

“an international model city,
where one could find
the beauty of Vienna
and the elegance of Paris”

-

Advertisement by the
Ministry of Waqfs

1948

MOHANDESSIN

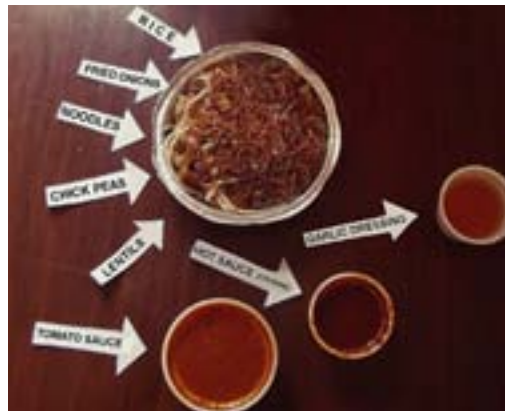
THOMAS KELLER, TOMAS POLACH
ETH Studio Basel Contemporary City Institute

THE MIDDLE EAST STUDIO
Wintersemester 2010

Prof. Jacques Herzog
Prof. Pierre de Meuron
Manuel Herz
Shadi Rahbaran
Ying Zhou

WITH SPECIAL THANKS TO:
Omar Negati, teaches at MAS, Cairo
Dr. Dina Shehayeb, teaches at MSA, Cairo
Tuline Osman, student at MSA, Cairo
Sarah Shalaby, student at MSA, Cairo

DRAFT
© ETH Studio Basel



Koshery ['koʃæri]

A popular traditional Egyptian national dish. It consists of a base of rice, brown lentils, chickpeas, macaroni, and a topping of Egyptian garlic, vinegar and spicy tomato sauce.

Preface

Mohandessin ¹, is commonly described as a upscale neighbourhood providing a wide range of entertainment, amenities and shopping possibilities. It's a representative main axis named Game'et el Dowal Al Arabiya designed as prestigious boulevard never sleeps and is not only therefore well-known even outside of Egypt.

But there is also another side only the residents are familiar with. As Americans use to say that “America is a melting pot”, one can state that Mohandessin is a Koshery. As one of the most popular Egyptian dishes it combines in a harmonic and tasteful way all the ingredients that are representative for the Egyptian culture. So does Mohandessin. Several different social Groups seem to coexist in a sustainable manner, sharing their capabilities, resources and means. This research has a focus on the deeper understanding of this specific structure and the ambition to unveil it's potentials.

“Bil hana we shifa!” ²

¹ Arabic; could also be spelled Mohandesin or Mohandeseen

² Arbabic for: Bon Appetit!

Intention

Since every human has a body, head, eyes and so on one could state that we all are equal.

And though we all are different.

Only by accepting this dialectic, the synchronous validity of different perceptions and it's immanent self contradiction, one can grasp a larger picture of things. According to this concept of perception we structure our research in two parts.

City

A universal approach of description that can be applied on every city for reasons of comparison.

Identity

A individual approach which in its structure and process is as unique as Mohandessin itself.

City

1

6 **preface**

2

18 **history**

23 fishermen villages

25 expansion to the west

27 modernists movement

29 arab socialism

31 transit corridor

33 central business district

3

36 **urban portrait**

living

39 building heights

41 density

43 street lighting

45 planned and unplanned areas

moving

47 street network

49 traffic congestion

51 gated areas

53 physical borders

55 water and drainage system

working

57 income classes

59 solid waste management

recreation

61 vegetation

learning

63 educational facilities

65 street names

Identity

4

68 methodology



4.1

72 the Solids

typologies

- 76 sport clubs
- 80 game'et el dawal al arabiya
- 88 former villages
- 98 education and culture facilities
- 102 micro parks



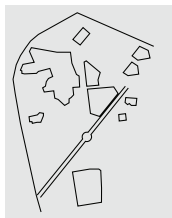
4.2

106 the Mesh

109 characteristics

elements

- 112 urban block
- 120 building
- 124 street



4.3

130 the Interfaces

131 territorial production

133 border situations

- 136 car workshops
- 140 shopping habits
- 144 open boundaries
- 148 corridors
- 154 26 july street
- 158 shopping fence
- 164 solid waste logistics

5

169 conclusion

6

180 bibliography



Greater Cairo

DRAFT
© ETH Studio Basel



Mohandessin

0 0.2 0.4 1km

DRAFT
© ETH Studio Basel

2. History

History

Mohandessin has been subject to a constantly transformation, although it was founded only 55 years ago. During this time many economical, political and social changes occurred. In cause of the Egyptian revolution in 1952 the population increased by the emigrants from the rural villages. The district turned from a scenically villa neighbourhood to a crowded social residential block district. Later Mohandessin became an attraction point for new businesses due to its location and the efficient connection to the infrastructure of Cairo. In the last 10 years it is turning into a high-dense central business district.



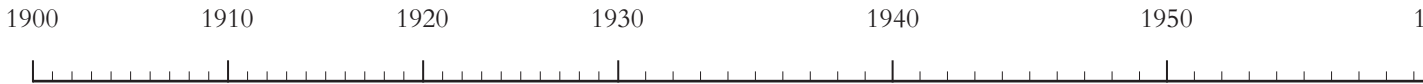
Miet Okba 1965

History of Mohandessin

Fishermen Villages

Modernists Movement

Expansion to the West Bank of the Nile



10.12.1902
opening of the Old Aswan Dam designed by the British engineer William Willcocks

1933
height of the Aswan Dam improved: stabilisation of the west bank of the Nile

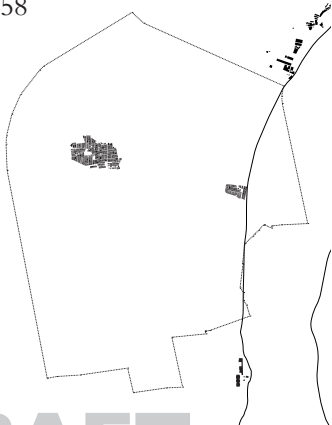
22.03.1945
Arab league facilitates: political, economic, cultural, scientific and social programs

23.07.1952
Egyptian revolution: Free Officers Movement by Gamal Abdel Nasser

Population [mio]

Greater Cairo	0.4	1.7	2.9
Giza City	-	-	0.5

1858



1929



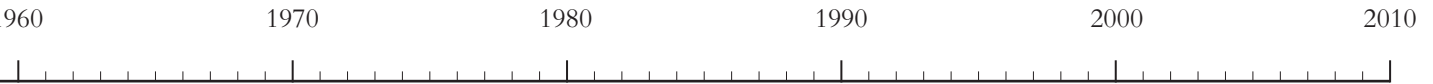
1958



Central Business District

Arab Socialism

Transit Corridor



1955
Syndicate of Engineers bought land parts and named it Mohandessin

1975 - 90
densification: villas replaced by prefabricated high rise housing constructions

1998
opening of the 26 of July street transit corridor through Miet Okba

1990 - 2010
gentrification: Mohandessin developing into a commercial business district

8.0
1.9

14.0
2.4

16.0
2.8

1985



1998



2010



DRAFT
© ETH Studio Basel

Fishermen Villages

In the course of time the shoreline of the Nile was extremely unstable. The river reached wide into the today's land. On the west bank of the Nile the Egyptian founded some fishermen villages like Hideya. The inhabitants were specialised to interact with the Nile producing small boats and fishing professionally.

More inside the land farmer villages like Miet Okba were located. This population was focused on the agrarian land use. Irrigation canals that structured the land were built to produce a fertile crop. There was a large exchange and transfer of alimantal goods between these small villages and the city of Cairo but the Nile made the way from the west bank to the east bank very hard.

map 2.1
1858





Expansion to the West Bank of the Nile

The opening of the Aswan Low Dam developed by British engineers in 1902 stabilized the west bank of the Nile. By the regulation of the leaked water volume the shoreline of the Nile came nearer to Cairo Centre. Bridges enabled people to expand on the west bank of the Nile.

The first master plan for the whole area was developed by order of the Ministry of Waqs, the owner of the whole land except the old villages. The Waqf is an endowment serving as an instrument of public policy and impacts on all aspects of Muslim life, including access to land and redistribution of wealth.

The master plan was designed by Mahbub in 1934/35. The proposal included a central park, a green belt bordering the limits of the estate, a large area reserved for sport clubs, wide arterial roads and curved secondary streets. This extension showed the same principles as the British Garden City movement which were familiar to Mahbub. Due to the Building Act that controlled the subdivision of land for building purposes the master plan for a government residential estate got abandoned.

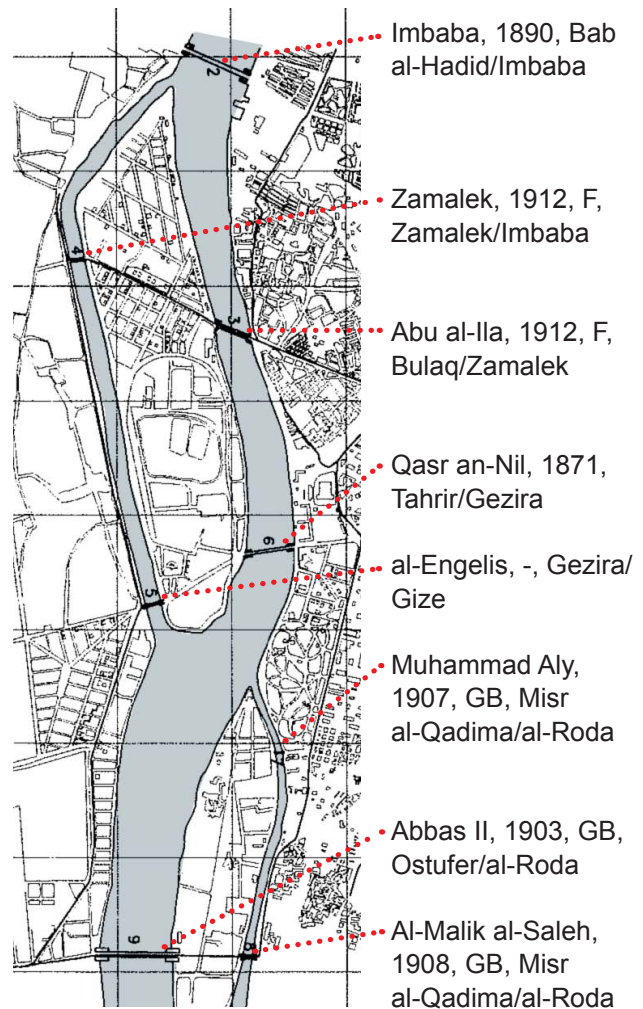


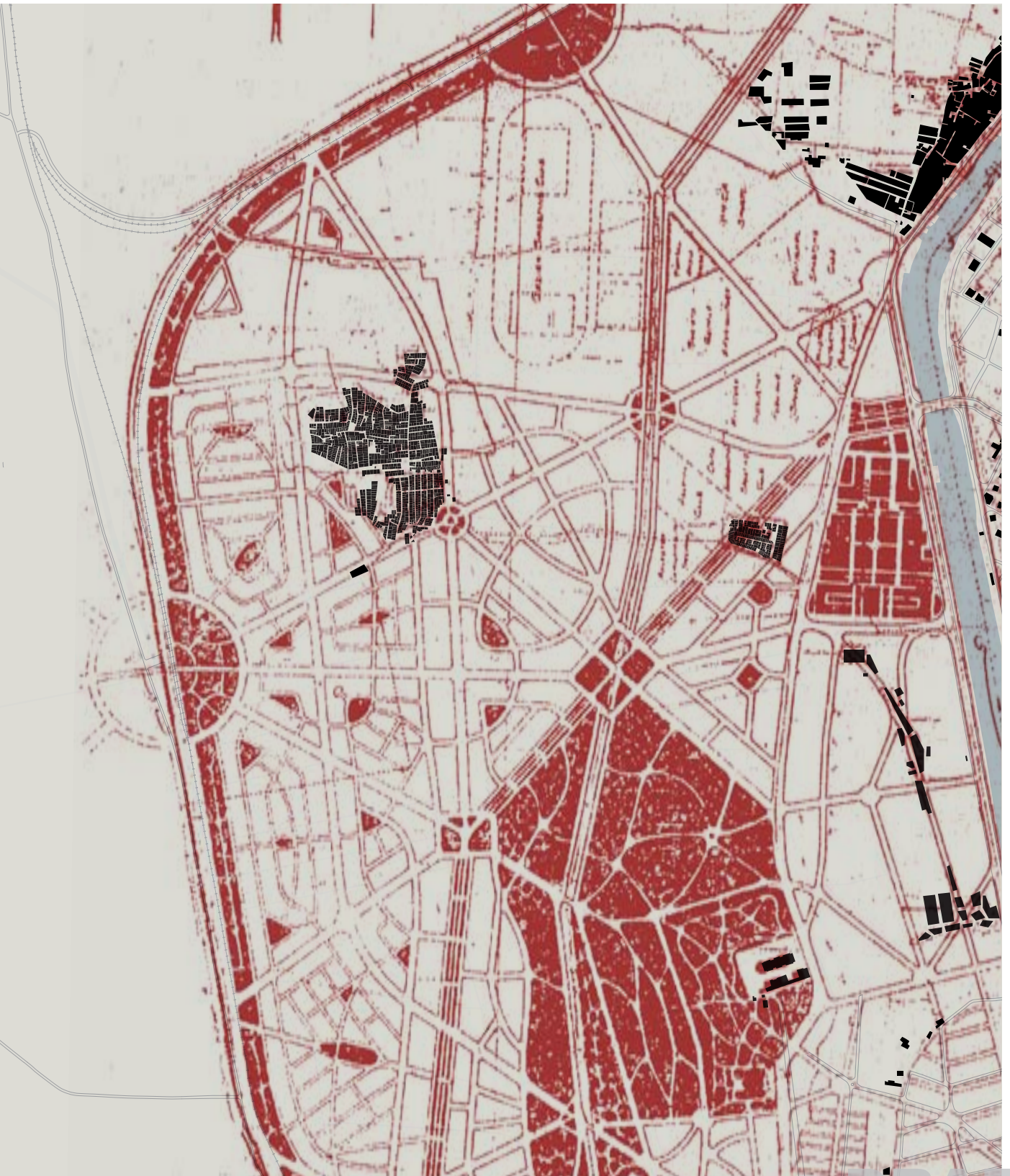
Aswan Dam

map 2.2

1929

red: master plan by
Mahbub, 1934/35





Modernists Movement

The Ministry of Waqfs decided to develop the scheme on its own. This required a new proposal for the area for which they entrusted the architect Mahmud Riyad. He was an English-educated professional delivering a new layout with axial compositions, perspectives and large parkways was named Madinat al-Awqaf. In 1948 they started to sell the plots by publishing advertisement in professional magazines: “an international model city, where one could find the beauty of Vienna and the elegance of Paris”. It wasn’t very successful until 1955 when the Syndicate of Engineers bought a large estate to be developed for its members. Therefore the name finally changed to “Al-muhandisin” meaning the city of engineers. The new residential district was finally built by architect Mohamed Kamal Ismail as a massive area of villas and apartment buildings having not more than 3 stories and usually being surrounded by a garden. Only people of the upper-middle income class could afford those villas.

map 2.3
1958
red: master plan by
Mahmud Riyad 1948





Arab Socialism

The main idea of the Arab socialism was to provide a social welfare framework that increased the health, wealth and productivity of the population. The result of this welfare was an enormous growth of population condensing the city. This resulted in high-rise and dense building methods and as a consequence the government enacted a law that regulated the measure of the residential high-rise blocks.

The original villas with only 3 stories were replaced by these social housing blocks.

map 2.4
1985



Gamet el Dowal with its wide greenstripe and in the background the rapid growing 4-10 stories buildings.



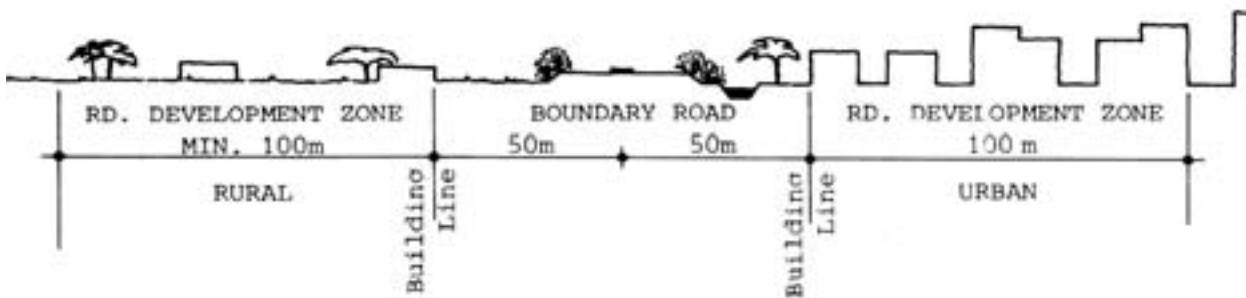
Transit Corridor

Already in the Masterplan of Mahmud Riyad in 1948 the 26th of October street was planned going through the district of Mohandessin. It has not been realised because Miet Okba did not belong to the Ministry of Waqfs and the Inhabitants disagreed in selling their land.

Due to the planning of the new desert settlements the pressure on infrastructure improvements increased. Finally the Transit Corridor was built according to Riyads master plan in 1998. One could state, the realisation of the street was not really helpful for the ring road that should have prevented the city of Cairo from uncontrolled growth.

The realisation of the 26th of October street led to denser settlements in Mohandessin thanks to the improved infrastructure. Mohandessin developed to a magnet for business locations between 6th of October, Zamalek and the centre of Cairo. Everyone travelling to 6th of October City or coming from there, going to Centre Cairo has to pass through Mohandessin.

map 2.5
1998



Cross section of the boundary road: the boundary road should have limited the growth of the city. It was planned as a clear border between the rural and the urban zone. The realisation of the 26th of July street as a transit corridor broke the concept of the boundary road.



Central Business District

The maintenance of the buildings in Centre Cairo was really bad in the 90' so they often got abused. The people began to search for a more appropriate environment. They found it in Mohandessin. Through the 26th of October road the administrative life also transferred from the centre to Mohandessin. A lot of small industries and commercial shops found their new location at the Game'et el Dowal which became a main entertainment boulevard. New glass facade high-rise buildings were invented to show the development of the district. Mohandessin isn't anymore the less dense residential estate. In only 60 years the district of the 3 stories villas turned into a high dense business and entertainment district. Not only therefore Mohandessin became a big attraction for Arab tourism. If the densefication continues none of the modernist villas will survive.

map 2.6
2010



Alzward building, corporation for economic development , Mustafa Mahmoud Square, 2010



3. Urban Portrait

Urban Portrait

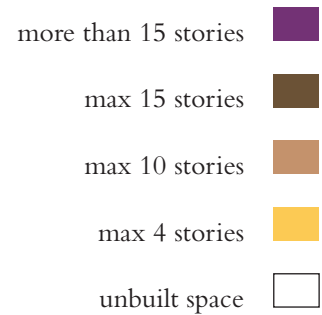
This collection of maps is a general view of Mohandessin and provides an objective picture of the neighbourhood. This analytical approach is a basis for comparison.

In the following chapter we evaluated the gathered information and linked it back to the maps again.

Building Heights

The building heights in Mohandessin have a very clear historical background. First were built villas with not more than 3 or 4 stories. Due to the population increase in the 70' and 80' new denser high-rise buildings were built to improve the housing supply. Due to globalization high-rise buildings with more than 15 stories were involved including bank offices and apartments. The old villas get piecemeal replaced by high-rise buildings or rehabilitated and modernised. There is also unbuilt space mostly used as parking lots.

map 3.1

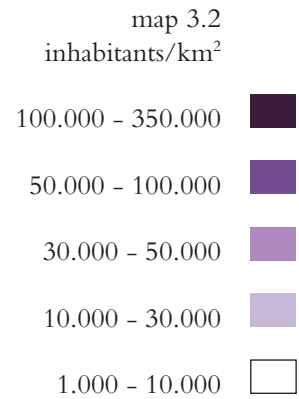




DRAFT
© ETH Studio Basel

Density

The unplanned areas in and around Mohandessin are remarkable denser than the formal Mohandessin area. The density around the sport clubs is lower because the buildings there have a lower height due to the sunlight allotment. Along the Game'et el Dowal the land value is much higher therefore rich people there live in apartments. Many offices and shops are located there as well. In average the density in Mohandessin is similar to the average of Cairo city. (35.000 inh./km², source: Demographia)



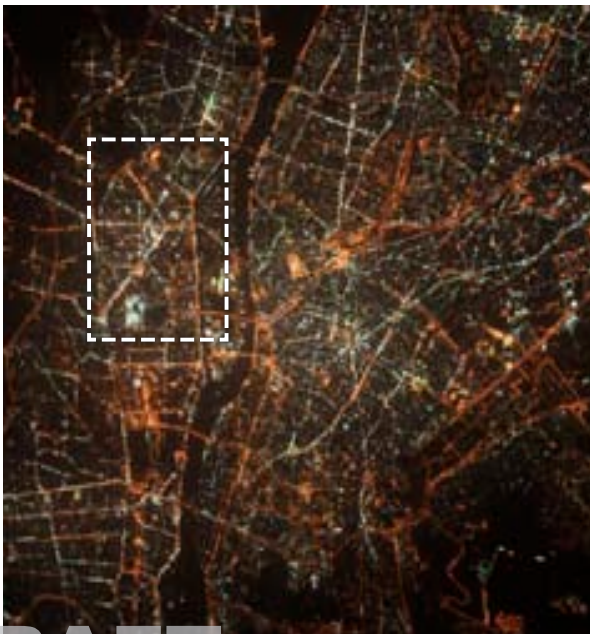


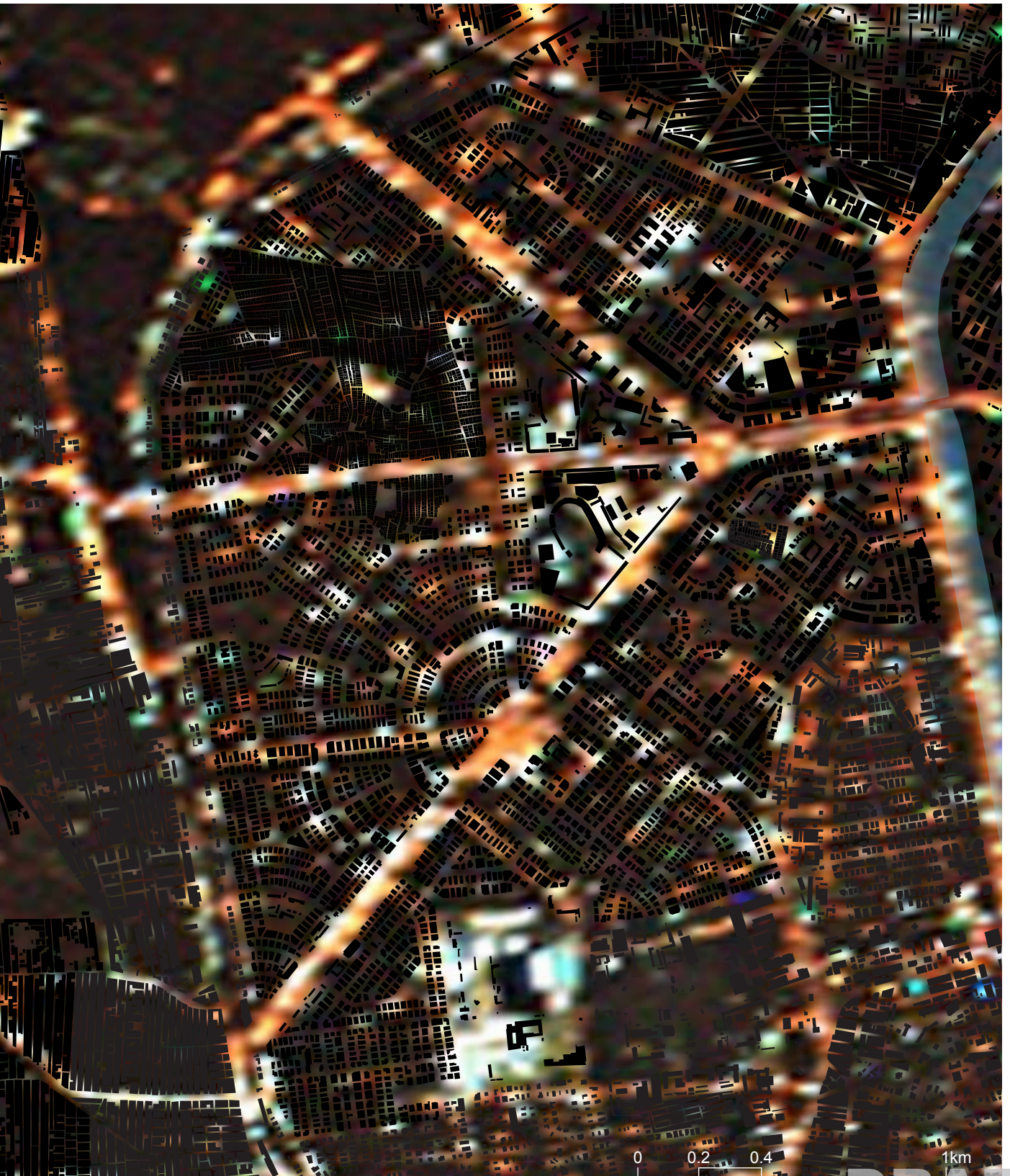
DRAFT
© ETH Studio Basel

Street Lighting

At night Cairo glows into the sky. The illuminated billboards on almost every high-rise building present their new products to the drivers and the pedestrians on the street, and lighten them the way. The restaurants, fast food chains, coffees and shops are offering a huge range of products. All the vehicles which stuck in the traffic-jam brighten the street in composition with the shine of the street lamps. The floodlight are strong gleaming on the soccer field and the mosques and minarets are decorated with colourful lights.

map 3.3









DRAFT
© ETH Studio Basel

Planned and Unplanned Areas

In Mohandessin and its neighbourhoods one can find several different informal area types. The informality results from unplanned areas or old villages that have not been modernised but raised in density. Bulaq al Dakrur began to grow rapidly in the 70' as a result of the enormous population growth.

map 3.4

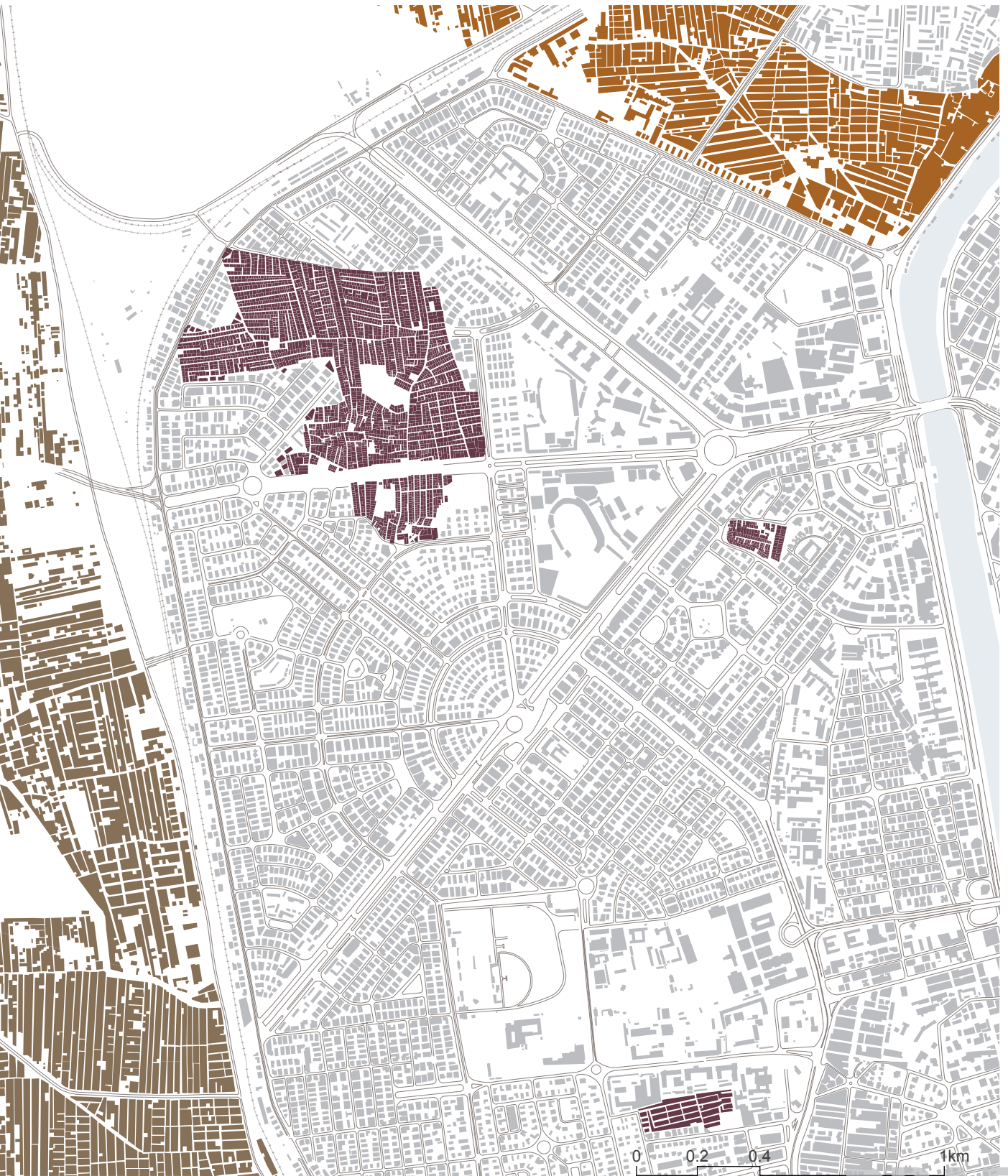
- Miet Okba / Hideya / Fatma Hanim 
- Bulaq al Dakrur 
- Imbaba 
- formal area 



unplanned housing




planned residential and office buildings



Street Network

We categorised the streets in Mohandessin in five different groups. The main boulevards are the biggest ones e.g. Game'et el Dowal is also the largest street in whole Cairo. The transit corridor is crossing the area and leads travellers to the settlement of 6th of October. The radial street structure embrace the mesh streets which are usually smaller and surrounded by trees. The alley ways mostly located in the unplanned settlements like Miet Okba or Hideya are tightly narrowed through the dense building typologies.

map 3.5

- main boulevards 
- transit corridor 
- radial streets 
- mesh streets 
- alley ways 



mesh street



alley way



main boulevard



DRAFT
© ETH Studio Basel

Traffic Congestion

The traffic capacity is a big problem in Cairo. The infrastructure can not hold all the personal cars, taxis, micro buses, motor bikes and trucks. And the outlook on the futures does not propose any enhancement. The public traffic is not sophisticated enough and only used by lower income classes. An average Family with two kids has 4 cars. This also impacts the parking lots problem since there aren't enough for all cars.

map 3.6
cars/day

270.000



190.000



110.000



50.000





DRAFT
© ETH Studio Basel

Gated Areas

There are several gated areas scattered in Mohandessin. Gated areas are e.g. sport clubs, micro parks, universities, hospitals, schools and fair grounds. The access into this areas is guaranteed by being a member of the club, a student or paying entrance fee. Most of the micro parks are gated with free entrance but get closed during night.

map 3.7

gated areas 







entrance to a gated sport club



Physical Borders

The district of Mohandessin is quite defined by physical borders. The train track marks the outer border line from the north to the west side. The east side is clearly limited through the Nile. The big main streets subdivide the area physically and make the crossover to an adventure, especially for tourists. The people reach the other side of the borders on certain points by passing over a bridge.

map 3.8

- train track 
- main street 
- Nile 
- bridges 








DRAFT
© ETH Studio Basel

Water and Drainage System

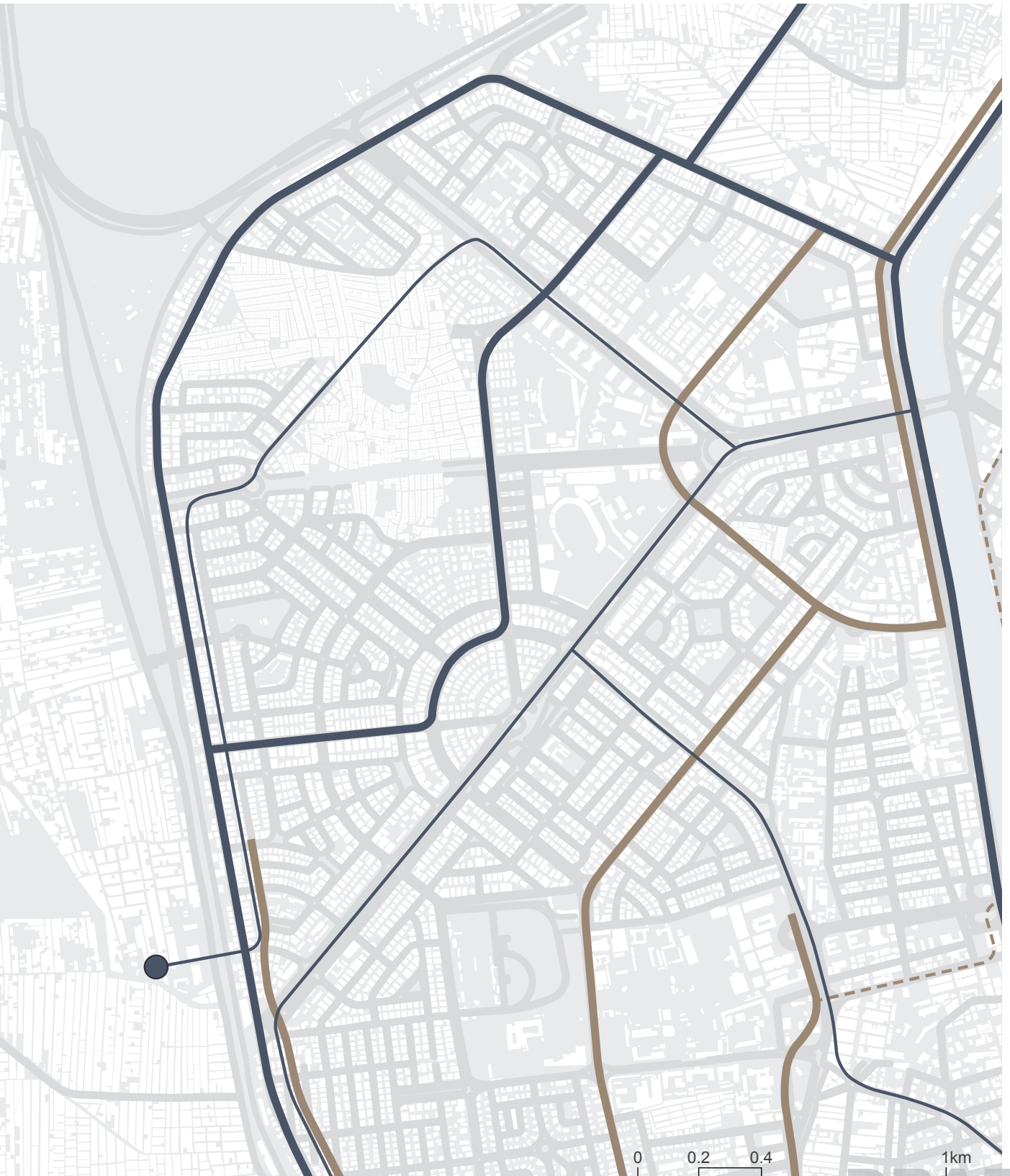
This infrastructure was considered in the period of promoterism. The water pipes are following the main streets and along the Nile. The mains extend over the area even through Miet Okba and supply them with water. The sewerage are coming from north, passing Mohandessin and going over to Dokki to a treatment plant in Abou Rawash.

map 3.9

- water mains 
- storage tank 
- main collectors 
- main collectors 
(flow from east-bank and islands only)



gully cover






DRAFT
© ETH Studio Basel

Income Classes

Mohandessin has different income classes. The different between the highest and the lowest level is very large. The low income classes mostly live in 'informal', unplanned or old areas like the former villages Miet Okba, Hideya and Fatma Hanim. Along the Game'et el Dowal the highest income classes are located. Those are the most favourite place and the luxurious shops in Mohandessin and also an attraction-point for Arab tourism. The highest income class are also surrounding the sport clubs because of the lower building height around the clubs.

map 3.10

- upper income class 
- middle income class 
- lower income classes 







Solid Waste Management

The zabaleen with their mules and workers of the state collect the solid waste mainly along the Game'et el Dowal. They bring all the garbage to certain reloading points in Miet Okba. At this locations they assort the garbage, load it on small trucks and drive it out of Mohandessin to some garbage dumps. If the wind blows in the morning from the north, the smell of the garbage in Miet Okba disperse through the air over the Mohandessin district.

map 3.11

collected zone 
reloading points 



garbage reloading point



0 0.2 0.4 1km

DRAFT
© ETH Studio Basel

Vegetation

Mohandessin has a very green appearance. The green areas can be separated into micro parks, stripes between the street, trees at the street, soccer fields and sport clubs. In relationship to Cairo Mohandessin has more space in between the building so that the green can spread. There isn't a central park or a main greenery, it is more strewn at large so that green areas are basically everywhere.

map 3.12
greenery



built environment



green stripe in the middle of the boulevard



trees between the buildings provides a natural roof



0 0.2 0.4 1 Km

DRAFT
© ETH Studio Basel

Educational Facilities

Educational facilities are e.g. privat schools, kindergartens, universities, hospitals, museums or exhibitions, The educational facilities are mostly located inside the gated areas as previously described. In Mohandessin there are a lot of smaller educational facilities spread over the whole area. It's almost the opposite of Nasr City where several facilities are located in one and the same area.

map 3.13

educational facilities



primary and secondary school next to Miet Okba



DRAFT
© ETH Studio Basel

Street Names

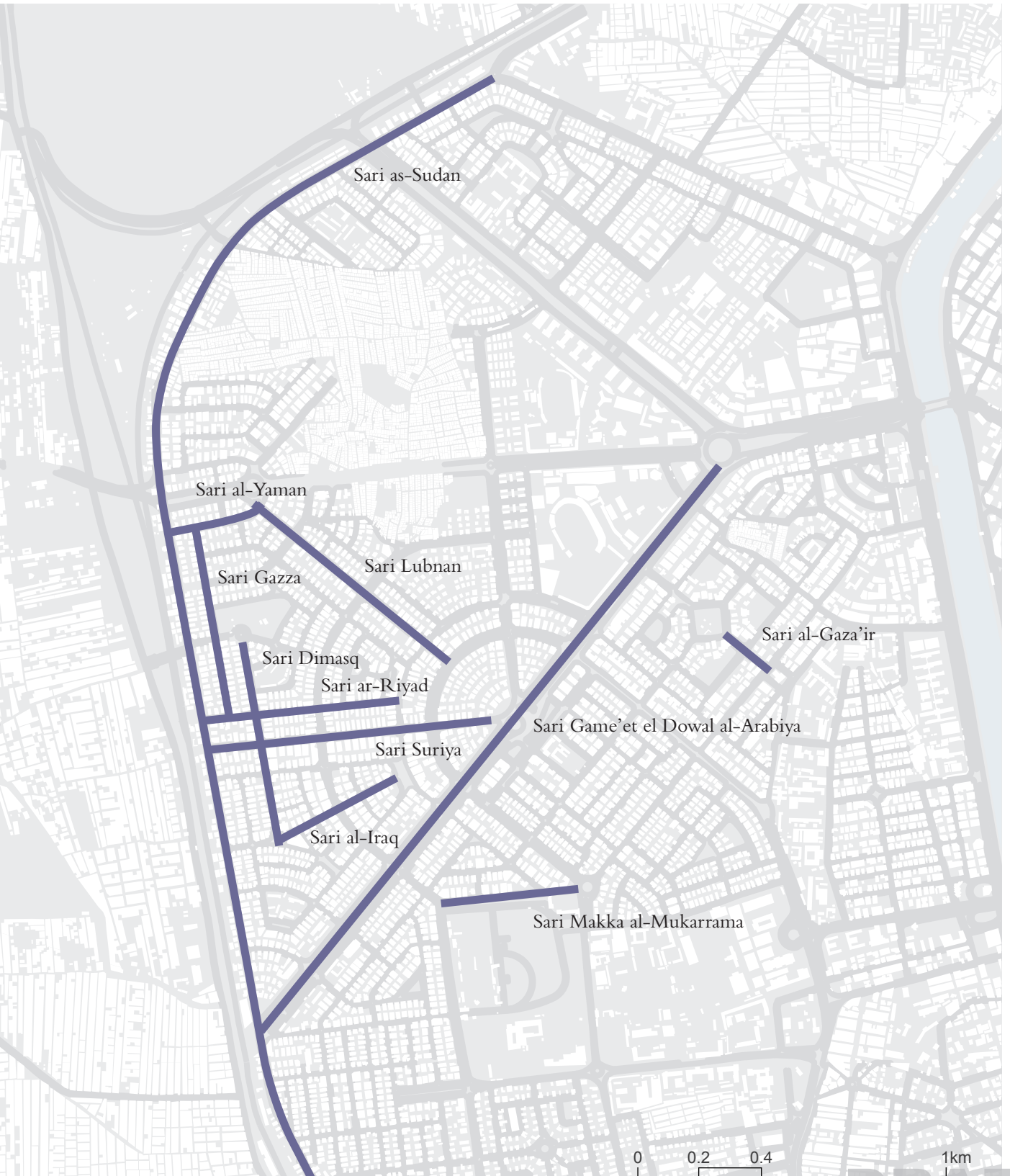
Several streets are named after different Arab countries and cities such as: Sudan, Suriya or Iraq. These names give a special identity to the area, probably one of the reasons why Arab tourists feel attracted to this area. Many streets are also named by important dates or by patriots. The reason for that is to keep these events and persons in memory. They also represent the ideology of the Arab nationalism. Game'et al Dowal al-Arabiya means literally translated "League of Arab States Street."

map 3.14

street with national name



Gamal Abdel Nasser, leader of the Egyptian revolution in 1952



Methodology

Methodology

For every place there is a global and a site-specific approach. Based on our field study and an academic research we set the methodology to decipher Mohandessin parallel to the perspective of its inhabitants. There are several places of a differentiated and strong identity which turned out to be the orientation points for a very wide range of the locals inhabitants. As a counterpart there is a flexible and buffering urban pattern constituting the compound. We followed and mapped those elements, their relations and constitution.

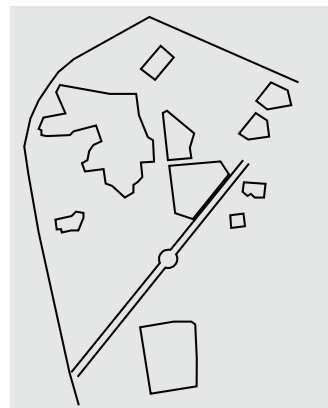
Solids



Mesh



Interfaces





4.1 the Solids

the Solids

Following the orientation habits of the locals we determined several sites known throughout a wide range of social groups and income classes. Our research on those sites revealed that they proved to be very consistent in time. The function and their relevance for Mohandessin usually remained the same throughout time. Nevertheless they should not be seen as monofunctional blocks or city centers, but rather as well-known points of orientation



Children Hospital

School Complex

Club At-Taufiquia

Club Al - Ahli

Miet Okba

Club At-Tarsana

Club Tala ad Hard

Baloon Theatre

Club Az-Zamalik

Sphinx Square

Hideya

El Aqsa Garden

Aswan Square

Mustafa Mahmoud square

Rehabilitation Center

Mahmoud Mosque Square

Vacsera

Game'et el Dowal al Arabiya

School Complex

Foad I Agricultural Museum

Shooting Club

0 0.2 0.4 1km

DRAFT
© ETH Studio Basel



Sport Clubs



Sport Clubs

link:

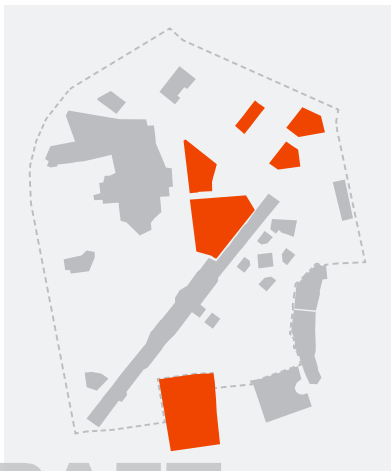
map 3.7, gated areas, p.52

map 3.12, vegetation, p. 62

Most of the sporting clubs were founded by the British armed forces during the British Imperialism at the end of the 19th century. The more sophisticated ones like the Shooting Club were limited in membership to high-ranking British civil servants in the Egyptian government and officers.

Today the sporting clubs are catering mostly to nouveau-riche Egyptians. While it is common for upper class youth to visit the sport clubs regularly for sport activities, the adults visit the clubs mostly for social reasons. The shooting club for example has its own mosque, which is only accessible for the members. A daily entrance fee costs depending on the club ca. 20 to 30 LE.

While being gated, the sporting clubs usually provide several entrances. The Shooting Club for example has 14 entrances.



DRAFT
© ETH Studio Basel

Club At-Taufiquia

30'100 m²



Club Tala ad Hard

34'400 m²



club Al - Ahli

44'600 m²



Club At-Tarsana

72'500 m²



Club Az-Zamalik

164'000 m²



Shooting Club

242'000 m²



100 m



For certain prestigious sporting clubs the membership during the British Imperialism was limited to high-ranking civil servants or officers.



The shooting field and the shooting club mosque are parts of the Shooting Club. Covering a area of 242'000m² it is the largest sporting club in Mohandessin.



Large areas of the sporting clubs have rather the function of recreation or entertainment than sport. The Al Zamalek sporting club is framed by a row of two-story building to provide a quiet area



Game'et el
Dowal Al Arabiya







DRAFT
© ETH Studio Basel

Game'et el Dowal al Arabiya

link:

map 3.3, street lighting, p.44

map 3.5, street network, p. 48

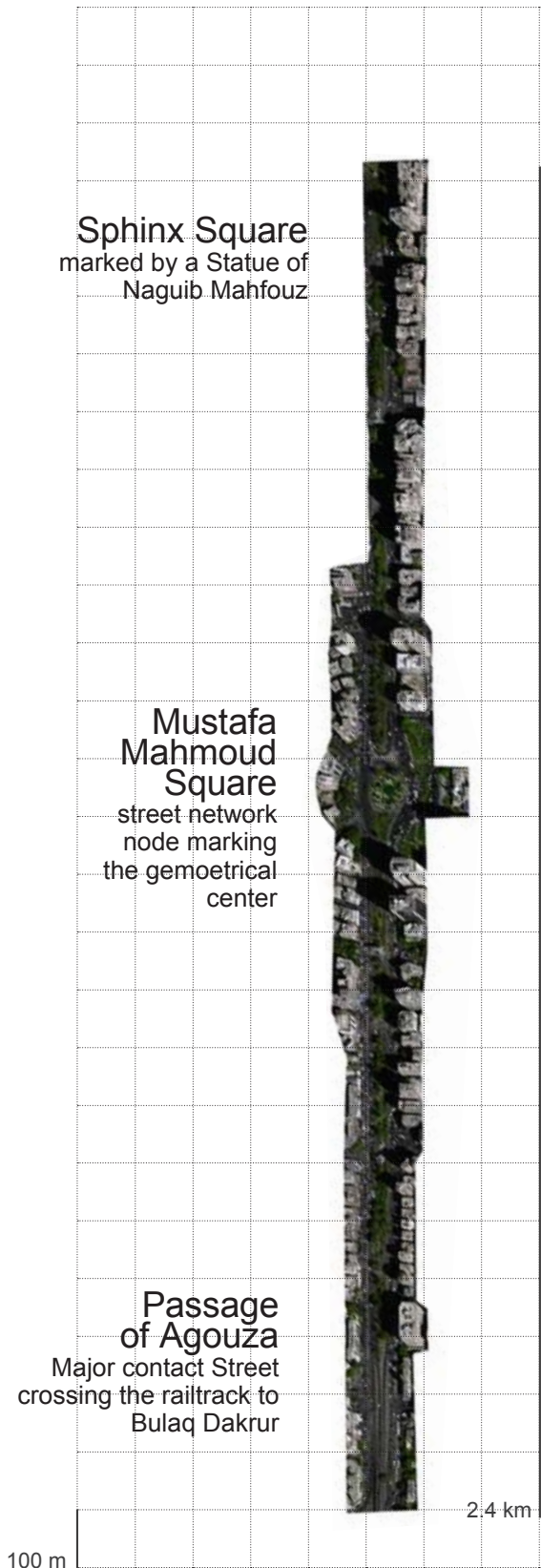
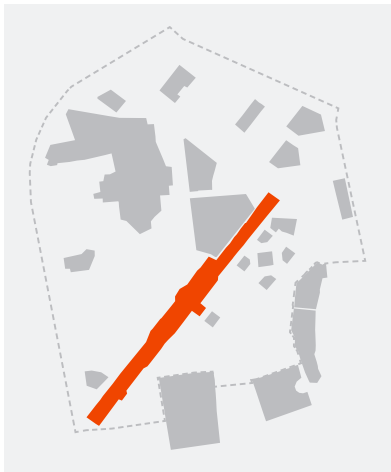
map 3.6, traffic congestion, p. 50

map 3.14, street names, p. 66

Around 70 m wide it is one of the main axes of Greater Cairo and a major element of the 1948 masterplan by Mahmud Riyad. According to his English education in Urbansim he used axial compositions to structure the city layout. Game'et el Dowal Al Arabiya was designed as a segment of the air line from the Zamalek bridge built in 1912 to the pyramids. The idea of extending this axis till it reaches the pyramids while Mohandessin grows has not been continued until the publication of the new Cairo 2050¹ masterplan in 2007.

Since Mohandessin has hardly any monuments, the Game'et el Dowal Al Arabiya itself is loaded with a representative meaning. Translated to English it is the "League of Arab States Street", reminding the era of Arab Socialism.

¹ <http://www.idsc.gov.eg/Publications/PublicationDetails.aspx?id=36>





During the Prayers Days crowds of people visit the Mustafa Mahmoud Square and make it's public importance visible in a very vivid way.

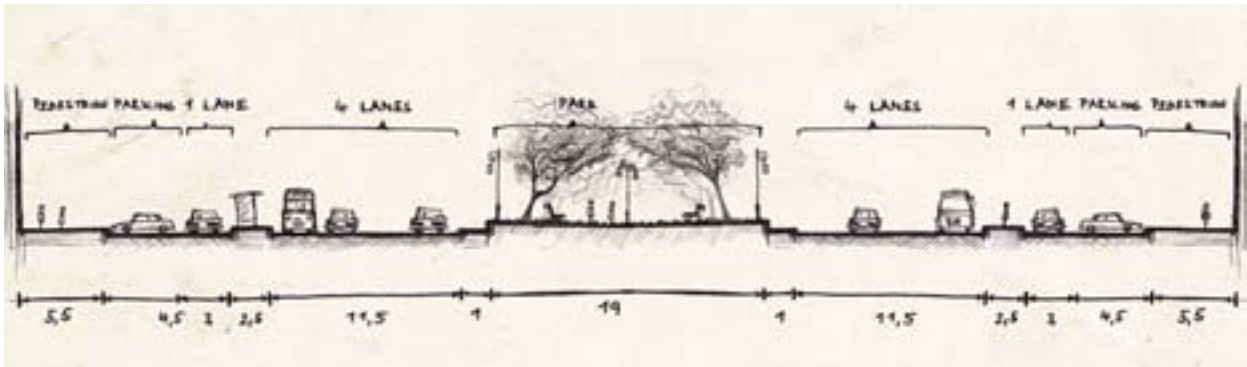


The Mustafa Mahmoud Square is located center of the Game'et el Dowal Al Arabiya marking an important street network connection node. The Name is a tribute to Dr. Mostafa Mohmoud, founder of the Mahmoud Mosque Society in 1975, a foundation providing medical treatment to the poor. To reach this goal he built a mosque and a polyclinic, both located at this square and inaugurated in 1979.



Game'et el Dowal Al Arabiya is often referred to as "Champs-Élysées of Cairo". It's international brand stores and occidental leisure service are a main attraction for Arab tourism.

Game'et el Dowal Al Arabiya, Street Layout



Cross section of Game'et el Dowal Al Arabiya. The green strip in the middle is one of a few public accessible spaces that are very intensively maintained by the government.





A Statue of Naguib Mahfouz, an Egyptian writer who won the 1988 Nobel Prize for Literature. He is regarded as one of the first contemporary writers of Arabic literature, publishing over 50 novels, over 350 short stories, dozens of movie scripts, and five plays over a 70-year career.



Former Villages



Former Villages

link:

map 2.1, fisherman villages, p.24

map 3.2, density, p.42

map 3.4, planned and unplanned areas, p. 46

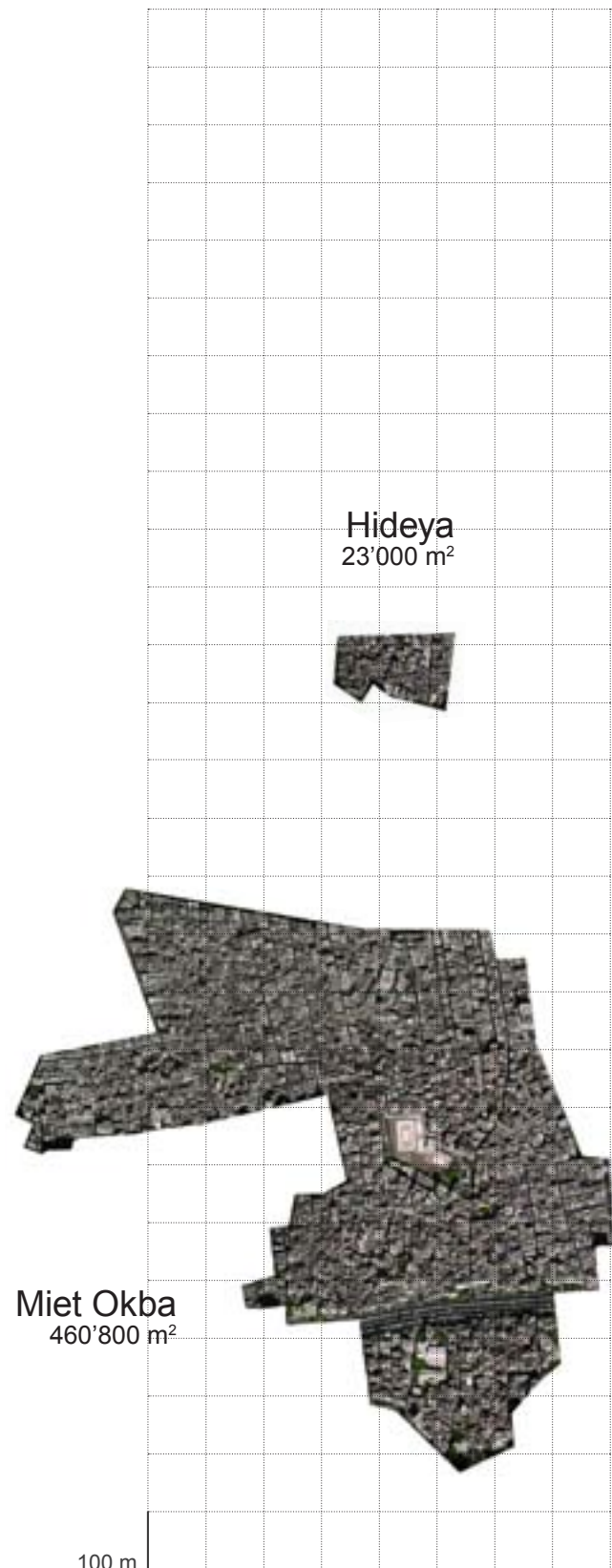
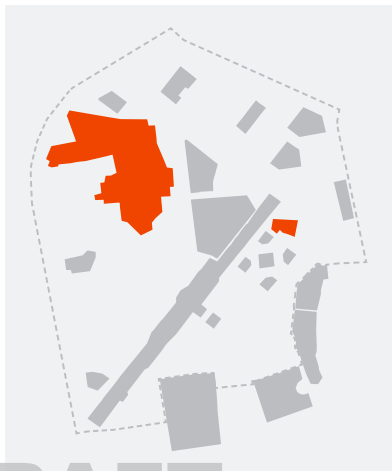
map 3.10, income classes, p.58

Hideya

Before the Aswan Low Dam was built in 1902 time, the shoreline of the Nile was frequently unstable. The river reached wide into the today's land. Only fishermen who were specialised to interact with the Nile were settled in this area. This ever-changing condition made the land unattractive for people from other professions. Therefore the fishermen village did not expand till the Aswan Low Dam was built.

Miet Okba

More inside of the land farmer villages were located. Miet Okba is such a former village located in the Area of Mohandessin. It was surrounded by agricultural land producing mainly fruits and vegetable for Cairo City. The Nile made the way from the west bank to the east bank very hard. The land was not taken into account for any other functions until the passage was made secure enough for common passengers with bridges and the Aswan Dam.





Monuments and historical buildings are hardly to find outside the Miet Okba or Hideya. Since this monuments are often in poor areas, they are not registered and there likely being forgotten.



The Mohammed Ibrahim street is located in the center of Miet Okba. During the market rush hours it is fully crowded, while otherwise having the appearance of a village street outside the city.

Miet Okba Local Economy



Custom design products for business purposes and the upper class of Mohandessin are often being produced in Miet Okba.



Store keepers are usually proud of their shops, providing not rarely upper class or brand products. Basically everything is available in Miet Okba, one just has to find out where.



Bike shops and workshops for any type of vehicle are located in Miet Okba. The bicycle is more often used here than in Mohandessin because it is very handy in narrow alleys.



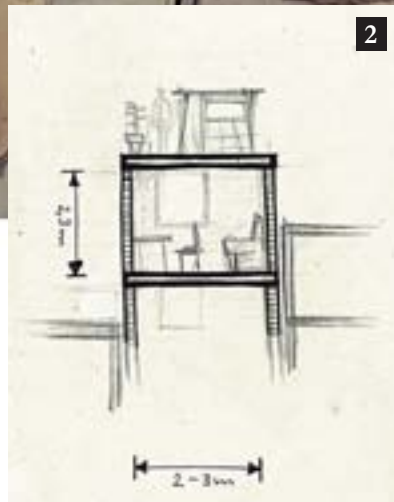
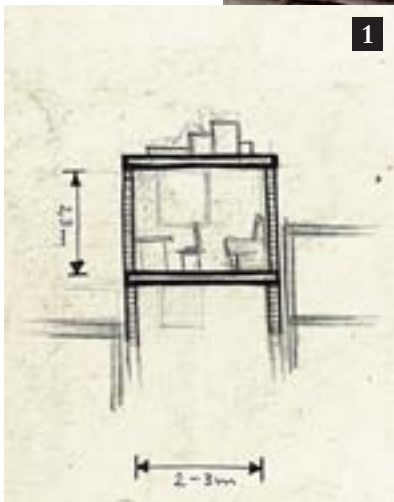
Miet Okba provides a large variety of quality standards in services. This brightly decorated barber offers a climatized room, a flatscreen tv and has it's modern sterilising oven presented just right behind him.



Since the middle class of Mohandessin prefers to outsource housework, cloth washing and repair is a profitable and respected job in Miet Okba.

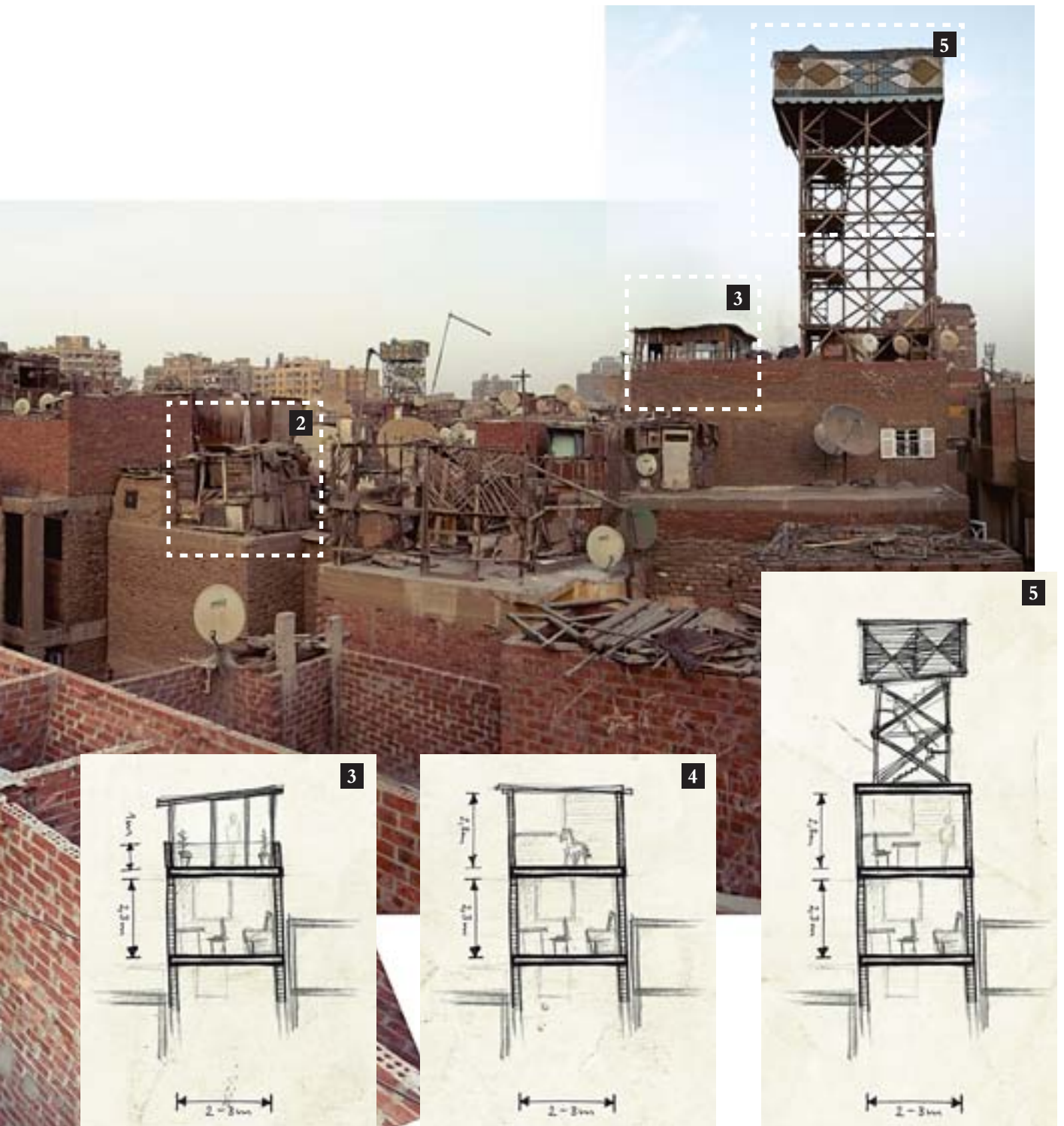
Miet Okba

House Building Process



1. The roof area is not secured and used as storage space to compensate the lacking cellar.

2. After enough stuff is being collected, it is common to build a shack for relatives or visitors.



3. The first investment is usually a 1m height wall and a pergola, creating a private open space.

4. Expanding the wall to its full height and building a temporary roof turns the pergola into a barn.

5. For reasons of stability, after ca. 25m only a light wood construction bird cage is added.

Miet Okba

Ground Property Relation



bird cage

relatives or visitors

living

living

living

living

living

living

family business or family eldest

ground floor: family business space

Ground property for inhabitants in Miet Okba is not simply a commodity but a investment for the retirement. By keeping the property in the family, a place to stay in retirement is secured.

Common Activities



The family relations are very important in Miet Okba. The children have a respected position in society and a right for their own space.



Miet Okba has its own soccer team named "Meet Okba, UWK (Ultra White Knights)" fighting in local tournaments and a relatively strong fan community supporting the club.



The fan community in its strength represents the social coherence of the neighborhood. It is available internationally on Facebook and creates marks in Miet Okba itself.

Educational and Cultural Facilities





Educational and Cultural Facilities

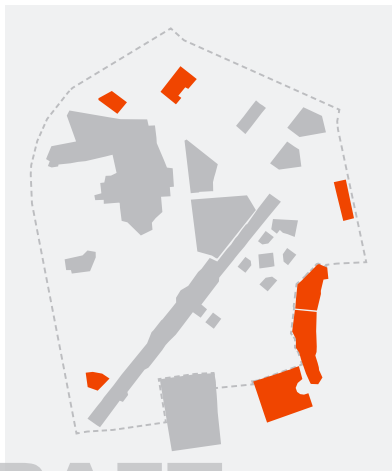
link:

map 3.7, gated areas, p.52

map 3.13, educational facilities, p. 62

There are several school complexes with mainly primary and secondary schools. These are rather used by the lower income classes in Mohandessin, since the upper classes are used to visit privat schools outside of Mohandessin.

Next to the Bridge to Zamalek there is the Baloon Theatre, which name derives from the dome like form it has. It is especially known for traditional Egyptian Music and Dance performances. Right next to it, the National Circus has its permanent stay. A komplex consisting of a children hospital and a larger primary school is located northwards to the neighborhood of Miet Okba, since there is a shortage of public service inside.



DRAFT
© ETH Studio Basel

School Complex

alnassryah,
alsedah kgadygha,
Um al mo'omneen
16'200 m²



Suzan Mubarak

Specialized Hospital
For Children
23'100 m²



Baloon Theatre & The National Circus

Entertainment
28'400 m²



School Complex

35'100 m²



Rehabilitation Center

Military forces Physical
Rehabilitation hospital
55'100 m²



VACSERA

holding company for
biological products
and vaccines
86'500 m²



Fouad I Agricultural Museum

142'100 m²



100 m



Primar and secondary school in the north of Mohandessin



Children hospital next to Miet Okba



Micro Parks



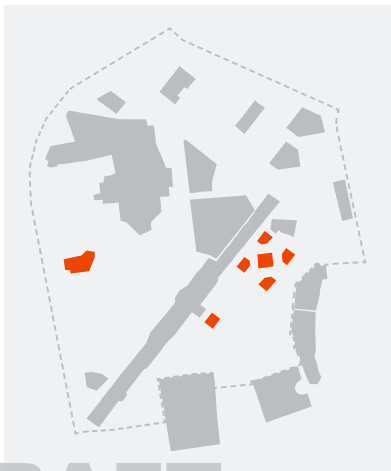
Micro Parks

link:

map 3.7, gated areas, p.52

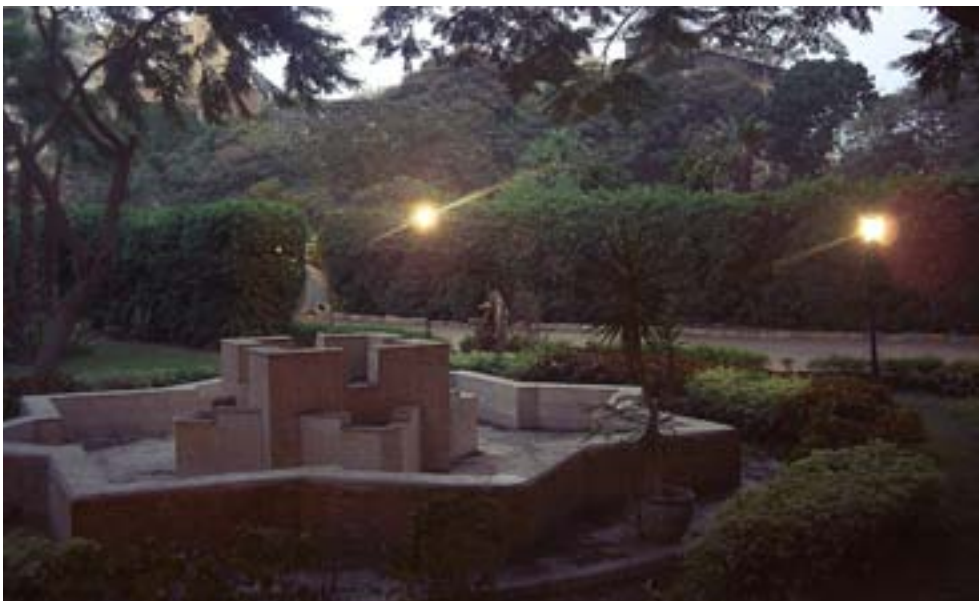
map 3.12, vegetation, p. 62

Mohandessin has been built on former agriculture land and therefore provides good conditions for green and vegetation. Beside the street space which is usually covered by treetops there is a few official public parks. The main purpose of them is an aesthetical upgrading of the area for the middle class and for tourists. Anyway the parks are open for public without restrictions and often used by lower classes as well. Especially in the evening when the sun heat is gone, numerous visitors of different ages turn the parks turn into vivid public spaces.





By removing the fences, the public parks are being reconised as space to be used rather than to be only looked at. Simultaneously the urban furniture is being replaced with nostalgic imitations.



Water games in the Aswan Square park remind the building of the Aswan Dam which stabilised the shoreline of the Nile and made the development of Mohandessin possible.





4.2 the Mesh

the Mesh

A highly flexible and adaptable urban fabric, containing a diversity of urban morphologies and situations.

In comparison to the solids, the mesh is not depending on a site since it can be brought into almost any form, filling out the space in between.

It has different characteristics on different scales and a main function as a buffer in a larger urban context. As an adaptable urban pattern it can absorb conflicts and ease problematical social borders.



0 0.2 0.4 1km

DRAFT
© ETH Studio Basel

Characteristics

To point out the characteristics of the Mohandessin mesh structure we compare it the Nasr City which in many point seems to be similar.

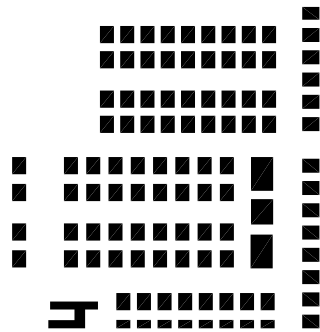
At a first view on the satellite picture Nasr City seems to be more strict in terms of geometrical composition but in density, dimensions and the quantity of building quite comparable to Mohandessin. The figure ground plan proves that the allocation of the buildings in Mohandessin is much more individual than in Nasr City, where the main goal was an quality of the plots.

Though the average size of a plot is similar in both Mohandessin and Nasr City.

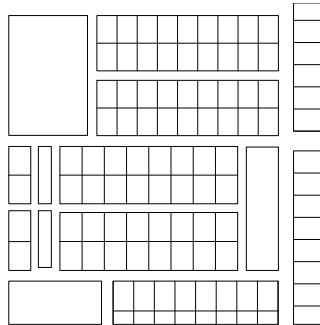
The percentage of built area reveals that there is more area built up in Mohandessin while being served by relatively more street space. The reason for this is the building regulation in Nasr City which dictates a larger distance between the plot border and the building.



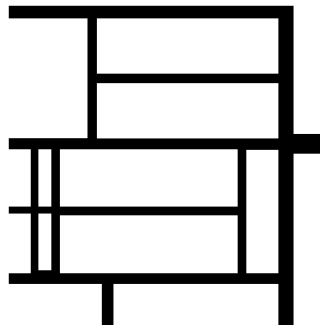
Nasr City



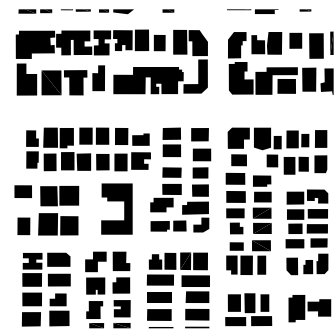
35'000 inhabitants/ km²



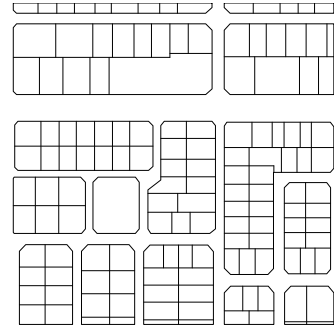
26% built, 21% street



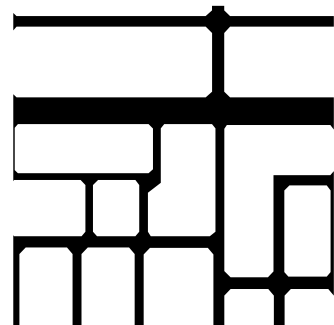
Mohandessin



45'000 inhabitants/ km²



36% built, 26% street





A square of 360 x 360: a representative pattern for the mesh structure of Mohandessin.



Urban Block



Urban Block

link:

map 3.1, building heights, p. 40

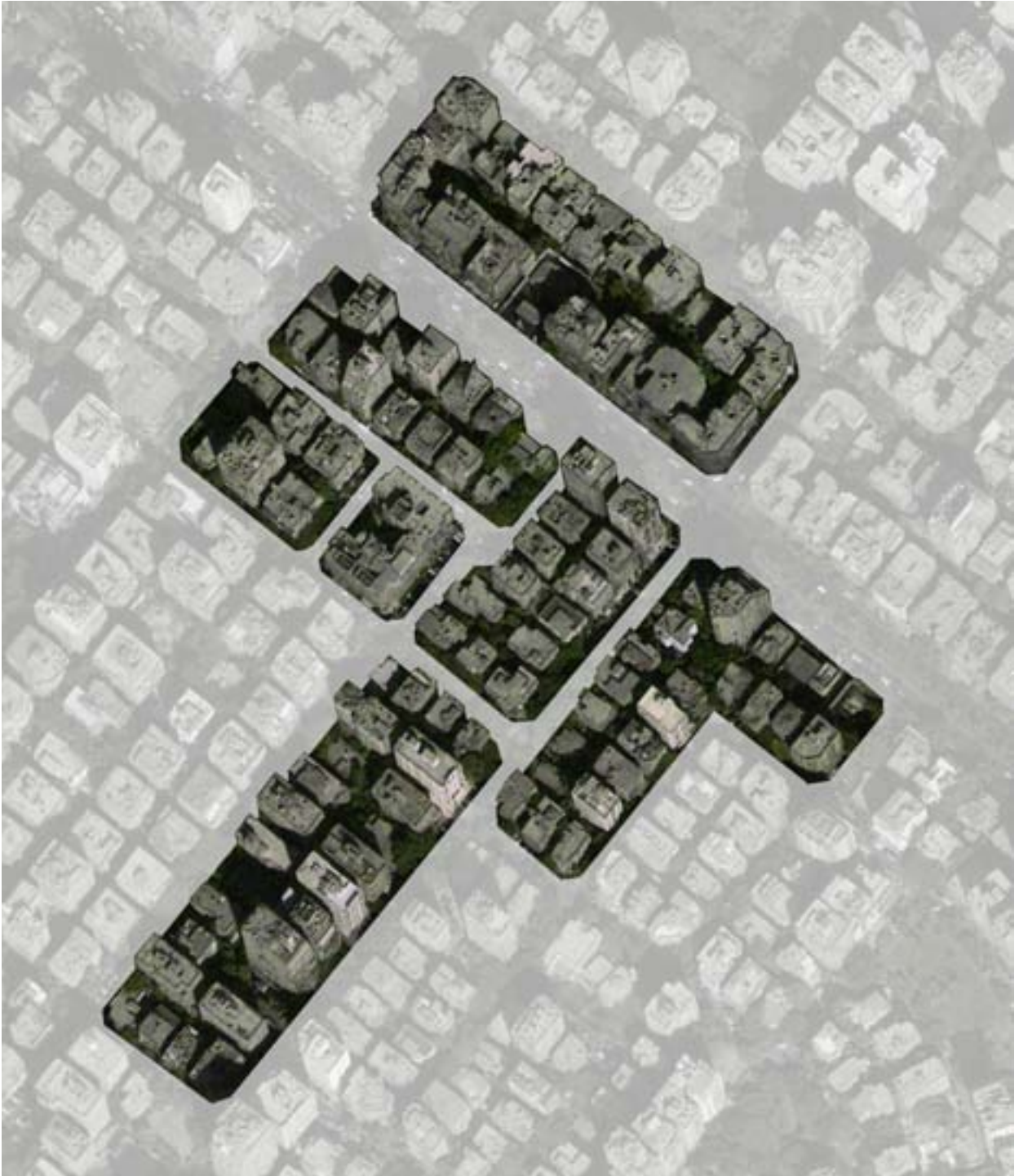
map 3.2, density, p. 42

The Urban block is a compound of plots framed by streets on each side. Every plot has at least one side pointed towards the street.

Since the Building regulation have been opened to high-rise buildings in the 80' the skyline of Mohandessin has been starting to develop. There is a wide range of variety in building heights, since Mohandessin has grown from a modern villa neighbourhood in the 1950' to a kind of centrals business district in 2010. This very fast development becomes visible in the co-existence of different typologies from several eras.



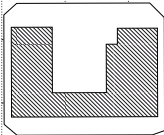
The skyline of Mohandessin



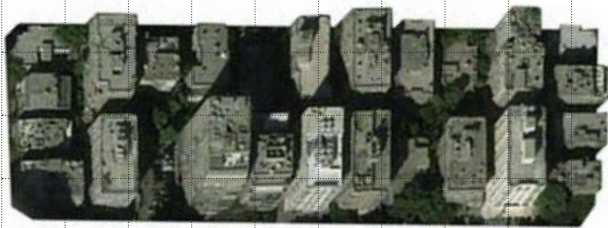
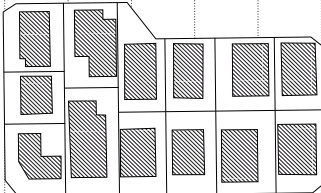
There is a wide range of variety in form and size. The blocks positioned closer next to an intensively frequented street are rather containing commercial functions than apartments.



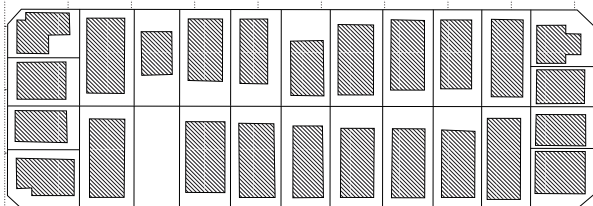
block 1
plot size: 3'300.4m²
footprint: 1'463.1m²
function: public facility



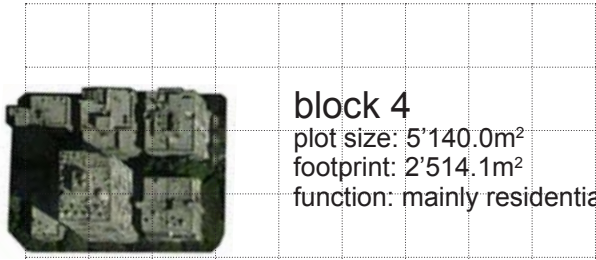
block 2
plot size: 8'555.5m²
footprint: 3'611.9m²
function: commercial, residential



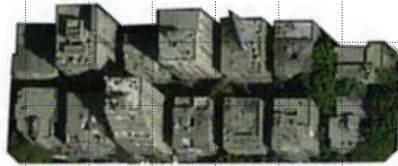
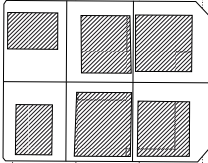
block 3
plot size: 15'998.6m²
footprint: 7'353.9m²
function: mainly residential



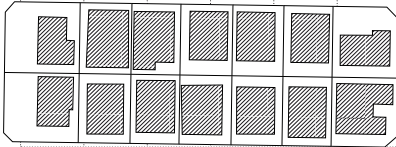
25 m



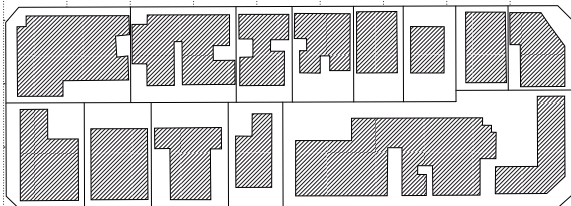
block 4
plot size: 5'140.0m²
footprint: 2'514.1m²
function: mainly residential



block 5
plot size: 8'604.4m²
footprint: 4'211.7m²
function: mainly commercial



block 6
plot size: 17'941.3m²
footprint: 9'354.1m²
function: commercial, residential



25 m



Typical development of a plot:

1. 3 - 5 storey building from the 60' or a 5 - 9 storey building from the 80' is being demolished
2. the empty site is used as a car park, a quite profitable business in Mohandessin
3. when enough money is raised from the car park, a 10 - 16 building storey will be build.



A typical street situation at the Game'et el Dowal Al Arabiya. A four storey building from the 60's is standing next to its modern glass facade 18 storey neighbour.



Building Typologies



Building Typologies

link:

map 3.1, building heights, p. 40

map 3.2, density, p. 42

As a result of the historical development three main typologies emerged, reflecting the circumstances and the spirit of the time they were built.

1. villa

According to the master plan developed by Mahmud Riyad, Mohandessin was meant to be a pure dwelling zone for the elite of the new modern society. The building height maximum was by regulations set up to 4 storeys.

2. social housing

During the era of Arab socialism migration into cities and densification resulted in a new, rational way of construction and a new compact volume with a maximum of 10 storeys.

3. market orientated high rise

Today a new type of buildings is emerging. The shape mainly follows market criteria and decoration is being applied in any forms of eclecticism.



Area of flat = 85 m²

Area of balcony = 13.5 m²

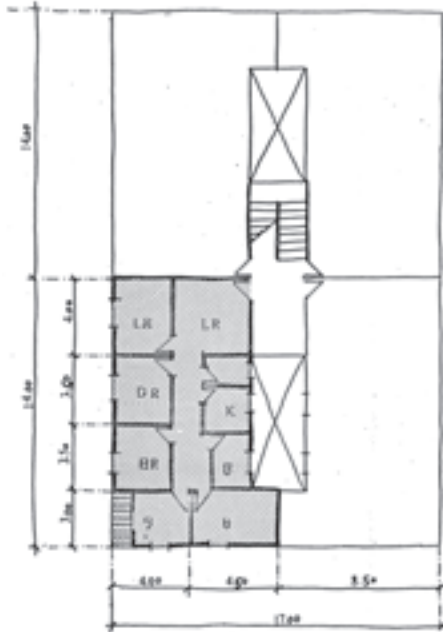
Total area = 98.5 m²

No. of floors = 1



The Giza Master Plan Study 1984 contains a research on typical housing in Mohandessin.

1. villa
1945 - 60



Area of flat = 116.00 m²

Area of balcony = 3 m²

Total area = 123 m²

Floor area = 492 m²

No. of floors = 12



Area of flat = 106.25 m²

Area of balcony = 20.50 m²

Total area = 133.55 m²

Floor area = 347.20 m²

No. of floors = 10



2. social housing
1960 - 80



3. market orientated high rise
1980 - 2010



Street



Street

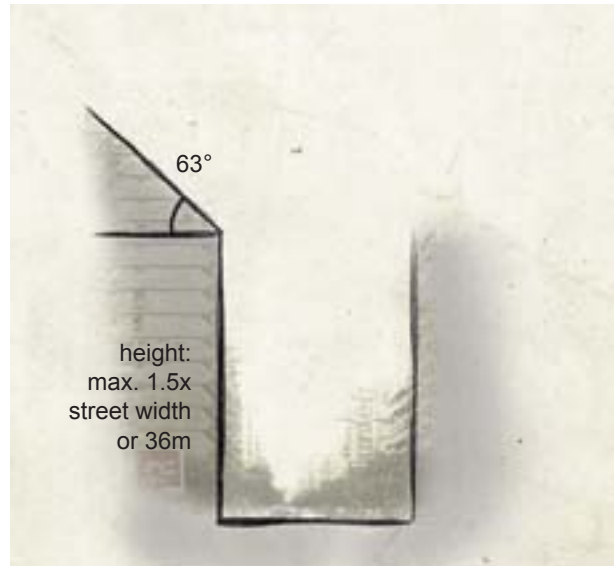
link:

map 3.5, street network, p. 48

map 3.6, traffic congestion, p. 50

map 3.12, vegetation, p. 62

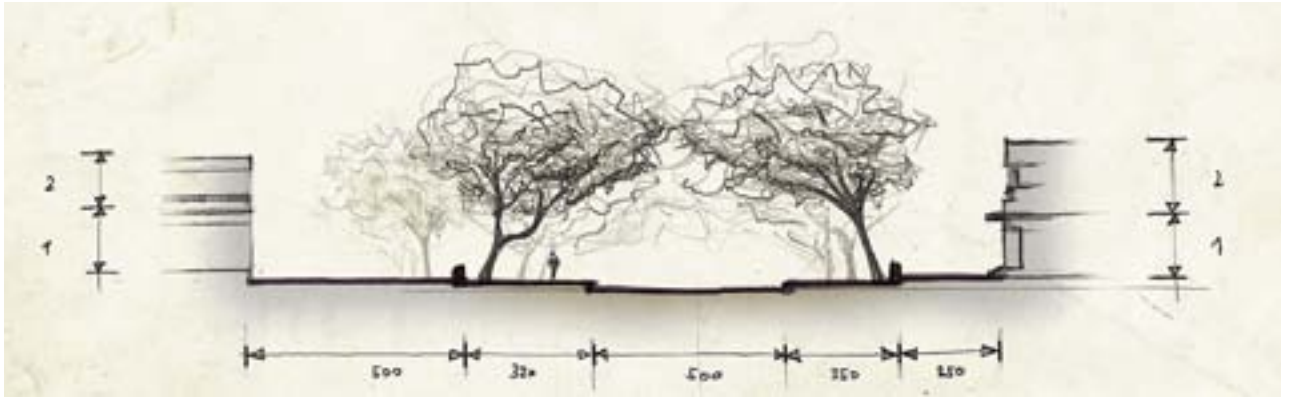
In the master plan from 1948 clear borders for public and private spaces were defined. The streets were built in noble dimensions, usually separated by a 60cm high wall and a fence on it. During the densification mainly in the 70', new building regulations were applied. The distance between building and the plot border was reduced and the maximum allowed building height was expanded. In the 80' the building regulations were changed again towards a higher population density. The height of a building is defined by a maximum of 1,5 times the width of the street or 36m. After this point any further level has to follow be set back in an angle of 63°. Following this building code, the maximum height is not defined, but due to the set back the ground floor area is getting smaller and less economical in the top floors. It is permitted to build up to the borderline of the plot. Since the streets have become more narrow and space rare, their users have to organise in rather dynamic and hybrid ways.



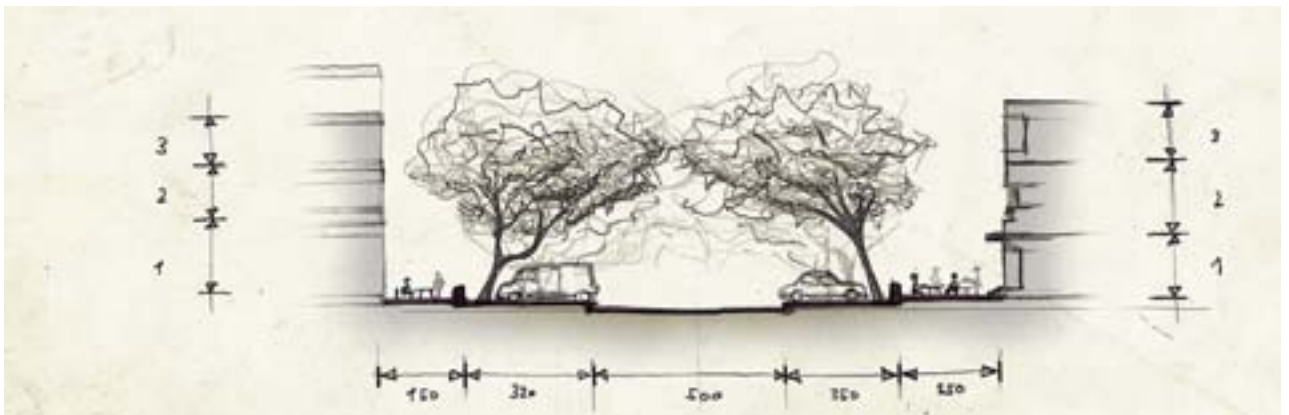
1956



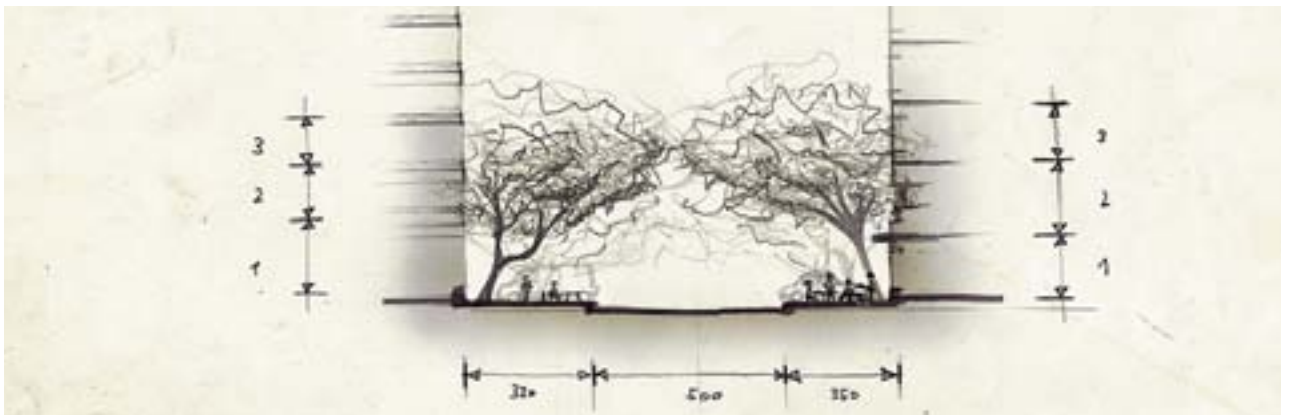
2010



1950'



1980'



2010



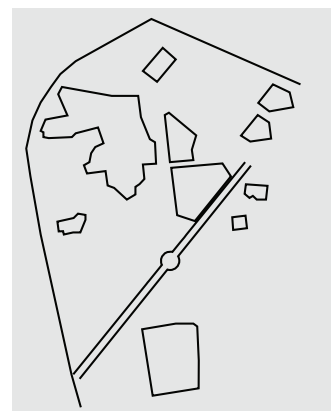


The pedestrian walk are usually occupied by shops, restaurants or parking cars. The pedestrian have to share their way with passing cars.



Borders preventing cars from parking are often being demolished to provide the broad pedestrian walk as a second parking row.

4.2 the Interfaces

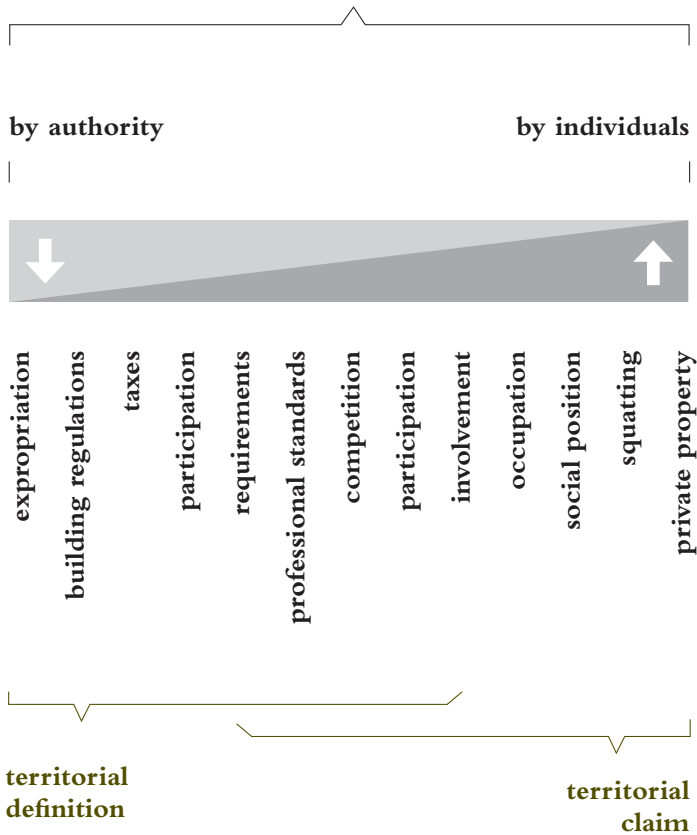


Territorial Production

A territory (from the word 'terra', meaning 'land') is a defined area (including land and waters), considered to be a possession of a person, organization, institution, animal, state or country subdivision.¹

A "considered possession of a person" doesn't have to be written down on a legal document as it is the case in occidental cultures. It can also be a negotiated agreement on an interpersonal base, individually set up for a certain situation, kept dynamically managed by frequenting renegotiation.

TERRITORIAL PRODUCTION



Border Situations

The solids are more or less equally spread over the area of Mohandessin, surrounded and held together by an urban pattern previously described as a mesh. Since the solids are different in their function and impact, and not necessarily compatible in social and cultural characteristics, the mesh provides the capability to absorb conflicts by functioning as a flexible dynamic buffer zone.

The following case studies focus on the intersections between the solids and the mesh. In this places a different way of socio-spatial organisation seems to emerge. The territory is not simply defined by authority or individuals but rather a superposition of both concepts.

map 5.1

physical boarder



membership



entrance fee



integrated / open border



case studies

car workshops, p. 136



shopping habits, p. 140



open boundaries, p. 144



corridors, p. 148



26 july street, p. 154



shopping fence, p. 158



solid waste logistics, p. 164





DRAFT
© ETH Studio Basel

Car Workshops





Car Workshops

link:

map 3.4, planned and unplanned areas, p. 46

map 3.10, income classes, p. 58



1. The White Nile Street could not have been realised according to the master plan from 1948 because the inhabitants of the former village Miet Okba did not want to sell their ground properties. The cut off infrastructure turned out to be an efficient access point to the now highly dense Area, providing economical possibilities.



2. Car repair is a respected job in Miet Okba. As a specific knowledge is needed kids get educated by the more experience members of the family.



Shopping Habits





Shopping Habits

link:

map 3.10, income classes, p. 58



International brand stores – mainly located at Game'et el Dowal Al Arabiya.



Emerging brand stores – along the transit road to 6th of October City.



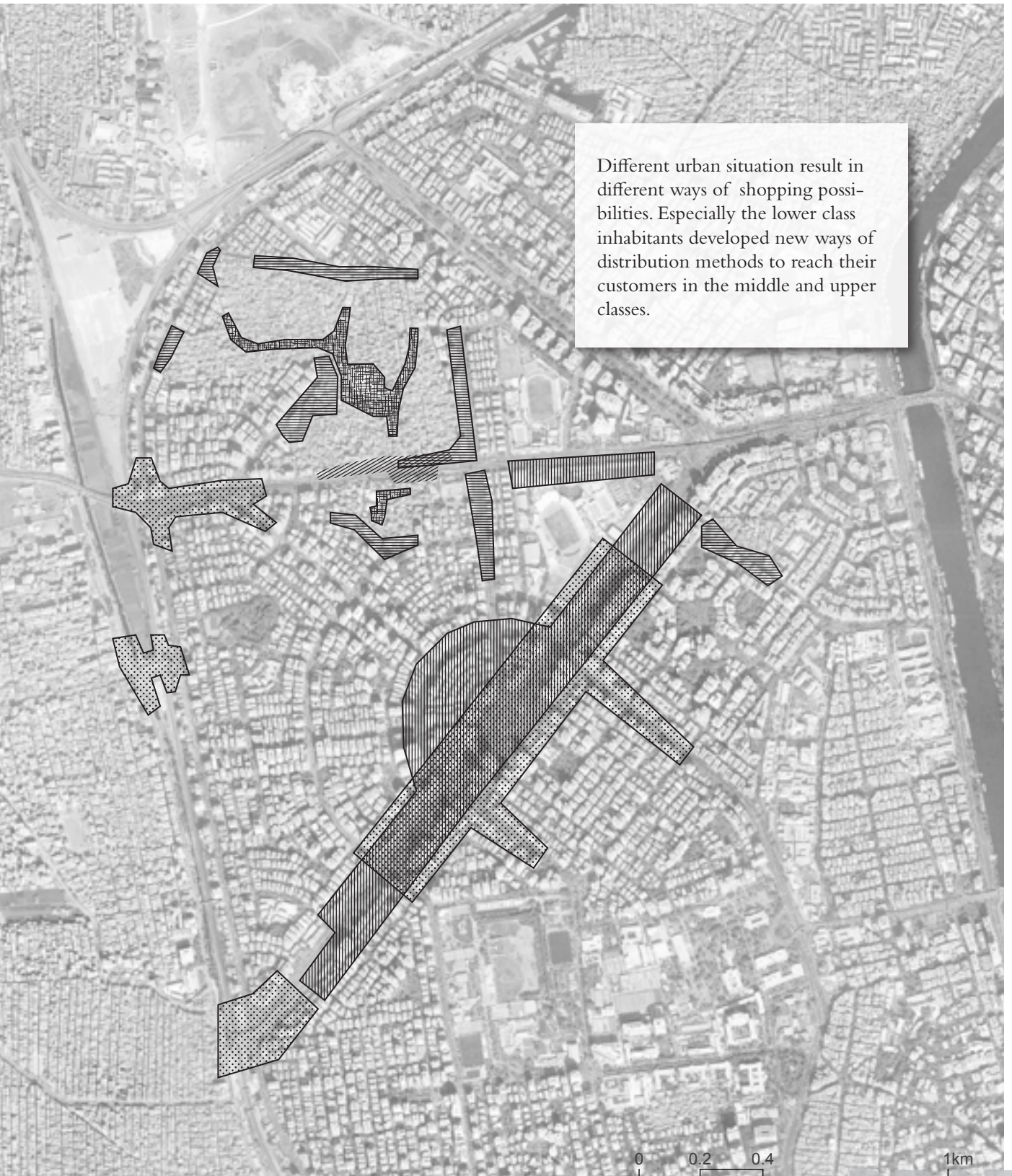
Drive by shops – compact shops along congested roads or at the entries to Miet Okba.



Mobile vendors – taking advantage of knowing which street is congested at what time.



Local stores inside Miet Okba – hardly reachable by car.



Different urban situation result in different ways of shopping possibilities. Especially the lower class inhabitants developed new ways of distribution methods to reach their customers in the middle and upper classes.



Open Boundaries



Open Boundaries

link:

map 3.4, planned and unplanned areas, p. 46

map 3.7, gated areas, p. 52



1. The border at the southern part of Miet Okba is hardly visible.



2. Al Sodan Street provides an efficient car access to Miet Okba.



3. Small green islands usually mark the entries to Miet Okba.



Although the borders seem to be very clear in the satellite picture, in the street-view it is hardly visible. Economical and social exchange is very common in this border areas.



Corridors



Corridors

link:

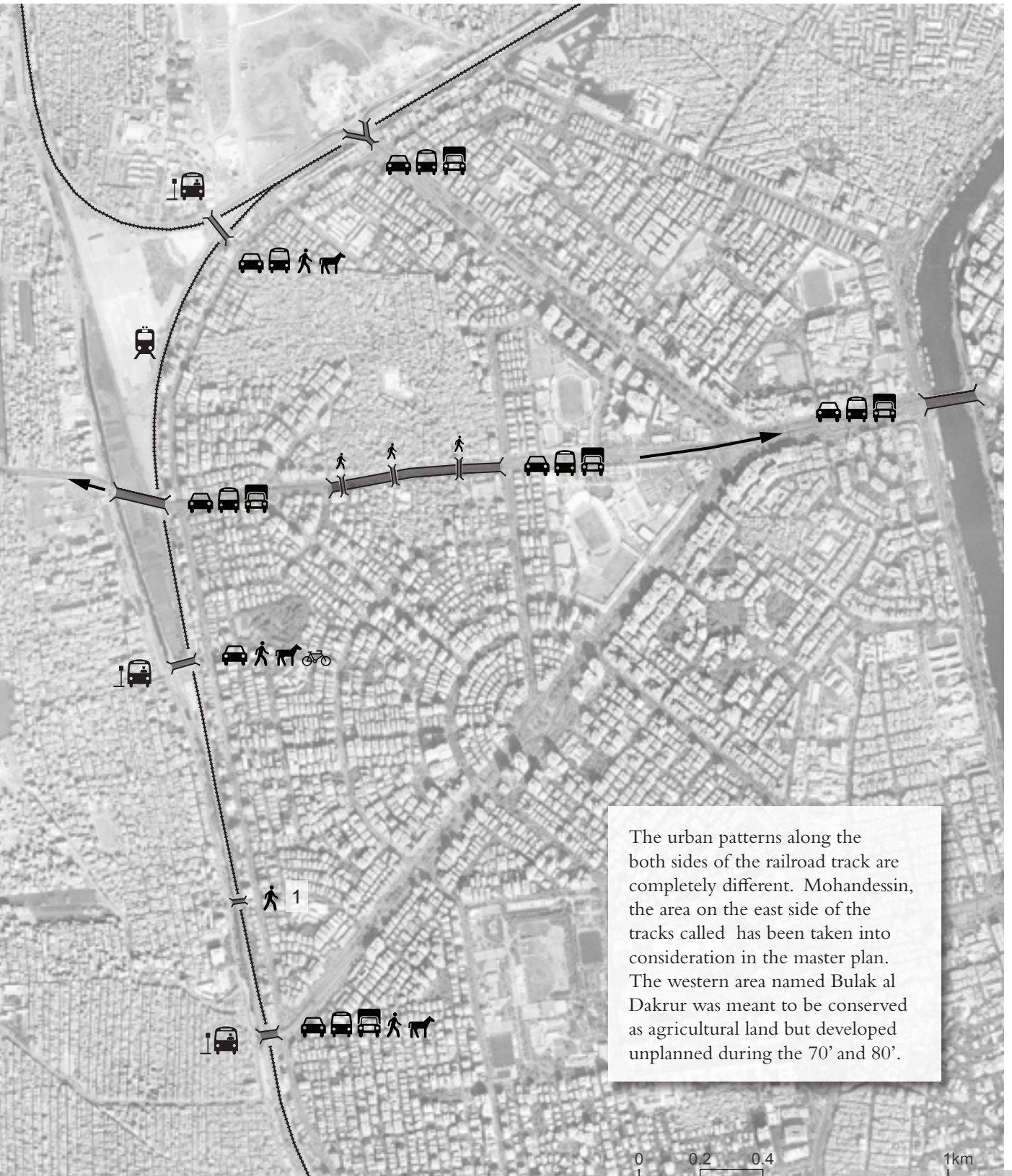
map 3.4, planned and unplanned areas, p. 46

map 3.6, traffic congestion, p. 50

map 3.8, physical borders, p. 54



1. A passenger bridge connecting Mohandessin to Bulaq al Dakrur by overpassing the railroad track. Many commuters living in Bulaq al Dakrur use the bridge to reach their job location in Mohandessin.



The urban patterns along the both sides of the railroad track are completely different. Mohandessin, the area on the east side of the tracks called has been taken into consideration in the master plan. The western area named Bulak al Dakrur was meant to be conserved as agricultural land but developed unplanned during the 70' and 80'.

DRAFT
© ETH Studio Basel

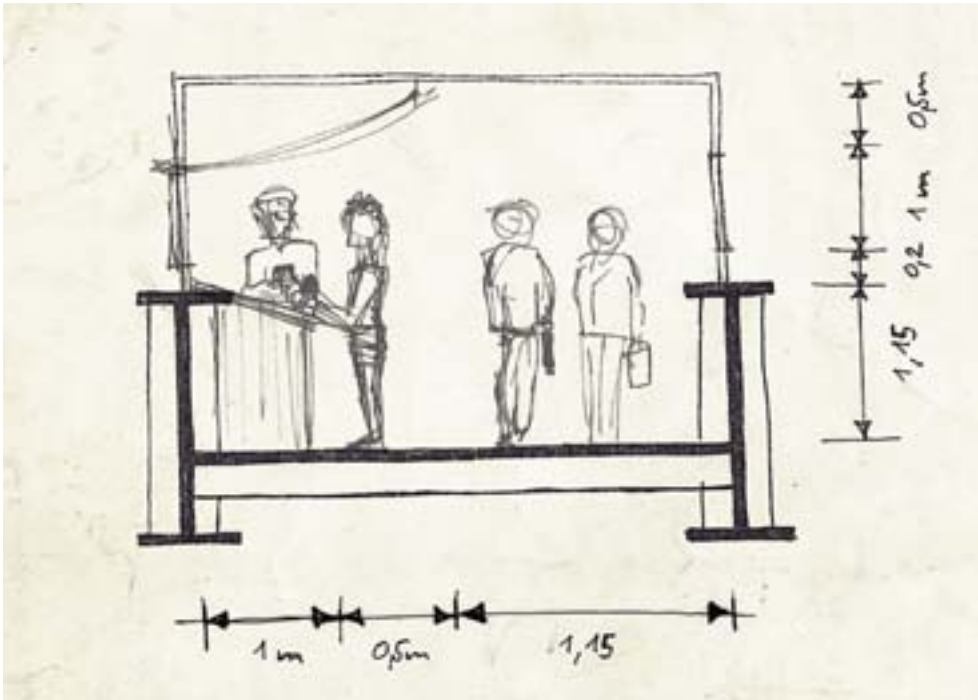
Al Sodan to Al Zomor Bridge



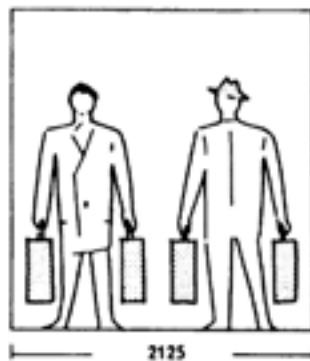
The Bridge is frequently crossed over by commuters. Only small mobile shops can be located here.



The clientele can be defined quite precisely: The commuters from Bulak al Dakrur are often working in personal services for upper classes in Mohandessin and are therefore interested in health-care products.



The vendors and the passenger arrange themselves in a way of self organisation.



The resulting measurements of this self organising process are comparable to the ones in Neufert.



26 July Street



26 July Street

link:

map 3.4, planned and unplanned areas, p. 46

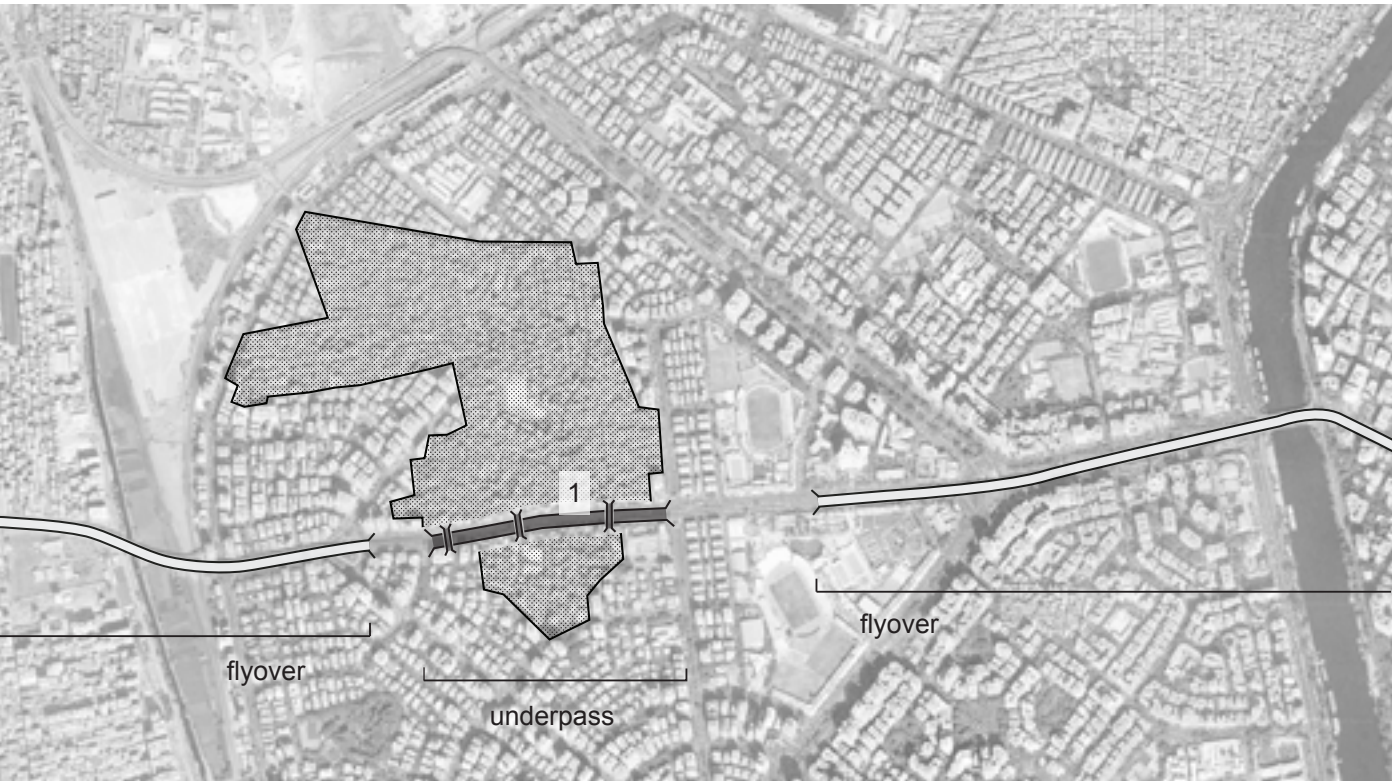
map 3.5, street network, p. 48

map 3.6, street congestion, p. 50

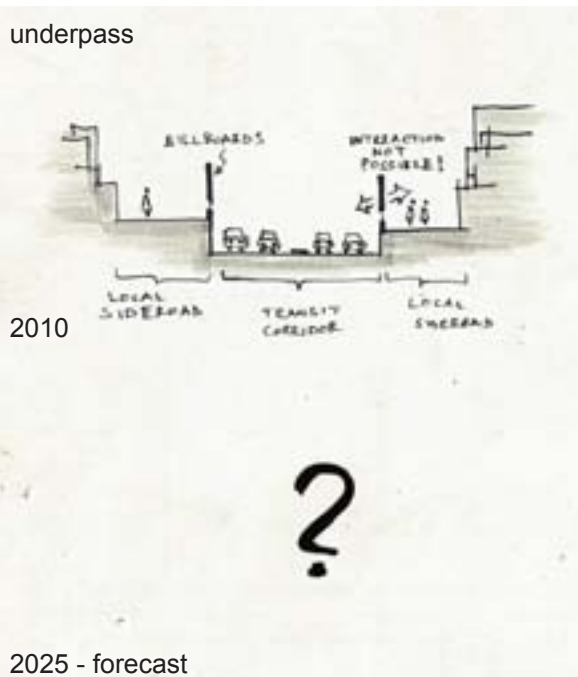


1. The 26 July street connecting Zamalek Island to the 6th of October City cuts directly through Miet Okba.

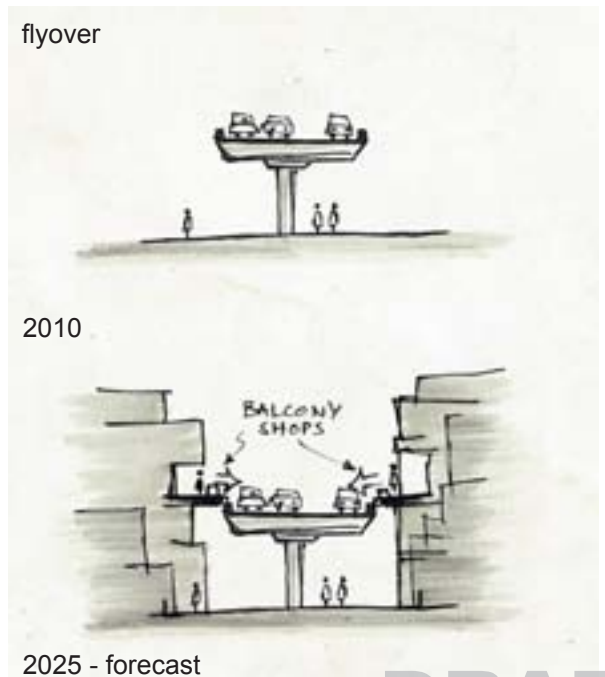
Almost all parts of the 26 July street are build as a flyover. Therefore it is also known as the 26 July Corridor. Only the part going through Miet Okba is build as an underpass, to avoid so called "balcony shops" which would slowing down the traffic.



underpass



flyover





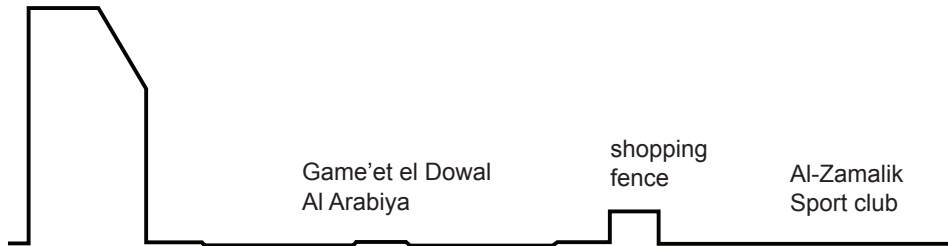
Shopping Fence



DRAFT
© ETH Studio Basel

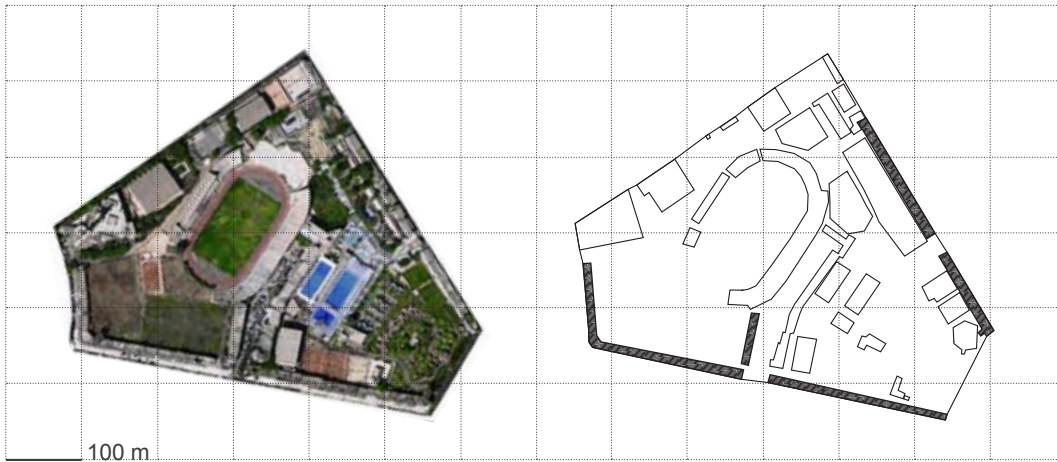
Shopping Fence, Al-Zamalik Sport Club

A shopping fence is a two storey building bordering for example a sport club. It has a protective function towards the sport club and a commercial function towards the street.



A cross section through the street shows the unequal building height along the Game'et el Dowal Al Arabiya. To avoid shading of the sport fields, the building is only two storeys height.





The Al-Zamalik Sport Club covers a large area of 164'000 m² and provides a wide range of different activities from swimming bath, gyms, a soccer stadium, wellness areas and leisure parks.





1. During night the shopping fence turns into a vivid area. The pedestrian walk is wide enough to provide space for street vendors and the huge light billboards along the axis are already visible from far away.



1. Since there is no shading covering the pedestrian walk, shopping during the day is not common. Therefore the shops often remain closed until the evening.



26 July corridor:
6th of October City - Zamalek

Game'et el
Dowal Al Arabiya

1

The Az-Zamalik Sport Club is bordered with shopping fences along the Game'et el Dowal Al Arabiya in the south and along the 26 July Street in the north.

0 0.2 0.4 1km



Solid Waste Logistics



Solid Waste Logistics

link:

map 3.4, planned and unplanned areas, p. 46

map 3.11, solid waste management, p. 60



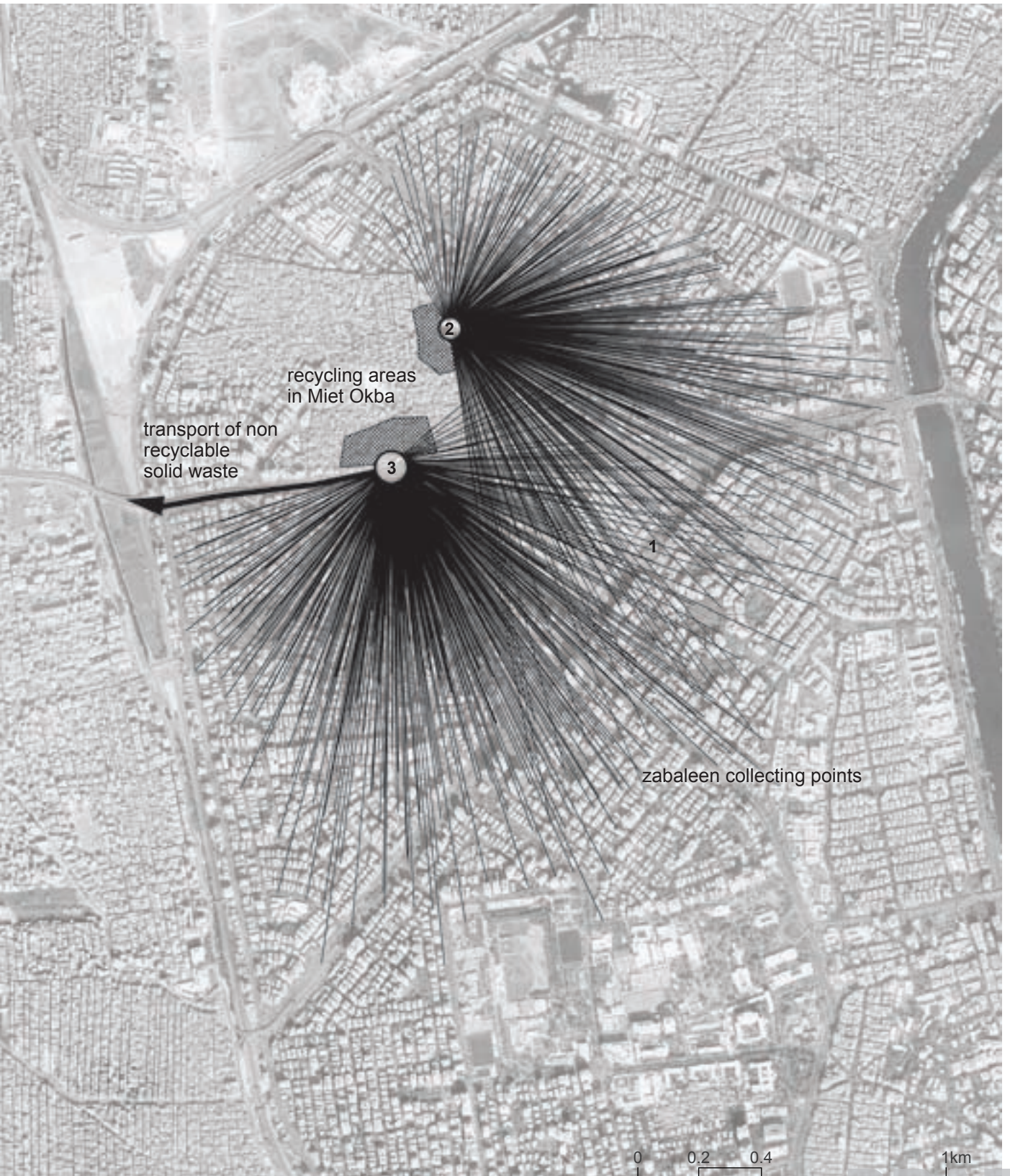
1. Zabaleen people are collecting the small pieces of garbage along the main streets.



2. The zabaleen bring the garbage to certain collecting point at the borders of Miet Okba. Since the waste from Mohandessin is quite valuable, people specialised on recycling filter out the useful parts.



3. The non recyclable rest is being collected by official companies and transported to landfills outside the City.



5. Conclusion

Conclusion

To understand the socio-spatial organisation of Mohandessin, it is necessary to discard the classical dualism of public and private space. In Mohandessin, especially around the areas we describe as interfaces, the space is being negotiated on a daily basis. Only in case of malfunctioning the government is being taken into action.

To describe this kind of organisation we refer to the term “Gemeinschaft”, defined by Ferdinand Tönnies as a community based on shared space and shared belief.”The shared belief is rather to be understood as the acceptance of a directly negotiated solution, in contrary to sticking to written rules without questioning it.

Ferdinand Tönnies



public - private

“Gesellschaft”

civil society

based on written law



public - private

“Gemeinschaft”

community

“based on shared place
and shared belief”

modes of
territorial production

authority



territory



user

} territorial definition

authority

territory



user

} territorial claim





Though connected to the any form of new multimedia, the idea of self supply is still present in Miet Okba.



Global services exist in Miet Okba without having a status of desire.



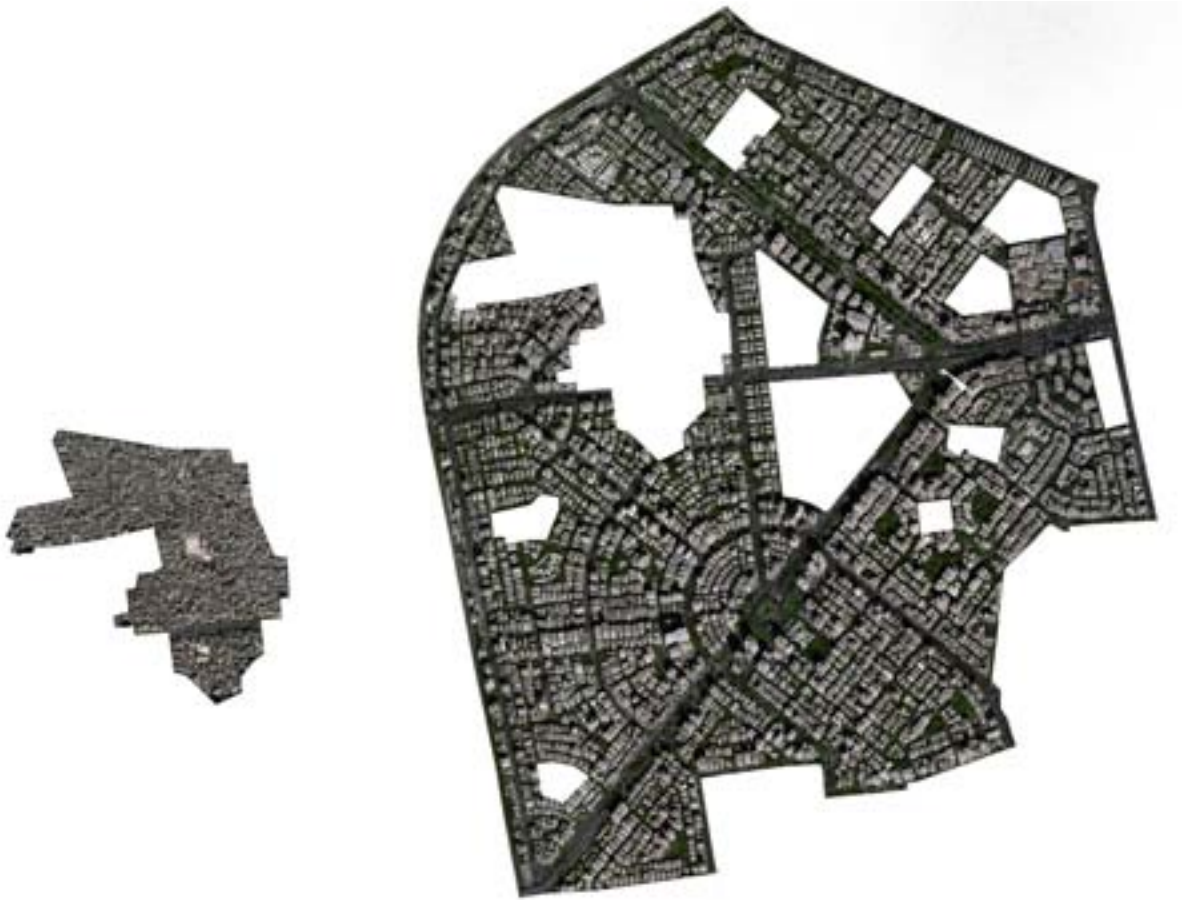
Public space is often interpreted in a different way than planned without losing its quality.



The public is understood as something everybody can cut a piece of, as far as it serves the community. A micro shop taking public space is accepted as far as the products are usefull for the inhabitants.



The urban furniture in Miet Okba has often more value than in the most expansive locations of Mohandessin. This could be considered as representative for the value, a public space has for its inhabitants.



Miet Okba
former farmer village

Mohandessin
modern city layout 1948

area	1 : 10	area	4.536 m ²
0.461 km ²		inhabitants	180'000 - 240'000
40'00 - 70'00	1 : 4	density	40'000 - 50'000
80'000 - 150'000	5 : 2	inhabitants/ km ²	
0.293 km ²	1 : 5	built area	1.52 km ²
0.167 km ²	1 : 18	street space	3.019 km ²

6. Bibliography

Image Credits

History of Mohandessin
Abu Lughod, Janet L. Cairo,
1001years of the city victorious
p 207

Fishermen villages
<http://www.jableh.com/vb/showthread.php?t=19177>
<http://www.blackholeofphotography.com3>

Expansion to the west bank of the Nile
<http://www.blackholeofphotography.com>
MORGAN, I. „Kairo, die Entwicklung des modernen
Stadtzentrums im 19. und frühen 20. Jahrhundert“,
Pl.15 um 1925
VOLAIT, M. „Three planning schemes for Cairo“, p.52

Modernists Movement
<http://www.blackholeofphotography.com>
VOLAIT, M. „Three planning schemes for Cairo“, p.62

Arab Socialism
GOETHERT, R. „Zur Leistungsfähigkeit inoffizieller
Stadttrandentwicklung“, p.162

Transit Corridor
Guiza Master Plan Study, Section

fieldwork photos:
Tuline Osman
Sarah Shalaby
Thomas Keller
Tomas Polach

all maps created by the researching team,
based on following sources

Acknowledgments

Omar Negati

Dr. Dina Shehayeb

Bedour Ahmad

Ahmed Zaazaa

Dr. Khaled M. Abdelhalim

Mohamed El Azzazy

I Khalid

David Sims

Tuline Osman

Sarah Shalaby

Buchbinderei an der Limmat AG
Ausstellungsstrasse 25
8005 Zürich
<http://www.b-b-l.ch>

Sources

books, reader, study

LEEUWEN, v.R. „Waqfs and urban structures. The case of Ottoman Damascus“, Leiden, 1999

ABU-LUGHOD, J. L. „Cairo: 1001 Years of the City Victorious“, Princeton, 1971

MORGAN, I. „Kairo, die Entwicklung des modernen Stadtzentrums im 19. und fruehen 20. Jahrhundert“, Berlin, 1999

BEHRENS-ABOUSEIF, D. „Egypt's adjustment to Ottoman rule. Institutions, waqf and architecture in Cairo (16th and 17th centuries)“, Leiden, 1994

HAARMANN, U. „Mamluk endowment deeds as a source for the history of education in the late medieval Egypt“, al-Abhath, 1980

GOETHERT, R. „Zur Leistungsfähigkeit inoffizieller Stadtrandentwicklung“, Köln, 1986

HEINE, P. and SYED, A. „Muslimische Philanthropie und Bürgerschaftliches Engagement“, Maecenata Verlag, 2005

UN-HABITAT, „Islam, Land and Property Research Series“, 2005

CHESIRE, K. „Islamic Philanthropy: The Case of Waqf in Poverty Alleviation and Social Economic Development“, Chepkwony, 2008

VOLAIT, M. „Architectes et architectures de l'Égypte moderne (1830-1950): genèse et essort d'und expertise locale“, Paris, 2005

NIELSEN, H.C. and SKOVGARD-PETERSEN, J. „Middle Eastern Cities 1900-1950: Public Places and Public Spheres in Transformation (Proceedings of the Danish Institute in Damascus)“, Aarhus University Press, 2001

GUIZA MASTER PLAN STUDY, General Organization for Physical Planning in cooperation with Guiza Planners, Danish group of planners, architects and

engineers, Cairo, 1983

SIMS, D. „Understanding Slums: Case Studies for the Global Report on Human Settlements“, Egypt, 2003

EL AZZAZY, M. „Mostafa Mahmoud Square and the Mosque Piazza“, El moahndessin, 2009

map material

<http://www.openstreetmap.org/>

<http://wikimapia.org/>

<http://egyptmapper.blogspot.com/>

internet

Awlad Allam Slum in Dokki

<http://www.arabawy.org/2006/11/11/ahmadsharaf/>

Egyptian Geography Network

<http://www.egn.gov.eg/Portal/ptk>

<http://wikipedia.com>



