activity makes a large intrusion into a small-scaled district, the result can be calamitous especially if that intrusion is the only one of its kind.

■ URBAN FORM

The whole district has been built on ground level in a rectilinear pattern with uniform buildings. Variety and change in the urban scene had begun in the 1980s when the new buildings replaced the classical style and tended to emphasize the shift from a sense of cohesive townscape towards the cult of individuality in building. Stylistic developments were not the only reasons for change in the district urban scene but also its transformation to being the new city centre; Traffic congestion, crowded walkways and commercial buildings which were constructed up to ten storeys high, where before three or four had been the most possible, all these reasons have led to out-grow the district character predecessor.

The familiar urban form is generally composed of sequences of individual buildings, that have certain common features such as general scale, plot widths, and common architectural language, which sit harmoniously together. The problem accrues when much higher buildings are constructed on sites, while existing lower ones are left behind. No attempt has been made to relate higher buildings to lower ones. A new development has arisen behind a historic landmark and blurred its silhouette. They continue to cause visual intrusion to an unacceptable degree.

A grid-iron pattern of streets divided the district into primary building blocks, which were divided into rectilinear individual plots as the basis of urban form distribution. The height, width, and layout of the street greatly affects the spatial character of the pathway, and variations in these strongly determine the sense of enclosure that a user may experience.

Urban Form

Figure 3-31 Urban form of the colonial district

Urban Form

Figure 3-32 Illustration highlights the effect of massive redevelopment with an abrupt change of scale, isolating the remaining building without any possible means of integration.

Figure 3-33 The height, width and layout of the street greatly affects the spatial character of the pathway, and variations in these strongly determine the sense of enclosure that a user may experience.

Figure 3-34 The high-rise offices' main objective appears to have been self-advertised. The new developments are defined as the total contrast or negative statement.

■ PUBLIC REALM

Grid-iron street pattern is the dominant feature in the district. Street network consists of north-south streets parallel to each other and interconnect by east-west streets. Streets are characterized by their intensive commercial activity, which is marked by crowds on their sidewalks. Traffic congestion is severe, compounded by a general disregard of traffic regulations by vehicles and pedestrians alike. The street network suffers from a perpetual traffic jam during working hours. With the corresponding effects of heavy traffic generation in a critical area of the city, the protected low-traffic district had suggested operational changes, such as closed circuits and one-way streets, to decongest the area and to improve the local access of the city centre.

The district introduces formal open spaces, which present an impression of regular arrangement and a strong sense of enclosure. Equally strong supporting elements, such as the surrounding buildings, furniture and planting all assist to emphasize these impressions. Spaces in the district are for relaxation, congregation, public meetings, shopping, markets, and for residential areas. They also form part of a network for pedestrians quite separate from traffic routes. Palace Square is an important node in the urban system. Its importance as a focal point of the city was further enhanced by the introduction of significant hotels with strong visual character, a number of restaurants and shops. Abd EL Munim Square is defined as a small formed space that is uniform and symmetrical in composition. This space is provided by the same balance proportions of the classical façade.

Street

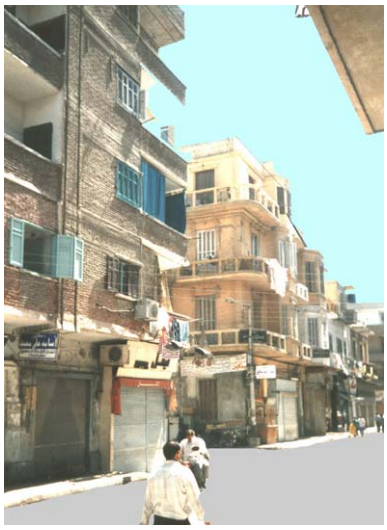

Figure 3-35 Streets are characterized by their intensive commercial activity.

Public Realm

Figure 3-36 Public realm of the colonial district

Public Space

Figure 3-37 The formality of Palace Square is reinforced by the symmetrical façade, which terminates the vista and the stately classical buildings, surround it.

Public Space

Figure 3-38 Abd EL Munim Square is defined as a small formed space that is uniform and symmetrical in composition. There are sufficient linkages of height, plot width, and scale to help the group hang together, even though there are diverse elements such as style and materials to create a much more free composition.

■ ARCHITECTURE

The buildings from the colonial period possess a certain visual prominence and uniqueness of aesthetic quality. They stand out by their unique size, shapes, contours, and decorative details. Architectural styles of the district's buildings are defined by the boulevard Western architecture with the stone facades. The replacement of Western architecture by later developments makes it more difficult now to visualize their appearance. Although in contrast to the modern style, Western architecture is more dominant in character.

While the roof line, strong modelling, and the use of the same materials, provide a close relationship and positive link of the components forming one coherent whole, the modern buildings dislocate unity by introducing different materials, different strip windows which have nothing in common with the neighbouring buildings. Society is constantly asked to assimilate new and often unfamiliar forms. Most of these are not seen in isolation, but are perceived as being sometimes violently juxtaposed with familiar images, which tend to heighten the shock of the new. The powerful reason for parting company with the materials of the surrounding area, especially for speculative developments, is to produce visual impact in the street. One of the easiest ways to create such an impression is to introduce a drastically different material, reinforced by an alien colour and finish.

Generally, in classical buildings, vertically proportioned fenestrations were counterbalanced by strong horizontal elements such as band courses and cornices. Since then, designers have increasingly tended to opt for one emphasis or the other, resulting in assertive, restless compositions, which sit uneasily in townscape. In significant buildings, vigorous surface modelling can be readily appreciated and the careful balance between the different emphasis provided by the projecting vertical and horizontal elements should be noted. Scenic and evocative potential of enriching townscape by using the profiles of buildings has been ignored. This is partly due to the influence of Modernist architecture, which banished all those delightful elements that designers in the past had exploited to the full.

The buildings were very richly endowed with a variety of materials and their elaborate deployment in decoration such as mixture of stone, faience, and brick, all assembled with heavy modelling. There has been a long period in the use of metalwork for its decorative potential. This has taken the form of balconies, grilles, rainwater goods, and door furniture. These elements provide an additional layer of decoration, which, although small in scale, can register in the townscape.

Doorways were used to express the wealth and status of the occupant as well as introducing incident and interest to the street. The modern buildings have failed to provide this essential visual information. They are often entered via identical iron doors, which achieve a more security factor. Opening windows have vertical proportions, favouring ventilation of the interior by natural convection. Subdivided glazing, which was once considered an integral part of the overall design, has declined as a common feature over the past years. Glass was originally introduced in small panes because of the prohibitive expense of larger sheets.

Corner sites and prominent sites which are likely to terminate roads and views, have more than one frontage and a potential for a striking skyline. In addition, they may be visible from even longer distances, can be seen in silhouette and, because of their exposed position can not merely be a landmark, but a major district feature. The development of the classical style allowed greater scope for innovation. Banks and public houses were often located on corner sites to give them prominence. Today, designers have ignored the question of turning a corner altogether, with often-disastrous consequences for the townscape.

A bay-to-bay of new building comparison with the neighbouring façade emphasizes the lack of any decorative elements. One significant reason for this is the current calculation of the plot ratio, for which the local authorities include the thickness of external walls. This forces designers to make these walls as thin as possible in order to maximize the floor area permitted for a particular site.

Architecture

Figure 3-39 The buildings were very richly endowed with a variety of materials.

Figure 3-40 An attempt has been made here, with the new building, to lessen the disparity of height with its illustrious neighbour, by lining through with the ground floor level.

Architecture

Figure 3-41 The desire for multi-storey building to have a distinct identity can lead to difficulties and a break with the context. In these examples, not only the bulk, but also the general form and use of materials combine to create an overpowering impression. It has destroyed the richness and coherence of this once notable street.

The facades of the colonial district have considerably less glazed areas when compared with buildings of more recent construction. The frames, with a combination of fixed and opening lights, also reduce the proportion of exposed glass. The openings also include external roller blinds, awnings, or shutters as part of the original design, unlike many modern buildings, which have large areas of much unprotected glazing. The mouldings, pilasters, cornices and other projections also provide partial solar protection to the openings and to the facade in general, especially for high angle summer sun around midday. The thick and heavy masonry walls provide favourable thermal inertia, which delays and reduces the impact of outdoor temperature peaks and solar radiation. The opening windows have vertical proportions, favouring ventilation of the interior by natural convection. The limited depth of the external rooms and vertical proportions of openings allow good natural lighting of the perimeter rooms.

However, not all of the design features of this architecture favour energy efficiency. The opening windows allow user control for natural conditioning, especially in the intermediate seasons, but also increase air infiltration. The high ceilings were useful in summer, permitting the hot air to rise, while maintaining cooler air at the lower level. However, the larger volume also increases the amount of cooled air to be handled by air conditioning systems. The high

thermal mass also means that the systems do not react so quickly to changing conditions, and require more time to cool or heat the indoor spaces.

Furthermore, the environmental conditions in the city centre have become less favourable since the beginning of the 20th century. Summer air temperatures in dense urban areas have increased as the result of waste heat produced by the air conditioning systems and that of heavy urban traffic. All these factors imply that the traditional cooling methods are less effective, as hotter outdoor air does not have the same cooling effect, while the noise, dust and air pollution discourages the use of windows for ventilating indoor spaces. These same phenomena favour the solution of sealed air-conditioned buildings that have become the norm in central areas.

The introduction of air-conditioning has allowed the desire for increased comfort to be fulfilled. However, this potential for improved comfort conditions also has economic and environmental costs, with visual and health impacts. Unit air-conditioners have been inserted in existing window openings or walls, suppressing the use of traditional cooling systems such as shading and natural ventilation. In most cases, the installation of these units has a highly unfavourable visual impact, altering the original aspect of the facades. The unit air conditioners also have a significant acoustic impact with excessive energy use and high maintenance costs. The increasing demands to incorporate central air-conditioning systems also have undesirable side effects. The visual impact of the ductwork in the interior of the building can seriously affect the patrimonial value of these spaces.

Figure 3-42 Facades have considerably less glazed areas. The mouldings, pilasters, cornices and other projections also provide partial solar protection to the openings and to the facade in general, especially for high angle summer sun around midday.

In many monumental buildings, traditional cooling measures have fallen into disuse because of later modifications, poor maintenance, general neglect, lack of understanding of natural conditioning and inadequate funding for building conservation. In some cases, the insertion of poorly integrated artificial air-conditioning systems also prevents the effective use of the traditional systems. In others, the operating mechanism of the domes has rusted, the moving louvers have been painted over, keys and handles have been lost, etc.

Another problem is the pressure of space that often results in the conversion of attic spaces and roof extensions. These improvised spaces frequently have poor thermal characteristics with high air-conditioning demands. They may even interfere with the original design intentions, as these attic spaces were originally large air cavities, insulating the floors below and ventilating the roof structure.

3.3.3 THE ABSENCE OF THE ARCHITECTURAL FEATURES OF THE MODERN DISTRICT

■ BACKGROUND

Through the seventies, the modern district of Ard Sultan was designed to cover 60.84 hectares of vacant land northern EL-Minya City. Omar Sultan Street bound it to the north, Port Said Street to the south, Ramses Street to the west and EL-Corniche Street to the east. The district was shaped by the grid system, and built according to contemporary traffic engineering standards based on the planning and buildings law. New important government institutions were located there, so that official business could be conducted efficiently. The district was established according to law No. 106/1976 related to orientation and organization of building works as amended by law No. 3/1982 and law No. 101/1996. Building regulations have substantial impact on the configuration and sustainability of the built environment. They control the size and volume of buildings, floor area ratios, projections, and heights. Their impact is not limited to the single building but it facilitates the creation of a built environment that carries specific uniform features. While the advantages of applying building regulations are numerous, they also have disadvantages if they are not written, applied, or monitored properly.

The planning of the district was based on the existence of a group of residential areas. These areas shared similar geographic characteristics and residential styles, which had been controlled by building codes. The master plan of the district had allocated certain areas for different land use such as residential, governmental zones. Moreover, types of housing (public housing, private housing,) were also determined.

District Plan

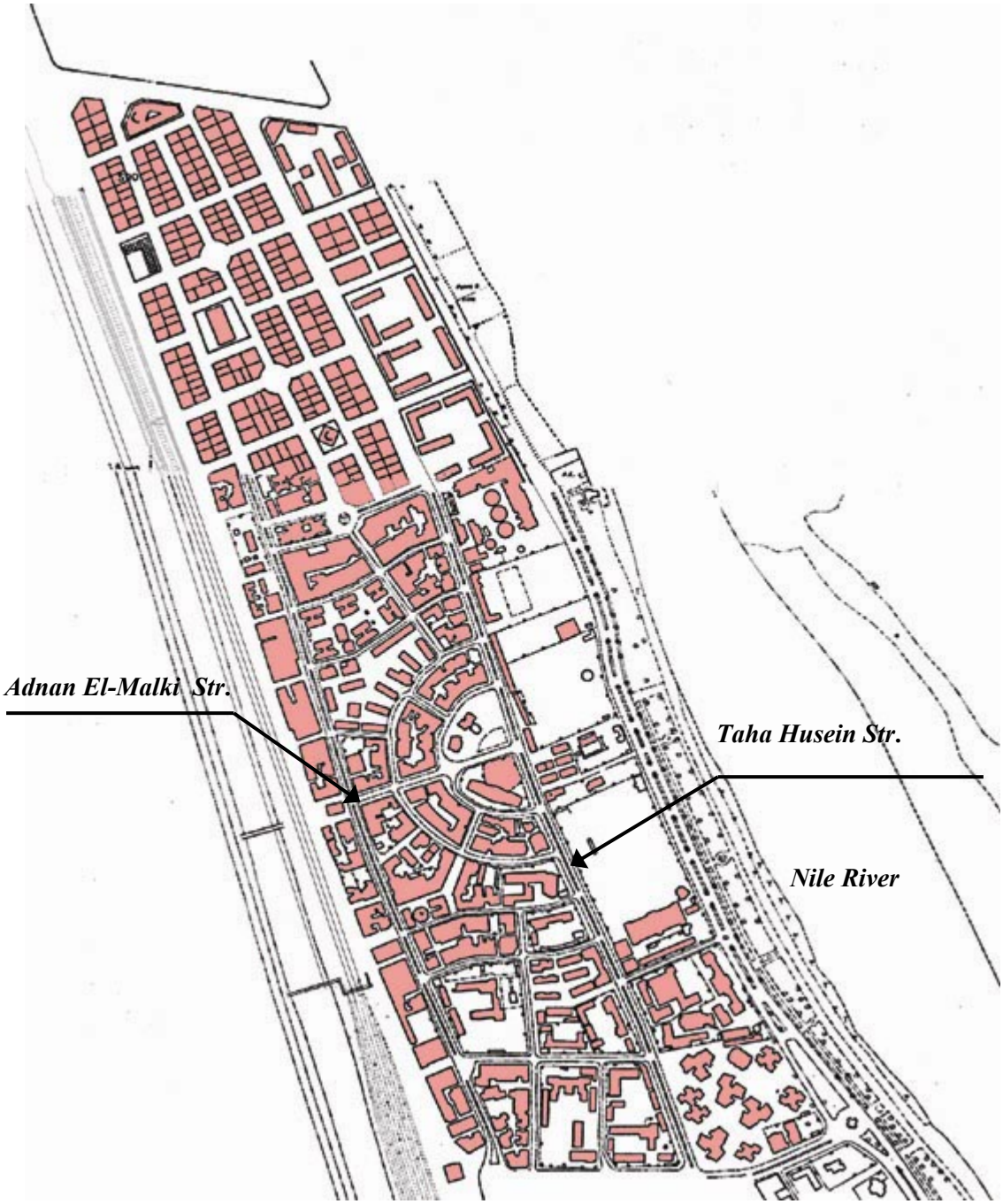

Figure 3-43 Plan of the modern district of Ard Sultan

Consequently, each residential area was visually readable, which increased the intelligibility of the urban spaces of the district. Yet as a result of weakness the authority of construction laws, the different types intermingled and formed an unclear visual image. The intelligibility has been lost and visual chaos became the main feature for the district.

■ TOWNSCAPE

It was clear that the desire for more multi-storey apartment buildings was driven by the tremendous shortage of housing in the city. Multi-storey buildings are necessitated by housing demands. The district, therefore, has many multi-storey buildings as a place of residence where many families share stairs, elevators and common spaces. The multi-storey buildings were built in the district mainly in the main street, where the law permits building height increases. In addition, a number of large-scale riverbank buildings with their sequence of private terraces overlooking the Nile were erected.

The buildings can be of a similar scale or height and yet still contribute to the general fragmentation of townscape that has occurred in most of contemporary architecture. Near misses can be almost as disruptive as those buildings, which do not attempt to relate to their context. This is especially so for any designer who is concerned to ensure that his work will eventually mature and merge with the surrounding scene.

Townscape

Figure 3-44 Multi-storey buildings dominate the skyline of the modern district

Townscape

Figure 3-45 Various visual identities in the main streets.

Figure 3-46 No attempt has been made to relate the shop-fronts to their context.

Squares in the district have not been used in a way, which creates distinctive visual landmarks. Some of these landmarks were constructed by commercial companies for advertising purposes, but in the end they did serve neither an aesthetic nor a functional purpose. Such works failed to consider the correct proportion of the construction size in

comparison to the size of streets and the speed of traffic. In addition, these ordinary and cheap examples have led to poor architectural quality. On the other hand, different buildings act as landmarks through the urban fabric of the modern district: Mosques by their minarets and huge monumental buildings.

■ URBAN FORM

Multi-storey buildings can rightly assume some prominence in the townscape by providing a focus and sense of identity for the surrounding area. However, in most cases, large-scale speculative developments have been the disruptive forms of development. They have been allowed to achieve quite an unacceptable visual dominance to the detriment of the district.

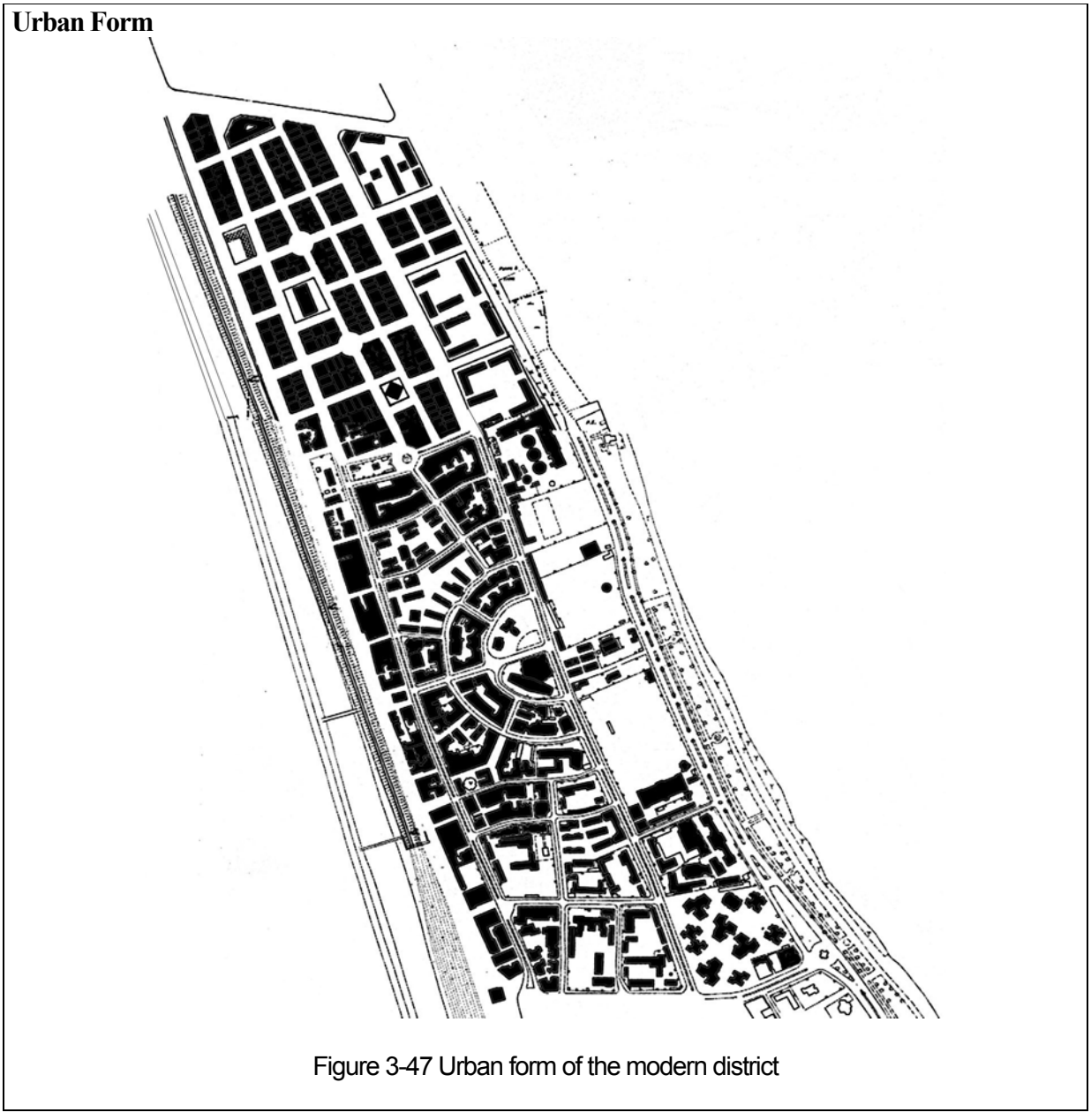

Figure 3-47 Urban form of the modern district

The physical presence of the district has been weak and visually undefined, for it lacks any special features that would lend it a sense of containment or identity. The multiplicity of points of entry, resulting from the current models of land subdivision and street arrangement that allowed detached buildings to create an excessive number of entry channels of equal importance, inevitably leads to fragmentation, weakening considerably the overall physical integrity of its structure. The absence of any hierarchy in such unified street patterns renders impossible the sense of progression towards an internalized contained entity.

Besides, the master plan did not take into consideration the provision of any possibilities for partially separating the traffic from residential areas, which could ensure safer areas for pedestrians. Crowdedness became one of the main features in various areas in the district as a direct impact of both high residential density and high intensity of commercial activities.

Urban Form

Figure 3-48 the urban form has been disrupted by large-scale speculative developments.

In general, changes made to building regulations of the city were mainly intended to enlarge the building volume and floor area. This is primarily due to political pressures from citizens to utilize their lots to produce more floor area. The enlargement of building volume and the reduction of spaces caused severe degradation to the quality of the built environment. The distance between buildings is not appropriate to maintain acceptable levels of privacy required by people of a culture that value privacy highly. Windows of different buildings face each other allowing visual intrusion into neighbour's houses.

■ PUBLIC REALM

The criteria, which define the quality of the spaces, have been ignored. Meanwhile, problems in the district could be seen through many aspects such as the following:

1. Vast residential areas, which are created by massive transportation, make people feel irrelevant to their places. People therefore, have less sense of orientation,
2. The public life in streets and squares has declined, leaving public life dependent on planned formal places, mostly in protected internal locations (shopping malls), and
3. While housing conditions and interior quality have great attention in terms of fundamentals such as lights and air, spaces which surround homes are still fragmented, noisy and visually polluted.

Public Realm

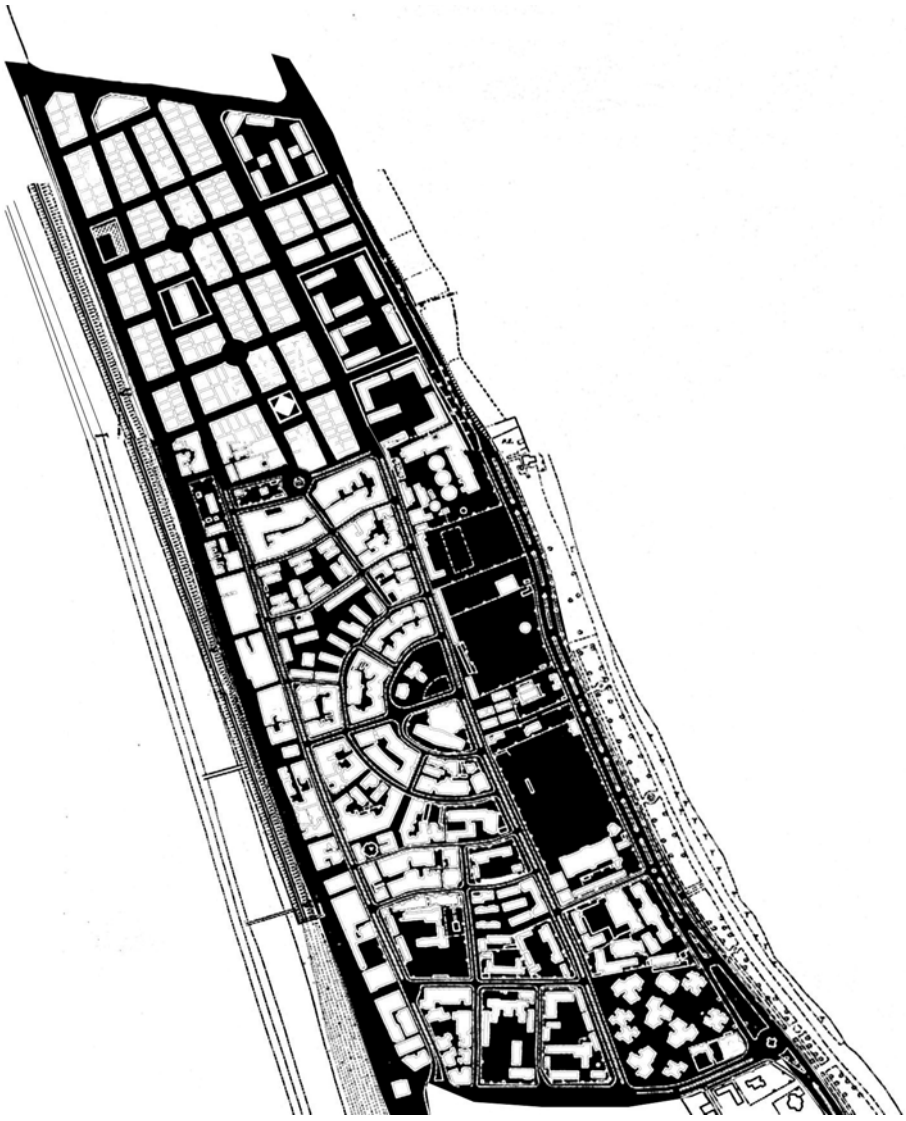

Figure 3-49 Public realm of the modern district

The streets network in the district consists of a group of main streets, stretching from north to south, and another group of streets perpendicular to the first group going from east to west. These main streets represent one of the important factors forming the mental image of the district, i.e. each street is characterized by special feature. One street is characterized by its huge commercial activity; another includes great monumental buildings, while the other street has a special public means of transportation. Generally, the visual characteristic has been strongly affected by the size of the street (width and length) and by the elements of landscape.

The internal streets lack this distinguished visual characteristic, since it is an outcome of a grid pattern streets network. This created a group of repeated and similar spaces, which had a negative impact on the clarity of the directing operation for the individuals moving inside that space.

Streets

Figure 3-50 The grid pattern planning has few surprises and for this reason can soon become monotonous.

Several changes aiming at increasing the size of building volume and floor area ratio produced a built environment very hostile to pedestrians. The increasing use of lot area resulted in an inadequate space to accommodate cars inside the lot and the inability to provide indoor parking garages. This situation forced parking of cars on the sidewalks occupying the space assigned for pedestrians. The resulting environment in the streets of the district is very hostile to pedestrians. Because cars occupy the sidewalks of the streets, it is almost impossible for pedestrians to walk on sidewalks; they are forced to use the street for walking exposing themselves to the dangers of automobiles and service vehicles.

Building regulations did not provide any guidelines to enforce the provision of green areas nor vegetation within or around buildings. The community feeling and characteristics of the traditional neighborhood, was also not maintained due to lack of spaces that allow social

contact opportunities. The occupation of sidewalks by cars reduced the chances of neighbours meeting or kids playing in the streets that are not safe for them. Unlike the traditional district where neighbours enjoyed social relationships in the narrow alleys, the contemporary neighbourhood environment encourages isolation and separation between families and neighbours. It has been observed that in buildings with a small number of units, there are good social contacts between the residents of these apartments while this is not true with large apartment blocks with many more units. Neighbours only see each other in elevators or on stairs, and have little opportunity to chat, as opposed to the open courtyard situation[1].

Through the junctions of local streets in the district, two types of open spaces that exist between the residential blocks could be figured. The green areas have two cases. Firstly, spaces, which are left in bad physical, condition without any means of regular maintenance. Secondly, open spaces that are not used for social gatherings or human activities but are used only for aesthetic functions (AL-Naser Square represents an example of these spaces). In many of these spaces, the public are not allowed in as they are surrounded by fences, which have a negative impact on the unity between inhabitants and their surrounding urban environments.

■ ARCHITECTURE

The façade of the multi-storey buildings are always accentuated by adding steel mullions between the window bays and balconies. Their elements are like a reflection of the structural elements: they assist the rigidity of the exterior surface, but are symbolic. By their nature, the multi-storey buildings are geometrically oriented. This geometry is combined with the expression of the skeletal construction and large glass panels. With the help of new types of glass, treated aluminium, and sophisticated joint details, a variety of curtain wall elevations were achieved. An ever-diminishing percentage of building costs is spent on the external face of the design, while there has been a significant increase, in percentage terms, in that spent on services. The common type of fenestration often results from a client requirement to base the external design on a strict module, to provide a variety of internal subdivisions.

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[1] This loss of public life is also problematic for children who play with neighbours. Some parents of families in multi-storey buildings indicated that one of the biggest problems with multi-storey buildings is that little immediate common space was provided for children to play in. The results indicated that the lack of such places was indeed experienced by children. The intermediate space corresponds to their life experience, which is socially and spatially a hierarchical system from public street activity to a very private life at home. In that regard, the courtyard in the traditional district provided the children with a place in which they were able to extend their life. As a result, this place became so important, meaningful, and valuable to them that they identified it as a part of their home territory. When space of this kind no longer existed in their new modern apartment unit, the quality associated with it consequently disappeared.

Architecture

Figure 3-51 The individual housing represents approach to development projects, which are identified by differentiated styles and visual characteristics.

Figure 3-52 The façade of multi-storey buildings are always accentuated by adding steel mullions between the window bays and balconies.

The resulting environment of repetitive application of building regulations produced blocks of competing buildings lacking excitement and character. The absence of any guidelines addressing style and character of buildings resulted in a mixture of styles adjacent to each other. Building regulations allow for the construction of adjoining houses without means to enforce a harmony of style or character between the two houses. The result is a mixture of adjacent styles, characters, colors, materials, forms, and shapes. The regulations do not enforce the recognition and integration of shapes between adjacent buildings, which creates an environment that lacks a coherent style and produces visual pollution.

Rapid developments in micro-technology and resulting widespread use of satellites, lifts and associated air-conditioning in a variety of buildings have led to an ever-increasing demand for space to house the mechanical plant required. In addition, in some cases, many buildings are insisting on stand-by generators to safeguard against interruptions in the supply of electrical power. While a significant percentage of this equipment can be housed underground, there will inevitably be some plant that will always need to be accommodated at roof level. Changes in regulations aimed at achieving greater safety at work have also built in spatial requirements that have led to an increase in the overall size and bulk of plant enclosures. The provision for such facilities appears regularly to be underestimated, especially in speculative developments perhaps to gain a speedy planning approval, or to achieve the maximum floorscape. While this situation continues, it will be impossible to provide satisfactory roofscapes.

Due to the inability of building regulations to solve the problem of climatic conditions within the house units, people relied on sheds in terraces to protect their houses from the burning sun of summer. These sheds are becoming a common feature in all EL-Minya districts. They are made of fabric canopies, take any shape or color according to the wishes and economic ability of the owners, and this resulted finally in the production of this visually polluted environment.


Figure 3-53 Building regulations did not force the housing owners to colour their buildings. The resulting in some cases, the building appears denuded and devoid of any surface decoration.

3.3.4 TRANSFORMATION OF THE PUBLIC-HOUSING ESTATE

■ BACKGROUND

In the sixties, during the transition from the colonial period to independence, there was a mass exodus by immigrant families in search of affordable housing. The immigration was coupled with the establishment of a number of factories in north EL-Minya that needed workers. On other hand, Israel's occupation of Sinai in 1967 increased the immigrants from the cities of the Suze Canal. By 1965, there was a first attempt to solve the emerging housing problems by founding the government housing schemes in the new district of Ard AL-Mowled on the south-east peripheries of the traditional district. AL-Bahr AL-Azam Street penetrates the district, dividing it into two parts.

Site Plan

Figure 3-54 Plan of the public housing estate of Ard Al-Mowled

The public housing estate of Ard AL-Mowled had been and were still undergoing some kind of transformation activity. The causes for public housing transformation could be summarized as follows:

1. Family growth calls for expansion of floor area which can be done either by extension to existing floors or by addition of new ones,
2. The availability of long term loans, with no interest, for maintenance, restoration, or rebuilding of provided public housing,
3. The relatively cheap cost, and fast speed, of constructing additions out of light weight metal components, and
4. The unclear restrictions for violations of building laws and regulations, as well as the weak enforcement of penalties on some violations and the turning of a blind-eye on others.

■ TOWNSCAPE

The area is marked by intensive over-crowding and rather abandoned public spaces. There is no visually interesting space created by a group of blocks enclosing a playground or green area. One can scan the site from one side to the other without any visual break. While the blocks have the same heights, the skyline is also scarcely silence.

Extreme overcrowding is found inside the housing units and the second generation in some houses continues to live in the same family unit after marriage. Such living conditions demand that all available space be made useful. The houses have been completely changed, both inside and outside. The kitchen is used as an extra sleeping space after taking off the sink; balconies and terraces were closed and used for activities such as cooking or storing. It is common to raise chickens on the balconies, and to feed them the leftovers of the family meal. Annexes have been built in the small gardens and storeys added.

Conditions inside the households are generally very poor. Only in those cases where a member of the family has been working outside of Egypt can higher standards of living be found. The difference is usually reflected in the ownership of consumer durables especially electrical appliances, and fresh paint on both the inside and outside of the housing unit which is usually of a colour different from the rest of the building and of the block, making the unit conspicuous and breaking the uniformity of design. This newly acquired wealth has little effect on the life style of the members of the household who continue to live under practically the same conditions as their poorer neighbours. The general pattern of living tends to be rural in quality, reflecting the provincial origins of the residents who maintain their own repertoire of rural values and live accordingly, even after having moved to the city. The public housing environment in EL-Minya is therefore typically provincial.

Townscape

Figure 3-55 The housing showed a tendency to intensify the use of available space inside the units.

■ URBAN FORM

The site is typified by grid-iron plans with perpendicular intersecting rows of block. Buildings were isolated from each other and dependent on the street rather than focused on their interior courtyards. It has not been planned according to urban planning aspects based on neighbourhood unit structure. In addition, the concept of hierarchical structure of the urban pattern has been ignored.

The housing units varied from 59 sq m to 72 sq m, the average being 65.5 sq m. Plans did not provide for social and physical services and the programme was completed hastily. Population density was rather high with about 476 persons per hectare, the recommended density being 357. The blocks have the same façade, the same heights, and the same repeated rhythm. The spaces between the blocks are insufficient to create an appropriate privacy. Although balconies are provided, they are seldom used except for drying clothes or storing. This is because visual privacy is not protected. For this reason, windows are mostly closed or curtained, with heavy materials.

Urban Form

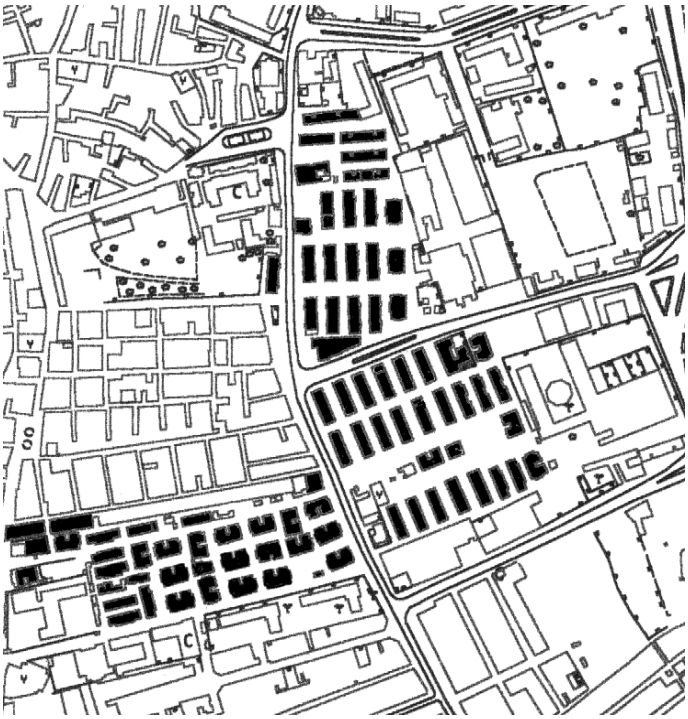


Figure 3-56 Urban form of the public housing estate of Ard AL-Mowled

While the housing blocks are distributed in the east-west orientation, this hinders the breeze from the northern direction and sun from the southern direction. The building facades also lack any projection to protect the indoor spaces from the sun's radiation. Moreover, the distances between adjacent blocks are insufficient to achieve the necessary lighting and ventilation.

Figure 3-57 While visual privacy is not protected, windows are mostly closed or curtained, with heavy materials.

Figure 3-58 The layout of the site was much the same consisting of apartment blocks constructed parallel to one another.

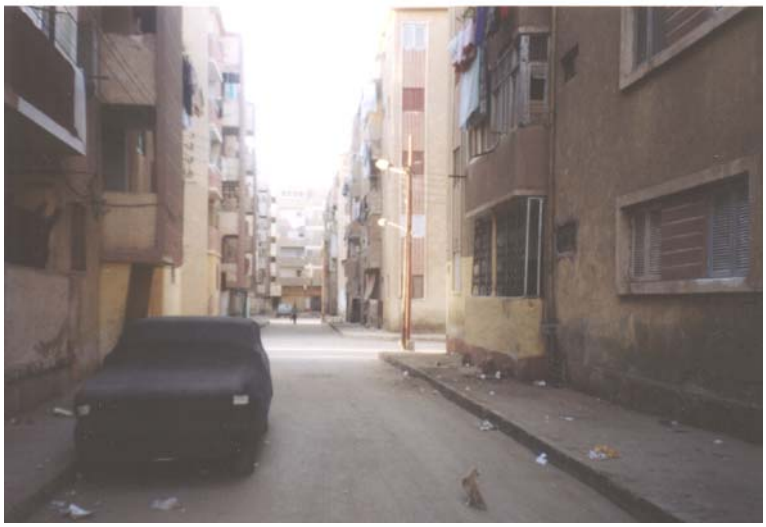


Figure 3-59 Distances between adjacent blocks are insufficient to achieve the necessary lighting and ventilation

■ PUBLIC REALM

Residential exterior spaces are unsympathetic to and inadequate for the user's needs, life style, and socio-cultural conditions. In the design of these schemes, neither the physical nor the aesthetic characteristics of the outdoor spaces nor their functions and uses have been considered. Streets have become mere vehicular channels without any definition and public use. The general appearance of the district does not reflect a logical balance between the open spaces and built-up spaces; rather they present a monotonous view of a group of concrete blocks. Hence, these spaces seem to have no meaning for their owners.

No attempt was made to provide open green spaces, and the essential social and physical services were lacking. The spaces between the blocks, initially intended as green areas, have been turned instead into rubbish disposal and sewage leakage areas, thus transforming them into slums. There has been an attempt to create green spaces within the residential blocks by some inhabitants, so, the residential area is sometimes broken up by small green lots between the blocks. Such initiatives provided shaded and pleasant spaces for men to meet outside their dwellings and compensated to some extent for the small size of the flats. The appropriation of such public spaces was not necessarily done by households living on the ground floor apartments but also by the residents of the upper floors. Such initiatives presented several advantages. Not only did they reduce the scale of the public spaces, which are rarely landscaped and maintained, they also created important privacy buffers between the ground floor flats and the public spaces. The cumulative effect of residents' different initiatives led in some cases to a naturally occurring complexity and variety in the external environment and improved the overall appearance of the estate.

The community facilities in the district provide the commercial and social amenities for the daily lives of residents. A market stall with a few food shops is situated at the other side of the main estate road facing the dwelling blocks. There are two kindergartens and two primary schools in the adjacent districts. Several small car parks are scattered around in the estates.

Public Realm

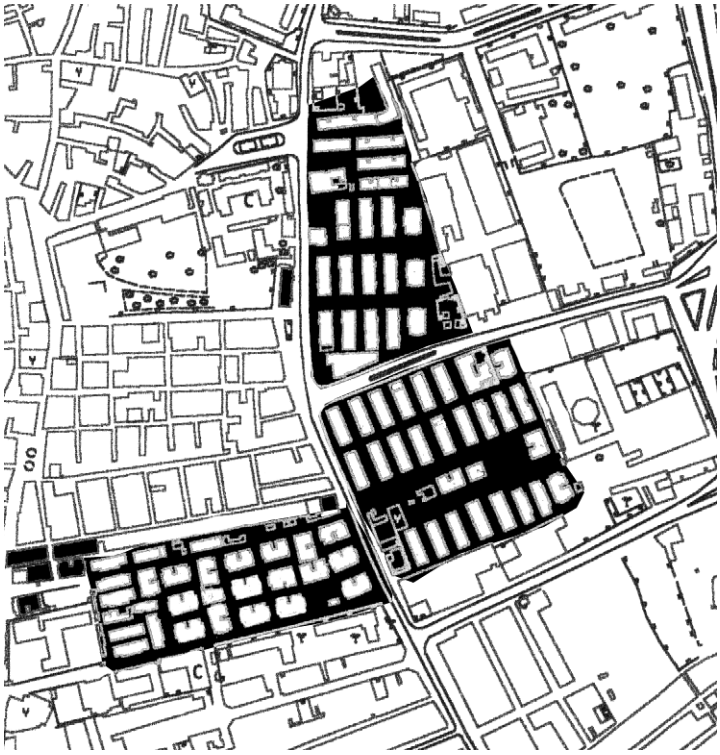


Figure 3-60 Public realm of the public housing estate of Ard Al-Mowled

Figure 3-61 Residential exterior spaces are unsympathetic to and inadequate for the user's needs.

■ ARCHITECTURE

The building facade was categorised into open and closed elements. The open elements include windows, balconies, and building entry on ground floors. The closed areas include solid elements like structural walls. The activities that take place on balconies - laundry, planting and storage, all contribute to the transformation of the building facade. Adding a steel cage or a canopy over windows and closing up the balcony are also a result of these activities. These activities were classified into two main categories: interior and exterior transformations.

Inside transformations embrace;

1. Modifying the use of spaces such as kitchens converted into bedrooms or workrooms, balconies converted into kitchens, and toilets are used for dish washing, keeping poultry, or storage,
2. Modifying interior walls so as to change the size of a room, and
3. Smaller modifications such as repositioning doors, using curtains to separate spaces for privacy reasons, and providing extra storage space by building wall closets or false ceilings.

While outside transformations embrace;

1. Closing up parapets of exposed balconies for privacy,
2. Enclosing balconies for use as an extra room or as an extension of an existing room,
3. Making openings in flank walls of blocks for new windows, and
4. Appropriating public open spaces for extensions, which were carried out in two directions: vertically and horizontally.

- **Vertical extensions:** These were usually carried out by top floor dwellers and used for keeping animals, storage, and used as living spaces. Access was gained through an opening made either in the ceiling of the existing dwelling or in the roof of the public staircase. Initially, roof extensions were made of lightweight scavenged materials (tin sheet, wood, plastic and cloth), but as the threat of possible demolition by authorities was gradually reduced, they were replaced by brick walls and concrete roof slabs.
- **Horizontal extensions:** Ground floor dwellers would often start by appropriating a piece of public land adjacent to the dwelling unit by enclosing it in order to make a private garden. Later, they would start building extensions inside their gardens. Extension activities varied from expanding an existing room to adding a complete new dwelling to the existing unit. In early stages of transformation, extensions were often built out of scavenged materials from fear of government retaliation, but they were subsequently replaced by more durable structures consisting of load bearing masonry walls concrete or corrugated sheet roofs. Ground floor extensions located on main streets were often used to accommodate a shop or other business.

The analysis showed a control power issue in building facade design. The facade elements decided by the designer and controlled by the developer reflect the authority's view to the building, especially the open elements where decoration is often made according to the designer's housing image. The users usually modified and changed the open elements to meet their own needs for security, home identity and other functional purposes. The lesson that can be learnt is that the design of open elements should be flexible leaving room for user initiatives. A designer can then concentrate on designing and beautifying the closed elements.

Figure 3-62 Buildings are not well kept, for example, water, sewerage leakage is obvious on outside walls, and exterior plaster is falling off.

3.3.5 ENVIRONMENTAL DEGRADATION OF THE INFORMAL SETTLEMENT

■ BACKGROUND

The informal settlement of Mecca is a typical example of what results from encroachment on arable land by informal and squatter housing, a situation that has been worsening in the last twenty years due to urban sprawl. The district, originally an area of rich fertile land ideally suited for agriculture, extended to the south of EL-Minya up to the 1960s. Since the seventies, however, it has undergone significant changes in its ecological structure and socio-economic framework.

The farmers who used to cultivate the land sold out for a variety of reasons. First, there is no primogeniture in Egypt, so farms shrink through subdivision from inheritance; they are also uneconomically narrow because of the requirement that everyone has access both to the nearest road and to water. When the plot becomes too small to earn a livelihood and landowners refuse to rent to tenant farmers, the only choice is to sell. Then, as farmers sell out and an area begins to be built up, it becomes difficult for the remaining farmers to maintain a proper farm because people trespass and destroy the crops.

In early stages, the availability of water is the most important factor, while electricity and sewerage are less important since power can be obtained by other means such as kerosene lamps and the problem of sewerage can be resolved by the installation of septic or holding tanks. Once an informal settlement of Mecca took the form of a permanent residential community, residents requested recognition and the government had no choice but to accept this reality and tried to extend public utilities to these areas. They may have had to wait for years before services were extended but utility services to the settlement were generally poor.

Then it began to grow, the district saw disarray, in this time by the city municipality, when it established low-cost housing in the area. The reason was to accommodate a number of families whose houses had fallen to ruin. The low-cost housing with "legal" status sheltered a large number of families who had been living in several parts of the neighbourhood between buildings although the units were built of different materials and were meant to be only temporary.

The actual urbanization of Mecca district started in the 1980s, subsequent to the increasing migration of labourers to other Arab states. The area became an attractive target for the returning migrant workers who were able to save money and came back to Minya looking for residences. The district was ideal for investing in new construction sites because of its proximity to Minya and the cheaper land prices compared to districts within the city. However, this resulted in the building of unlicensed houses and the proliferation of several squatter

settlements in the area. With time, the district became a preferred site for informal housing projects, their development proceeding without any kind of systematic or formal planning. Because any form of infrastructure is generally absent, self-help building always goes along with self-help urbanism, meaning that not only one's own house must be constructed, but also the subdivided land must be equipped with basic infrastructure to make it habitable.

The settlers are for the most part young low-income families. Many houses are no longer inhabited by nuclear families, but by extended families, encompassing several households and generations. Owners or their relatives, who are often their married sons, occupy more than half of the individual apartments within the buildings. Indeed, it appears to be an ideal for an owner to provide a separate apartment within his building for each of his sons when they get married.

Informal Settlement Plan

Figure 3-63 Plan of the informal settlement of Mecca

■ TOWNSCAPE

Settlement planning and building produced a very homogeneous characteristic with a rigid grid. There is no visually interesting space and the buildings create an unplanned skyline. While the legal restrictions are not strictly enforced, the dwellings are expected to grow with adequate household affordability. The tendency to grow in height is observed especially in the new buildings, which are constructed as 4-5 stories in reinforced concrete.

The district is generally characterized by high density and constant transformation. Their development over time results in a mixed-use settlement with integrated shops, workshops, and community facilities such as mosques and cafes. Social relations develop over time and result in a strong sense of community.

Large areas of informal settlement of Mecca have a rural character, because many inhabitants who come to the city from rural areas keep their traditions. Raising animals and poultry is common, and the social characteristics are very much the same as in the villages. There is no system of garbage collection and garbage is generally left in open areas and pavements, creating unsanitary conditions.

Townscape

Figure 3-64 Large areas of the informal settlement of Mecca have a rural character.

Figure 3-65 While the legal restrictions are not strictly enforced, the dwellings are expected to grow with adequate household affordability.

■ URBAN FORM

The settlement of Mecca has been growing fast. Those responsible for illegal subdivisions do so without any compliance with planning standards for street width and public open spaces. Thus, the settlement represents a purely quantitative optimization; qualitative viewpoints - topography, sun exposure, etc.

The width of the original agricultural plot dictates the form of the streets and houses; the settlement grows through the duplication of narrow streets of four or five meters lined with rows of houses built to fit onto the original agricultural plot, with cul-de-sac added if the house rows become too thick; occasionally a short perpendicular road cuts through.

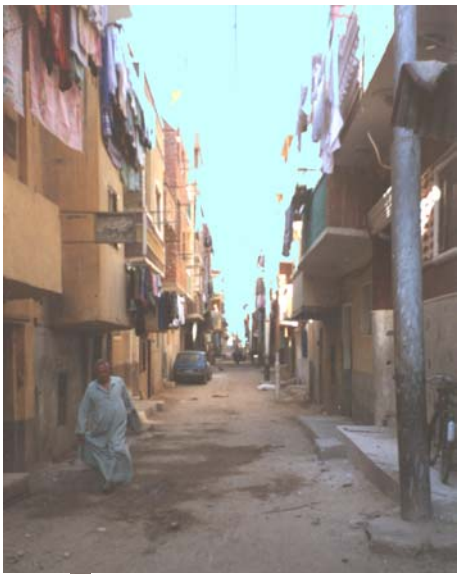
Urban Form

Figure 3-66 Urban form of the informal settlement of Mecca

The blocks are very regular, reflecting the original boundaries of this carefully surveyed agricultural land, precision being important where inheritance is involved. Within the blocks, the aspect can be haphazard, however; the depth is fixed, but façade width is very flexible, and building height is not restricted except by the owner's available funds.

The district today has a population of 50,000 and measures approximately 84 hectares. Nearly all plots are occupied; the settlement density is about 595 inhabitants per hectare. The building blocks encompass 30 to 60 plots, sizes of which vary from 60 to 100 sq m. The smallest plots, of less than 60 sq m, comprised less than 30% of the total in the early stages, but increased as the land value increased; the largest lots decreased correspondingly in number, and the number of middle-sized plots of 60 to 100 sq m has also begun to shrank.

Figure 3-67 The linear form of Mecca district corresponds to the definition of the intention maximized land use.



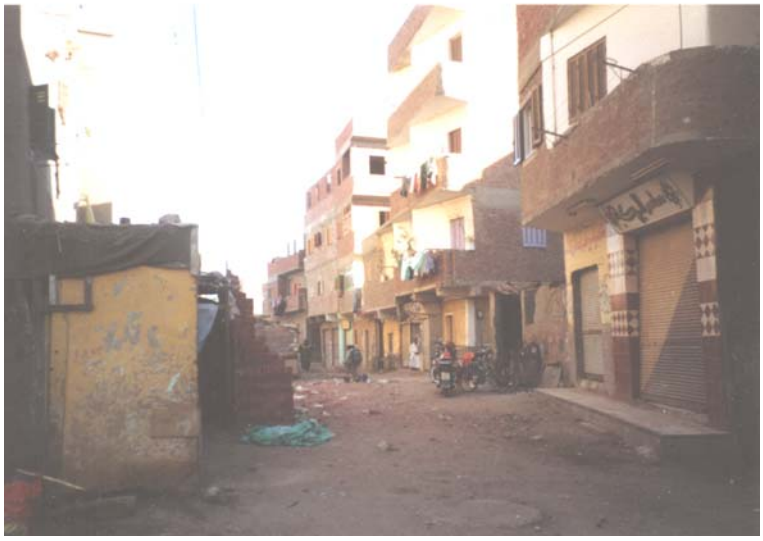


Figure 3-68 The intensive combination of living and working is one of the most important characteristics of the settlement.

■ PUBLIC REALM

Because the land is bought and sold by poor people, public land is rare: neither the buyer nor the seller can afford to sacrifice an inch of property to a public facility. The settlement, therefore, does not have any health centres or socio-cultural facilities. Of community buildings, only mosques are abundant because the people are willing to pay for them. They are built either on the ground floor of someone's building or on a separate lot through pooled labor and resources of the people in the settlement. However, social centers, community centers, health facilities, police, and fire departments are all nonexistent. On the other hand, one finds the stores and shops, which develop along the access and main streets spontaneously. Stores push themselves out towards the street where street vendors occupy every niche, and the weekly markets block traffic.

Public Realm

Figure 3-69 Public realm of the informal settlement of Mecca

The activities identified fall into five broad categories: (i) Services (including activities like dress making, watch repairing, tailoring, shoe making, radio servicing, typing and photography, (ii) Food processing and sales (including baking, brewing etc.), (iii) Retailing (including stores, groceries), (iv) Light manufacturing (including production of furniture, metal works, corn milling) and (v) Construction (including house building masonry and block making).

Because public space is absent, the street functions as the local place, where people meet and communicate. The streets, which compensate to a certain extent for the lack of open space and sport fields, are also the playground for children. On the other hand, the main streets are ruled by dense traffic, whereby buses, taxis, and commercial vehicles dominate.

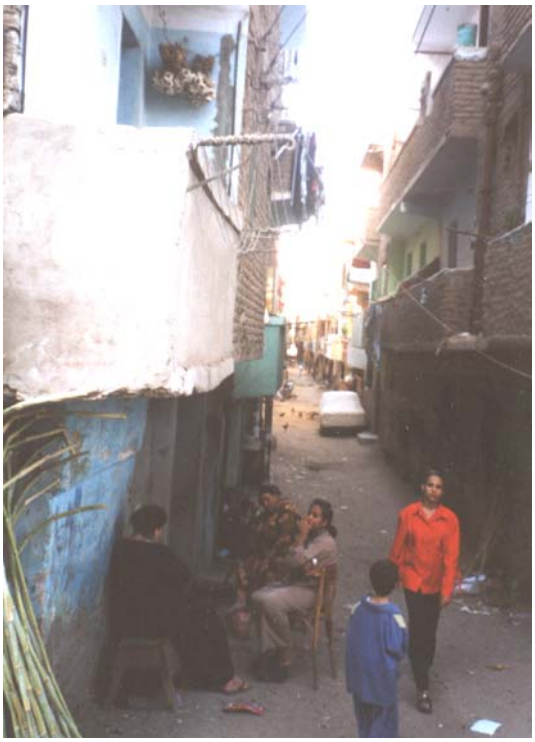


Figure 3-70 Because public space is absent, the main street functions as the local place, where people meet and communicate.

The rare open spaces shrink in size and new shortages in technical infrastructure that are appear, because the improved networks cannot handle the pressure of rising densities and commercialization. The current private development in the settlement is more concerned with meeting the individual household needs (land allocation and shelter construction) of its increasing inhabitants rather than with introducing community facilities and utilities into the area. The provision of an infrastructure is also too difficult and expensive. Septic tanks, which

are used for covering these necessities, created many environmental problems. Most of the time, they overflow onto the streets, mix with ground water and create very bad smells.

Residents get rid of their daily garbage by carrying it in plastic bags to a central collection sites on the street. The garbage eventually is strewn across the street because there are no garbage containers. Most residents pay a private garbage collector, who comes rarely. This condition in the district promotes air pollution, vector borne diseases, and undesirable smells.

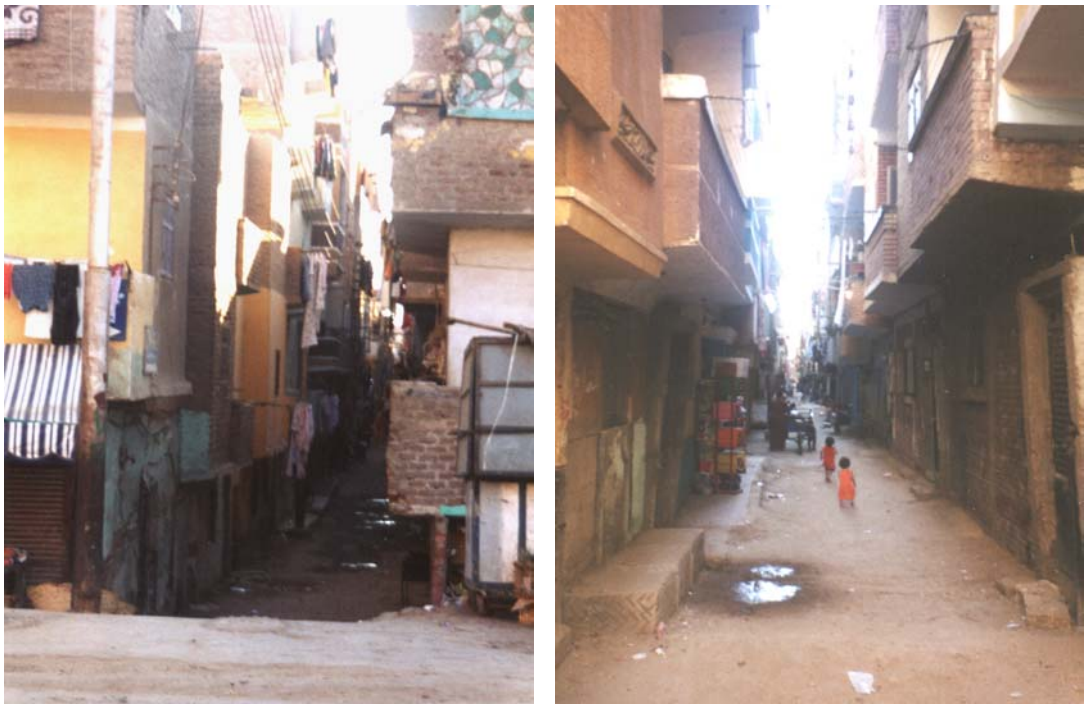


Figure 3-71 The environmental condition of the district has suffered mainly from air pollution and lack of sunlight and ventilation

Ground floor tenants always keep the windows overlooking the street shut, even if they are the only windows to their room. This behaviour leads to poorly lit and poorly ventilated ground floor rooms. Furthermore, the district is famous for its numerous workshops namely: carpentry, metalwork, and shoe making. Wood dust blow freely in the air since many of these workshops extended outside the private domain of the workshop onto the street. Such waste materials as fine wood dust relate to health problems and are source of noise.

■ ARCHITECTURE

The enormous capacity to integrate small and large, low and high, poor and wealthy houses in a compact building block is surely one of the most remarkable qualities of the informal settlement of Mecca. The houses have courtyards, which have been reduced to small tiny courtyards, hardly capable of bringing some light into the backward rooms.

The houses serve not just for living purposes, but also in some cases for economic livelihood. The house, therefore, is always a consumptive as well as productive investment, which - when-ever possible - creates income. That is why commercial activities, from street trade and rudimentary shops, occur in some houses.

The houses of the settlement are built in “professional self help" because many men work in the construction field and practically the entire adult population has experience in self-help construction. Naturally, relatives, neighbours, and friends participate in building the house, but this help is paid off in kind. A part from masons, practically all professions like locksmiths, carpenters, and electricians are found on the periphery, working informally yet competently. On the other hand, houses with four storeys are usually no longer constructed by self-help, but in a professional manner.

A particular building technique has evolved in the informal settlements: a minimal concrete skeleton, filled in with bricks or stones of concrete. The technique is mastered by every experienced mason and the material - cement, steel, bricks - is available everywhere on the periphery. The unfinished buildings appear as shabby construction sites for years, but can be quickly transformed into a house when resources permit. Many details can be found in informal buildings such as the protruding ceiling which protects the facade from sun and rain and which is later converted into a balcony or loggia.

Self-built houses grow as rapidly as they fall into decay if the necessary care is lacking; this is demonstrated by many half-finished, but already visibly aged houses. Plaster and color are not added until very late, exposing the half-finished houses to wind and weather, causing corrosion, damage to the walls and leaky roofs. Wall and ceiling connections, windows, and doors are often makeshift; also, the complicated house form enforces the susceptibility to damage of all types.

Figure 3-72 Self-built houses grow as rapidly as they fall into decay.

Figure 3-73 The informal building is not a traditional nor a modern house, but a mixed or hybrid.

Figure 3-74 Building standards are not much lower than formal housing. The same building materials and finishes are used: a reinforced concrete skeleton with red brick walls.

The low-cost housing units in the district varied from 25 sq m to 65 sq m., the average being 52 sq m. To cut costs and time of construction, poor finishing materials were used and nobody insisted on good workmanship. The result was a fast deterioration of these buildings in inappropriate locations. In general, the housing is characterised by very poor physical

conditions both inside and outside the residential units. Hygienic standards are very low, and maintenance is minimal. To an outside observer, the environment in this area is no different from that in any slum; in some cases, it is abominably inhuman.

Signs of unauthorised development in the low-cost housing project in Mecca district are numerous and mainly manifested in additions to buildings, in violation to applied building laws and regulations that could have a negative effect if constructed in this haphazard and unplanned fashion. Users occupying ground floor flats usually modified this space and transformed it for private use. e.g. When many ground floor households opened a small shop at home, they demolished the front balconies and reused them as hallways. Some households even built a small building extension in this space.

Figure 3-75 To cut costs of the low-cost housing, poor finishing materials were used. The result was a fast deterioration of these buildings

Figure 3-76 The low-cost housing with "legal" status sheltered a large number of families who had been living in several parts between buildings.

Figure 3-77 Users occupying ground floor flats usually modified this space and transformed it for private use.

3.4 CONCLUSION

The city of EL-Minya represents an agglomeration of several and sharply contrasting entities. Each has possessed unifying physical and environmental characteristics. Therefore, the city became highly distinct by the heterogeneity of its urban form and the interacting different developments. The resulting pattern is a multi-layered assimilation of several political, social, and economical influences. In order to create a coherent urban entity and improve the built environment of the city as whole, it requires connecting the overall agglomeration and reinforcing the visual qualities of each pattern.

The more subtle physical changes at the micro-level of the traditional district has to be seen against the background of major socio-economic transformations, which have affected the old city since the middle of this century. The form and structure of the district has suffered substantially from, insufficient infrastructure, amenities, and social facilities and is inhabited by crowded, predominantly poor population. The economic activity level has increased and exerted considerable pressure on the structure fabric. At the same time, the local production change from the traditional crafts to semi-industrial manufacturing processes causes congestion and creates precarious environmental conditions. The proposal for the rehabilitation of the district in this condition should enhance the quality of the environment and consider the disordered open spaces.

The colonial district was exposed to massive redevelopment, which completely ignored the existence of historic buildings and exacerbated the existing rupture between old and modern. The new buildings in the district are contrasting buildings to the historic tissue and this can be considered as a weakness as well as a negative factor, which contributes to the loss of identity and character in the area. However, the effect of these buildings can be diluted through the strength and protection of the historical and cultural heritage. Although the later legislation prohibited any demolition within a conservation area without prior consent, the idea of contexture of building with a respect for its context did not begin to be recognized.

In modern district, building regulations have a great impact on the formation of its built environment in general and housing in specific. However, these regulations depend on the practicing and the existence of a legal force. Furthermore, they are required to help provide more sustainable environments for the future.

The method used to create the public housing scheme of Ard AL-Mowled was simply grouping the standard dwelling units horizontally and then repeating the plan vertically. The resulting appearance and exterior form of the buildings is comparatively dull and monotonous. As a result of the inappropriateness and failure to respond to users needs, many families decided to take over their housing and started engaging in informal building activities inside the formal district. The public housing estate of Ard AL-Mowled, thus, had been and was still undergoing some kind of transformation activity.

It has been observed also that the usual method of designing housing projects usually neglects the need for open spaces. In fact, the spaces around dwellings have great importance in both creating and enhancing social interaction among residents and enriching their daily life in individual units - especially in hot climates.

Compared to the conditions found in the public housing of Ard AL-Mowled, the informal district of Mecca are much better. Informal district requires no subsidy from the government - the financing system works more or less automatically –and can therefore keep up with demand, in contrast to the public housing, the government provides which lags far behind. Both construction and building maintenance are at a high level compared with public housing, even though these buildings are officially substandard. Improving the existing urban environment of the district is needed for a sensitive upgrading process. This should involve installing basic services and facilities on the one hand, while retaining the existing housing stock on the other.