



Investigative Design, bypassing the city edge
An analysis of Kisumu, Kenya

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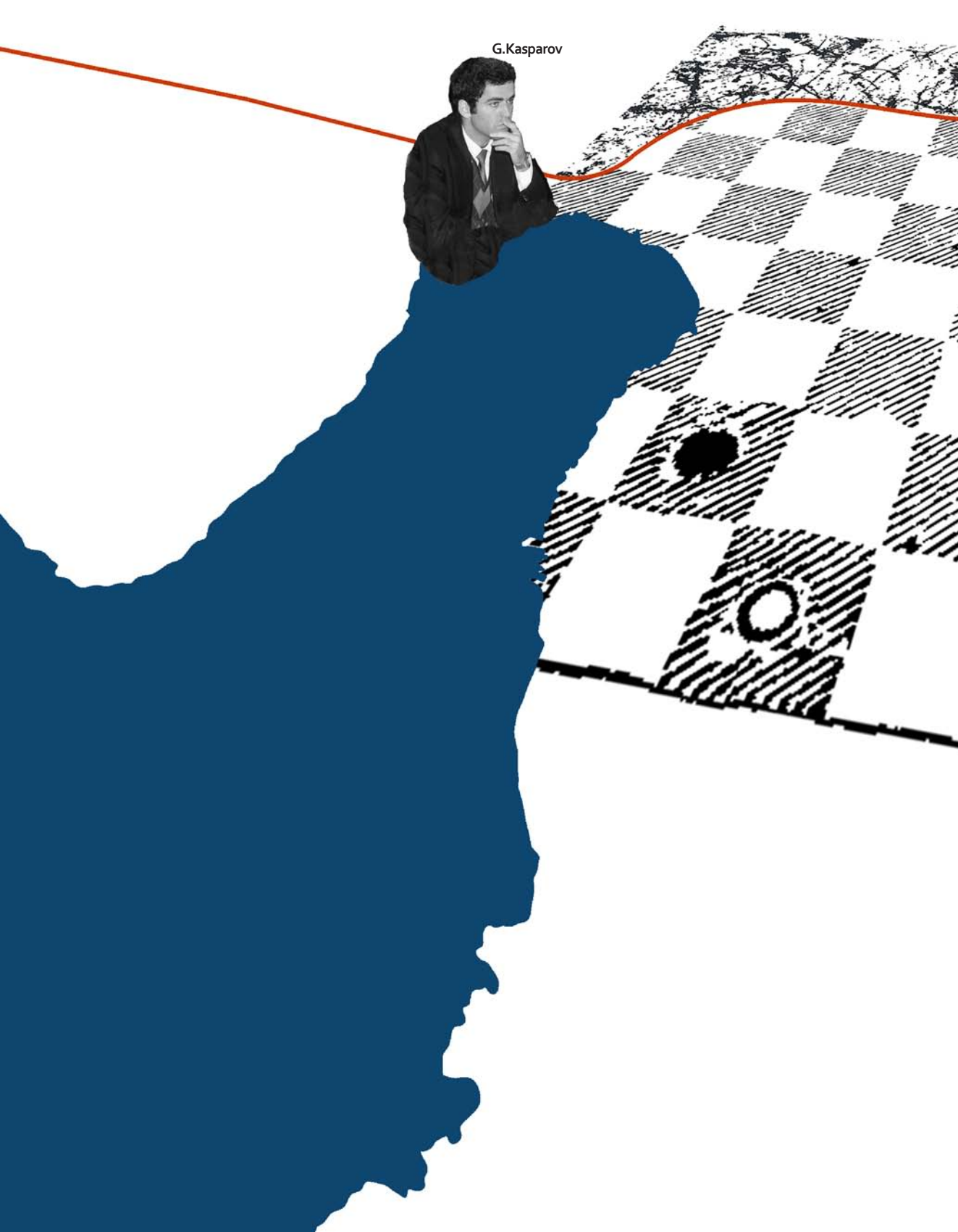
Investigative Design, bypassing the city edge



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This thesis handles about Kisumu, a postcolonial city at the shores of Lake Victoria. The duality of the urban pattern is bewildering, the aligned grid versus the informal peri-urban areas, Kaparov's chessboard versus Pollock's dripping. Recently plans for bypassing the city have been approved. This thesis is a designerly investigation on the implications of this bypass.

Restrictions

It is necessary to point out some restrictions we endured during working on this thesis.

Change of subject and time schedule

First of all our field of research was not Kisumu when we set of for fieldwork. We originally intended to work on a small village –Kabondo- some 60 kilometres of Kisumu. A small-scale orphanage with Belgium funds had already invited three Swedish students in architecture for some research in 2006. In 2007 they applied at the KULeuven for some thesis-students to complete the work of the Swedish students. As this proposition was included in the list of possible theses, we chose for a research in Kabondo for its urgency and its practical outcome.

After two weeks of intensive fieldwork in Kabondo we received an email from Belgium that explained we had to do some research in Kisumu as well. Since we had no preparation on Kisumu at all it was rather difficult to find a subject that was able to combine a research in Kisumu with our existing subject in Kabondo. After some advices of Professor Erastus Abonyo of the University of Nairobi we decided to focus on a historical evolution of the homestead structures around Kisumu. Via e-mail, we agreed on this subject with our Belgium promoters.

After 3 weeks of trying to grasp this evolution we had to stake our efforts because we realized it was too complicated for our time schedule. We decided to focus on formal and informal markets within Manyatta –since we had been doing all our research within this area. By then we only had one month left to finish our fieldwork.

The idea of focussing on the bypass only arose when we were back in Belgium. We then tried to combine all our bits of fieldwork and impressions into one fitting totality.

Spatial observations and impressions

Since there have been no foregoing theses on Kisumu and because of the reasons discussed above, our thesis is more conceived as to be explorative. It is mainly based on visual spatial observations, impressions during our fieldwork and small informal talks with locals. Afterwards we completed our fieldwork with (and have tested our impressions against) aerial photographs and GIS-files we received during fieldwork.

Thanks to:

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PART II: DESIGN BYPASS

- 1 | SCOPE OF THE DESIGN
- 2 | ANALYSIS
- 3 | DESIGN

PART III: DESIGN PROTOTYPICAL NUCLEI

- 1 | SCOPE OF THE DESIGN
- 2 | ANALYSIS
- 3 | DESIGN

Kisumu is a medium sized Kenyan city in the Nyanza province, serving as a transshipment node on international, national and regional scale. Its strategic position on the hinge point between East- and West-Africa and at the shores of Lake Victoria makes it an important traffic interchange node. In its hundred years of existence, it has grown from a humble colonial outpost, to a bulging city that has burst out of its limits.

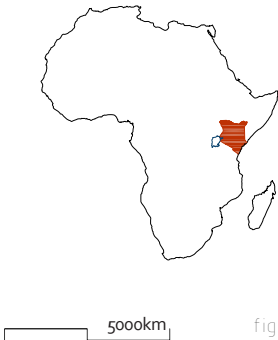


fig 1: Africa

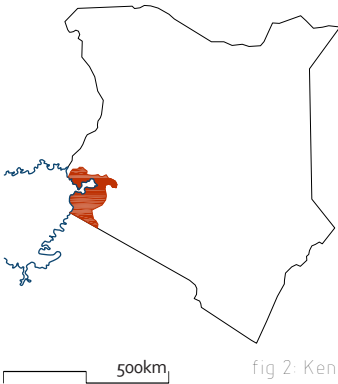


fig 2: Kenya



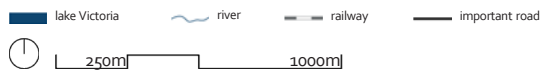
fig 3: Nyanza boundary



fig 4: Municipality boundary



map 1- map of Kisumu



B. Kisumu's transitional character

a_ the CBD as core of the city

Kisumu mainly is an administrative and transitional city. The city layout is therefore since its constitution mainly focused on the features of this transshipment role the city is fulfilling; the international pass-through, the railway line, the harbour and the according CBD (map 2).

The city has grown around this CBD within a laid out grid structure –and later even outside this grid- but the main public functions and social life remain located at the international pass-through. The city is therefore consecutively built up in a concentric way, according to the logics of trying to be as close to this vivid city centre as possible, resulting in a range of belts with decreasing importance, intersected by some axial roads. The strongest boundary between two subsequently decreasing belts is at the official town boundary. On the inner side one faces a formal grid of aligned housing estates; on the other side one faces an informal pattern of slums. The virtual boundary is materialised in the form of a wide empty road reserve. Even though the built area of the city has a wide sprawl, all social and economic life plays around the CBD and on the main axial entrance roads. Besides a stage for public life, these main roads are until now the only possible passage for all international traffic. This results in an overloaded street profile where different users claim the same place.

Recently plans for bypassing the city, leading all international traffic around the centre, have been approved.

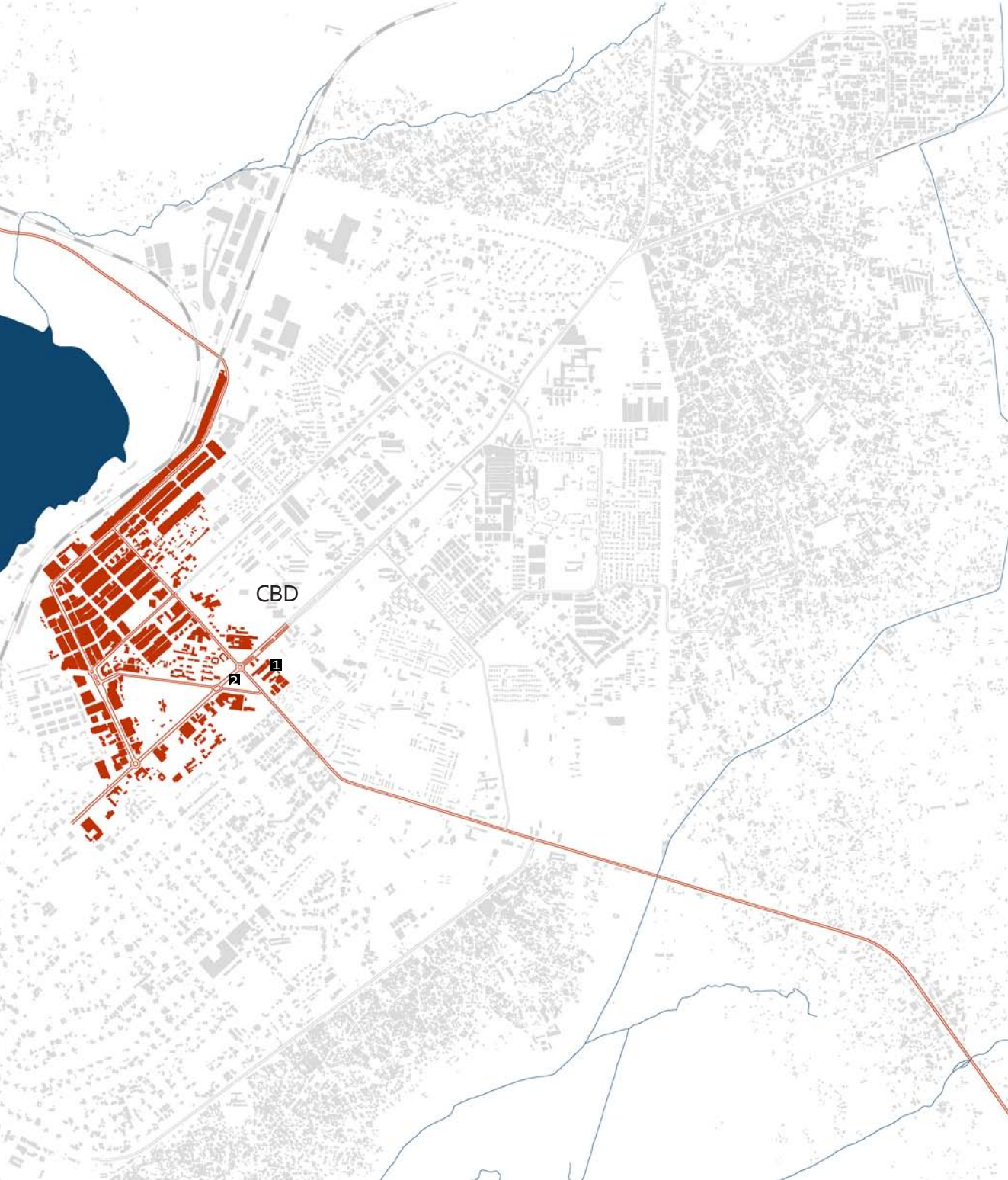


fig 5: around Jubilee market (1 on map)

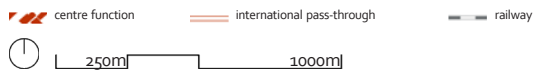


fig 6: around Jubilee market (2 on map)





CBD



map 2: the cbd as the core of the city

This bypass is planned on the road reserve between the grid of aligned housing estates and the belt of informal settlements. This radial connection will have strong impacts on the so far concentric and axial city; some considerations should be made.

Advantages and disadvantages of the planned bypass

The main focus of the bypass is to decrease traffic pressure on the CBD and to provide a fluent traffic flow around the city. It thereby creates a change that has advantages and disadvantages.

First of all, the main axial access roads will lose some of their importance, resulting in a change of economic weight and leaving the CBD along a 'dead-end street'. It will thus restructure the city in a basic way. The bypass however will gain economic weight rapidly and will attract many investors. This in his turn will have a strong impact on the small-scale tissue currently surrounding the road-reserve. The informal settlements along the bypass that nowadays face a backside of the city will suddenly become a front side of the city.

The bypass can be interpreted as a scar that enforces the strong division between the inner city and the outer slum belt but at the same time, it can be seen as a linking element that provides a frame for linking elements between those two entities. Its design should make it tople over to the desired direction.

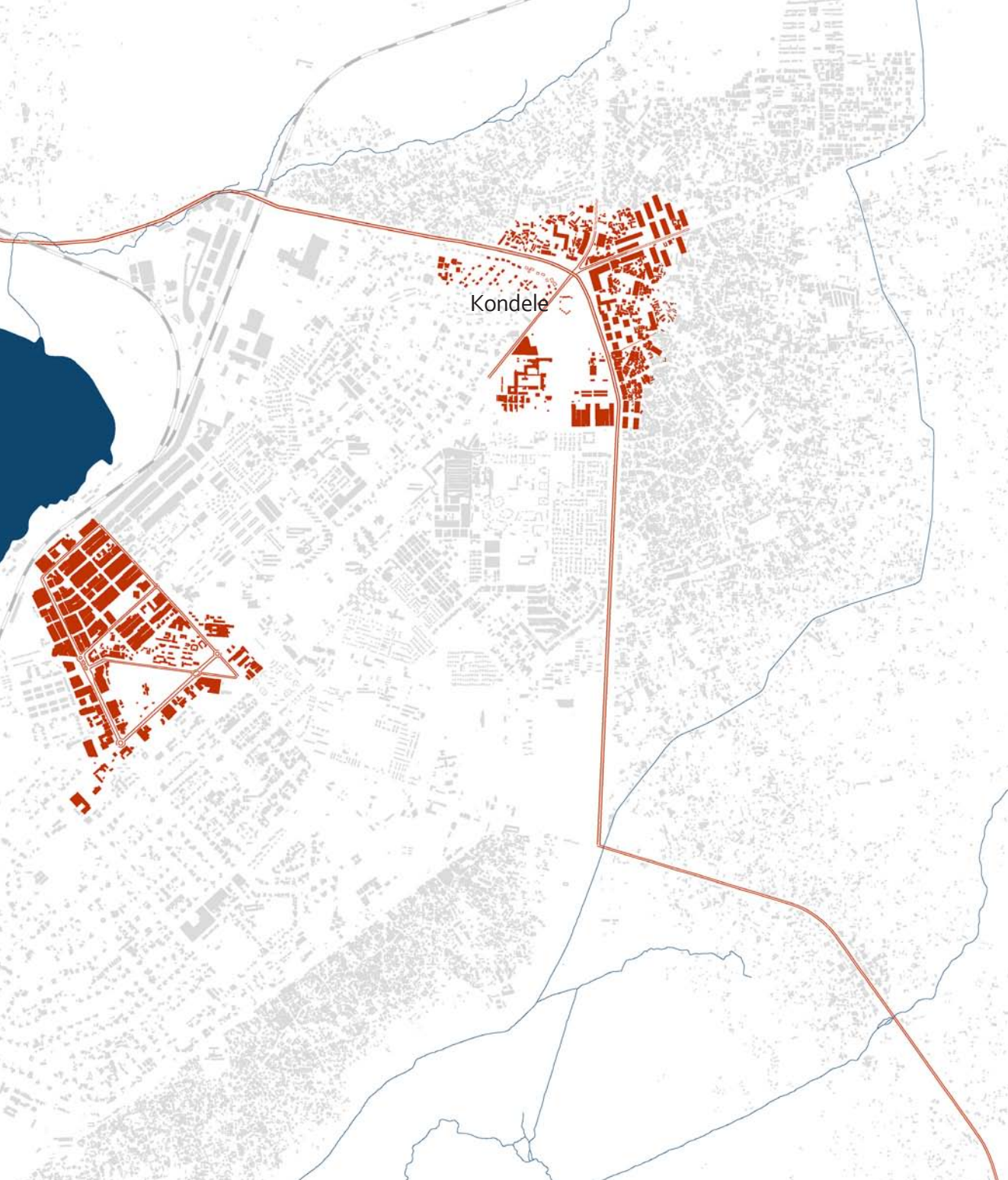
Nevertheless, the idea of a bypass is in its right place. A radial connection is needed and the current empty gab of the road-reserve is an opportunity that should be taken.

Current plans for the bypass

The currently planned bypass foresees a two-lane avenue with several footbridges. This addresses in some way the issue of linking the two tissues but one can question the actual improvement of footbridges.

In the north of the city, this road-reserve widens up to some extent at Kondele, providing a large empty gap where informal marketers have installed. With the planning of the bypass this entire market → a large income generator for the adjacent slum dwellers- has radically been removed. A flyover and roundabout have been planned at this point but the impact on the environment and the weight of the investment is not in proportion to the specific needs of this bypass.





Kondele



map 3: the multi-polar future of Kisumu

Lying on the cross point of the bypass and an axial entrance road, this spot is nowadays already an important traffic node in the urban tissue handling with all types of changing between traffic modes. Nevertheless, the traffic interchange has not been taken into account when it came to planning this space even though it is a complex situation. Matatus, bodabodas, tuktuks, pedestrians, handcarts, sellers and buyers should all come together in one fluent and logic motion. If there is no framework provided to canalise these movements the situation will result in an uncontrolled chaos.

Nowadays Kondele also serves as a centre for the adjacent informal settlements –a kind of counterpart of the formal CBD in the city centre. The formalization of this bypass will only intensify the traffic interchange and consolidate the centre function.

Different conditions should be pointed out as well on this site. There is a large expansion area for the hospital, the very small-scale tissue of the informal settlement and various morphologies of aligned layouts at the concave side of the bypass. None of these have been taken into consideration in the planned bypass even though the bypass will have a strong impact here on the existing –very different- real estate.

Conclusion

The implementation of the bypass will have throughout restructuring implications. The informal centre, Kondele, will become a second centre or even the main centre. The masterplan for the bypass can have positive influences on a city scale and especially for the informal settlements along it. Its design should be detailed on an urban landscape scale as well as on the small-scale tissue surrounding it.



Several possibilities can be taken into account;

- Kondele can become the main centre, while the CBD remains an administrative centre (fig.7)
- Kondele can become a centre pole with an equal weight as the CBD, resulting in a bipolar city structure (fig.8)
- several focal points can grow along the bypass with an emphasis at Kondele, resulting in a multi-polar city structure (fig.9)

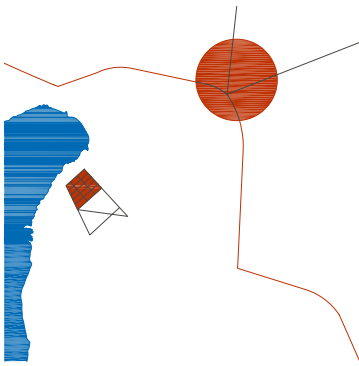


fig 7

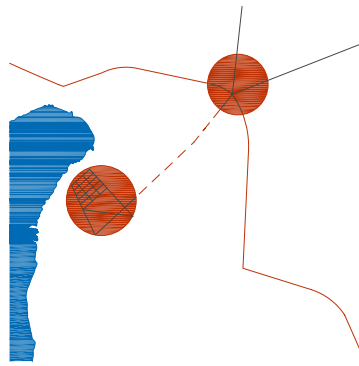


fig 8

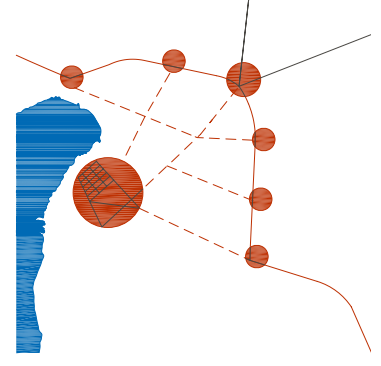


fig 9

Kondele



c_the bypass as a trigger for development

Separated by a clearly distinguishable boundary, a wide belt of informal settlements encircles Kisumu centre. Nowadays this frontier, between inner city and slum area, is a 30metres road reserve where the planned bypass will be located. This bypass will become the international pass-through, and hereby gain economic and structural importance. More and more investors will start planning and eventually building commercial structures on this edge. The linkages between the informal settlements and city centre, crossing this 30metres road reserve, are nowadays marked indistinctly. The coming bypass either can enforce this inexplicitly or brighten these linkages.

This bypass will affect both slum edge and the edge of the inner city. In this problem statement, we will focus on the slum area because of its informal character; with the coming of the bypass, we consider this part of Kisumu to undergo the most changes.

Inside Manyatta, the slum area on the eastern side of Kisumu, almost all parcels have been subdivided over time, leaving a tremendous amount of houses, appearing randomly littered over the area as a patchwork quilt, covering almost all land. The subdividing of the parcels is a consequence of the high housing demand and the resulting speculation practices. By selling or renting land, the owner ensures or improves his livelihood. No focal points, such as employment sites or public spaces, can be found in this large tissue where almost no free land -for building purposes- is left.

More than 70 per cent of the inhabitants of the Manyatta neighbourhood are working in the informal self-employment sector because of the low formal employment opportunities. The employees of the formal sector, and thus the minority of the inhabitants, are working in different working places downtown outside the informal settlements and in the industrial areas¹. Due to the insufficient accessible mobility network several parts of the informal settlements have a very poor connection with public transportation -which increases the travel time from slum area to the different working places enormously.

Conclusion

The surrounding neighbourhoods will undergo an important impact of the bypass. This impact can be twofold: or the bypass will trigger the 'curing' of the slum area at the frontier and enhance the income opportunities of the dwellers or the dwellers will undergo a social displacement due to growing speculation practices by investors. Only well-considered spatial interventions will create a winning scenario for both slum inhabitants and investors. The positive stimulus of the bypass can be canalised in a direction to obtain a further upgrading of the whole slum environment.

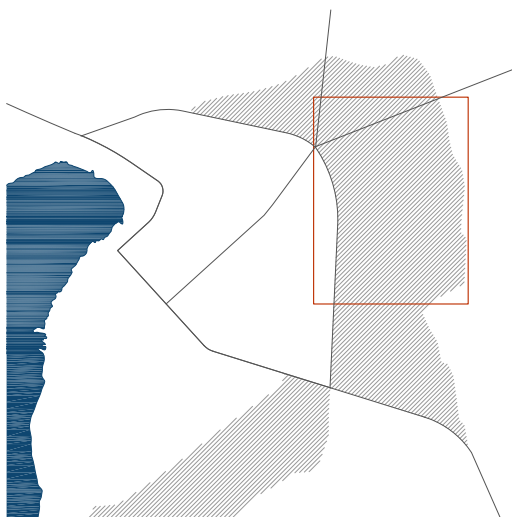


fig 10

¹ UNHABITAT, 2005, *Situation analysis of informal settlements in Kisumu, Cities without slums sub-regional programme for eastern and southern Africa, Kenya Slum Upgrading Programme (KENSUP), UN-HABITAT, Nairobi, p.4*



map 4 Bypass as a trigger for development

d_ scales of intermediation

Different scopes and limitations have been set to make an analysis. These scopes are conceived as a matter of different scales.

First of all we analyse the city on the XL scale, the uniformity of the city as a whole, with its dynamical logics, its tissues, vegetation, transportation modes, etc. This general analysis forms the basis of the L scale in which we try to capture the most important spatial dynamics around the bypass, the important linkages, the surrounding tissues, etc. The limitation of this scale is a virtual boundary we have chosen in which we think the bypass will have a direct spatial impact. This L scale will be analysed in detail in part II and will directly precede the design of the bypass, with a focus on Kondele.

Furthermore we make an analysis of the Manyatta area –the informal settlement at the eastern boundary of the old colonial town and the most yet-developed slum of the slum belt. We call this the M scale. The same features of the XL scale will be taken into account here. This analysis will be the basis for the S scale; a representative east-west stroke taken out of Manyatta, a pars pro toto for the entire slum. This S scale will be analysed in part III, and will precede the design of some prototypical nuclei within this informal tissue.



the city as a network at uniform scale
XL



the bypass along its longitudinal direction
L

M

Manhatta area as an urban tissue in its own terms



S

a focus on three strategic 'voids' in an urban tissue



First of all we situate Kisumu within its international, national and regional context to understand its importance as a transshipment point. Kisumu has been a transactional and administrative centre of great importance since its constitution a century ago. We then consider topography on the city scale to outline its expansion possibilities and limitations.

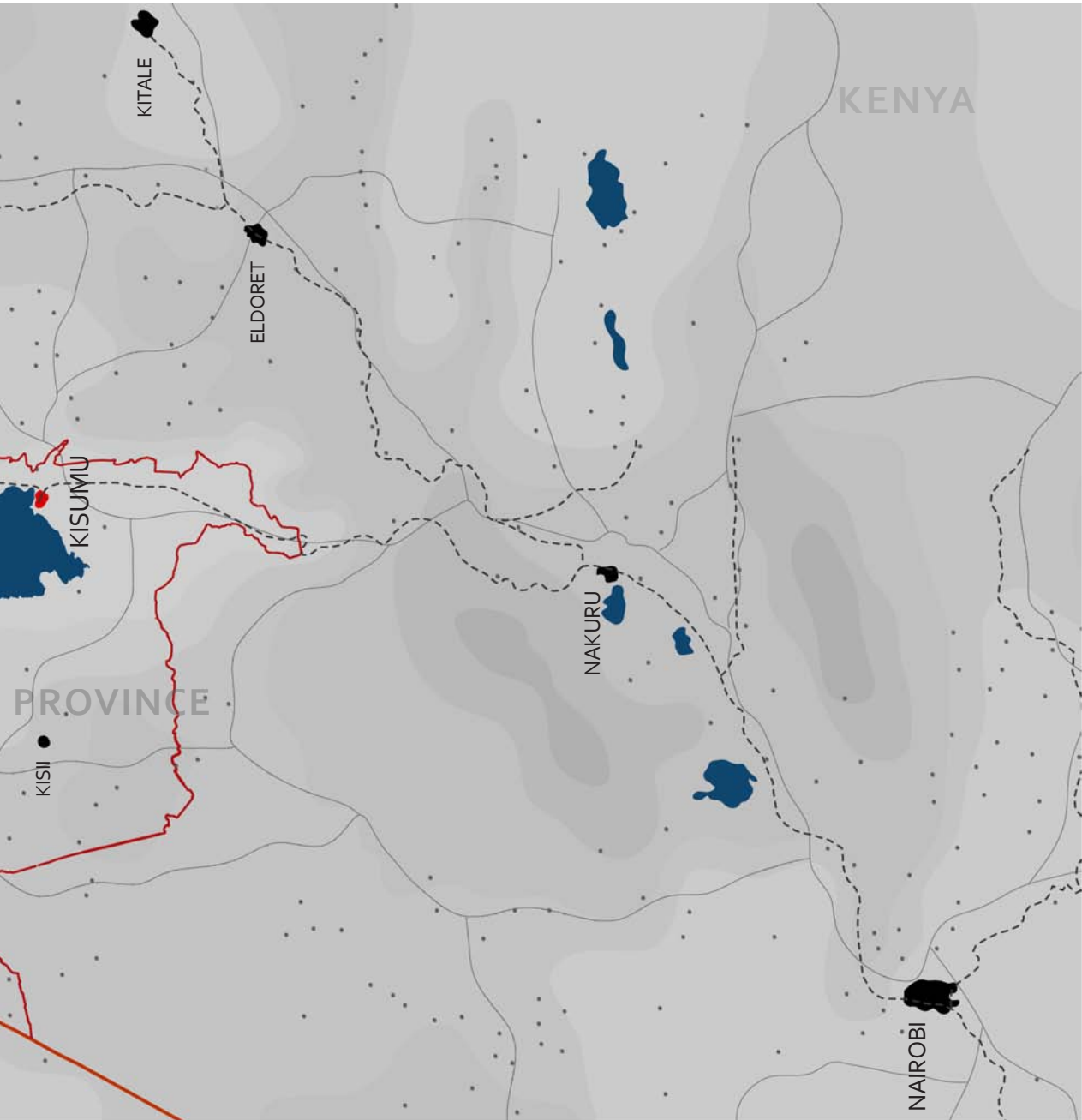
In the historical morphological analysis we give a short overview of the most important spatial evolutions on a city scale. The different periods have been taken from Anyumba's *'History of the built form, planning and environment: 1890-1990'*. For each period we link spatial developments to the most relevant historical events to get a grip on understanding the city layout.

In the last chapter we depict some different spatial features of Kisumu as it is nowadays to grasp the functioning of the current city layout. We first consider different aspects of the cityscape separately, interpret their spatial differentiation and make some considerations towards relevant issues. Afterwards we combine some relevant features that are clearly related to each other.

a_an international transition hub with a rich hinterland



map 1: Nyanza Province and environs



TO MOMBASA

The Republic of Kenya is located on the eastern part of the vast continent of Africa and forms an important part of East Africa. Kenya is bordered in the south-east by the Indian Ocean, which is an important outlet and means of sea contact. This contact is focused on Mombasa, Kenya's main gateway to and from the sea. Both Uganda and northern Tanzania are also served by Mombasa.

Kenya falls into provincial units for administrative purposes. The most south-western one is Nyanza of which Kisumu is the provincial capital. It is part of the Lake Victoria catchment, invariably called the Lake Victoria Basin; an area where population density is above the national average. This is because of a softer climate, more fertile soils around the lake, supply of water, etc. The lake also provides potential for transportation, fisheries, tourism, agriculture, power, industries, etc.

The spatial distribution of Kenya's population is highly uneven; a clear correlation exists between annual precipitation and altitude on the one hand and population density on the other. Almost 20 million Kenyans depend directly on agriculture for their livelihood. However, only 18 percent of the total land area is classified as medium or high potential agricultural land on the basis of annual precipitation and altitude - among which the Nyanza province. Kenya, therefore, has one of the highest rural population densities in the world.

But there is a strong cultural dimension that degrades the environmental richness of this region; the dictates of cultural practices of sons inheriting their fathers' land and wives owning land to cultivate are reinforcing the need to subdivide land into small units which are uneconomical for meaningful farming. Such practices continue to generate a population of landless youth who must migrate elsewhere to earn a living.

Kisumu is a name derived from a Luo word, "kisuma" –meaning a place where the hungry get sustenance; this could have been due to its role as a regional centre for barter trade. This role continues to this day, with Kisumu acting as a commercial and transportation hub for the Lake Basin region.

Kisumu is the third largest city of Kenya, after the capital Nairobi and Mombasa and was originally constituted as the railway terminus for the Great East African Railway. The railway allowed goods to be exported and allowed heavy equipment to be transported far inland with relative ease. Kisumu's position on the hinge-point between East and West Africa, its unique role as a rail- road- and sea line interchange node made it a fast growing urban complex in an unexploited green area. Later on a new main line was constructed from Nakuru on a more northerly route, around the head of the lake, linking Mombasa with Kampala and thereby leaving Kisumu only on a branch line. Despite this shift in economical importance, Kisumu remained an important transportation hub and economic centre, triggering a massive rural-urban migration over the past 40 years.

Kisumu serves as a depot for the distribution of imported goods as well as a depot for exported raw materials gathered from periodic markets in its rich hinterland. This hinterland mainly exists of gentle green slopes with natural vegetation alternated by cultivated land –of which the problems have been cited above (fig.1&2). Within this green land one finds several focal points; small centres with a periodical local market that serves a wider environment (fig.3).

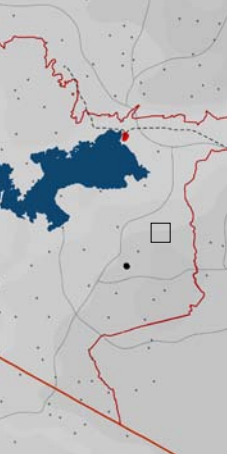


fig 1: view of Kisumu's green hinterland (Kabondo District)

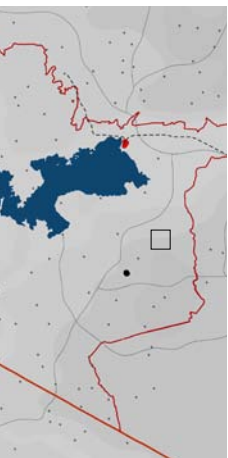


fig 2: view of Kisumu's green hinterland (Sondu River)



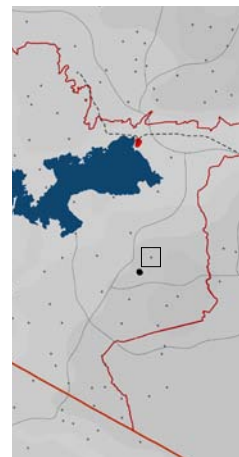


fig 3: view of a focal point in Kisumu's green hinterland (Misambi)

b_topographical boundaries

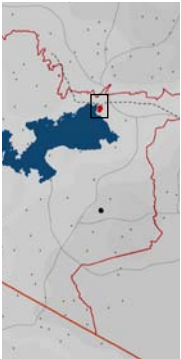


fig 4



fig 5:Nandi Hills



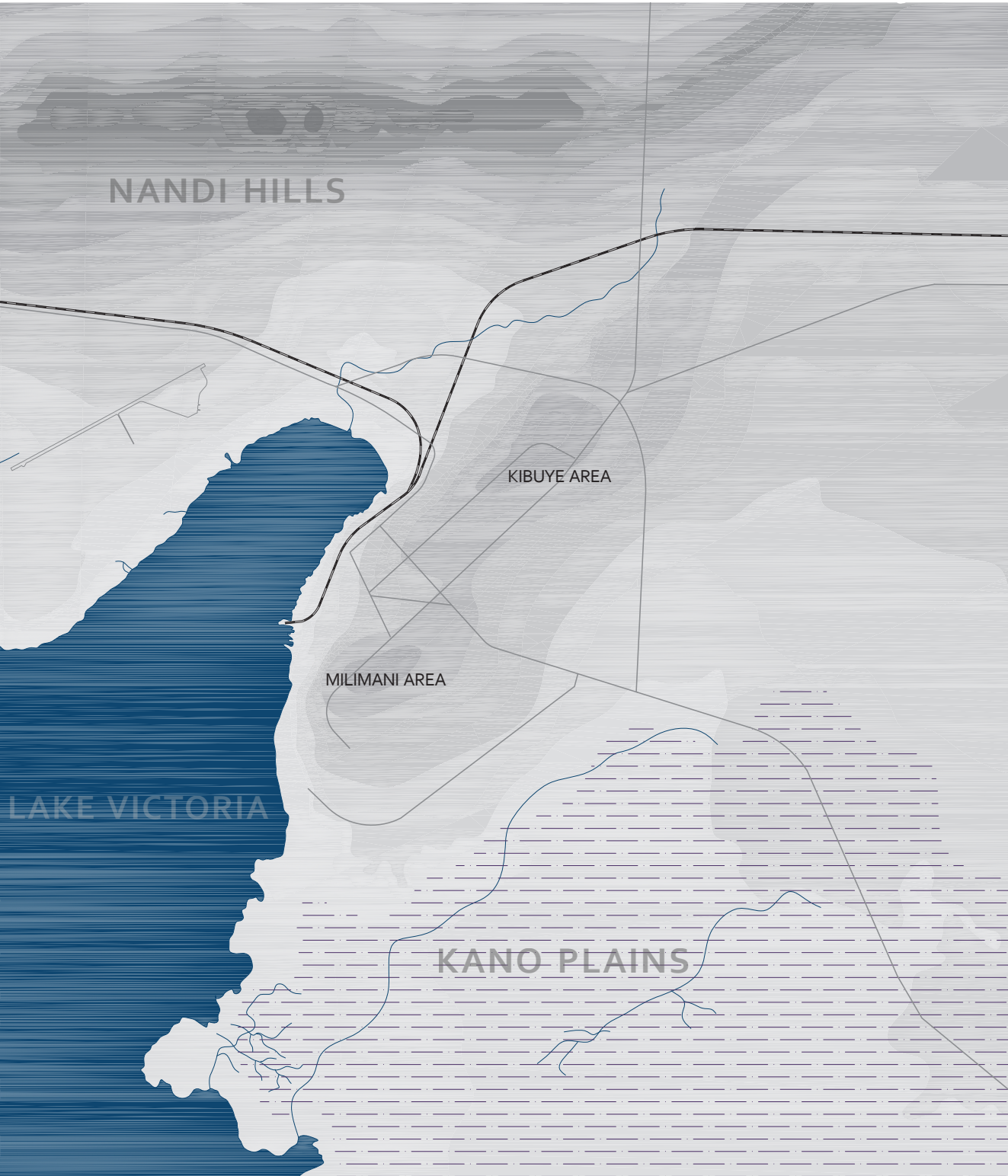
fig 6:Lake Victoria

Physiographic features to a great extent determined the choice of localities for the British colonialists when they first settled in Kisumu . Nowadays those physiographic elements limit to some extent the expansion possibilities of the city.

The Kisumu Municipality may be divided into two topographic regions: the hilly north -with the Nandi hills peaking at over 2000m above sea level - and the southern Kano plains. There is a significant ridge within the Kisumu City that lies parallel to the gulf. It is highest at Kibuye estate (1220 meters above sea-level), falls in a slight depression and rises to 1150 meters above sea-level at Milimani estate, which is still some 20 meters above the lake-level .

The hilly north as well as the north-western part of town is well drained, but the relatively flat lands east and south-east of Kisumu are liable to flooding and are associated with swamps. The poor drainage on both the eastern side of Kisumu as well as on lake side (with the resulting swamps and bogs) was of a low locational value .

The Kisumu region has a bimodal rainfall regime. More than 40% of the total rain falls between March and May, i.e. during the 'Long Rains'. The second peak occurs between September and December, i.e. the 'Short Rains'. The major characteristic of rainfall in Kisumu is its variability in amounts received such that at times it fails to fulfil the basic need of the people. It is noted that the variation in the distribution of rainfall over the year forms a significant factor in the water shortage problem within Kisumu. On the other hand, during the rainy seasons, most rivers and sewage systems fail to absorb the amount of rain resulting in annual flooding .



NANDI HILLS

KIBUYE AREA

MILIMANI AREA

KANO PLAINS

LAKE VICTORIA

- lake Victoria
- river
- swamp
- railway
- important road



map 2: topographical boundaries

B. Historical Morphological Analysis

a_1899 pre railway period

The structure of the Kisumu countryside in the pre-railway era consisted of a landscape of large areas in their natural state, where the land forms and vegetation had some imprint of man (cultivation) or his domestic animals (grazing). Some homestead settlements displayed a scattered formation in the landscape along the lake shore, with local variations to account for favourable topography, sites and aspects (fig.7). The map is a reconstruction, to approximate scale, of Kisumu's villages and market during the pre-railway era. The villages and permanent settlements have been built on the higher flood-free ground, leaving the vast grassland to provide pasture for the cattle¹.

It is known that there was already an operating periodical market for barter trade in Kisumu at that time (fig.8).



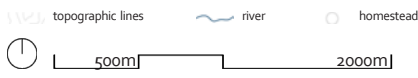
fig 7:northern shore in 1899



fig 8:indigenous market for local traders at 'Kisuma'



map 3: 1899



Arrival of the railway line

The Uganda Railway was built by order of the British Government during the period when Britain maintained colonial control of the region known as British East Africa, covering roughly the area of present-day Kenya, to ensure economic development and possible military supervision. Despite being dubbed 'the Lunatic Line' by its detractors, the railway was a huge logistical achievement and became strategically and economically vital for both Uganda and Kenya.²

The railway was originally intended to link directly with the Ugandan capital Kampala and the route had already been surveyed. However political and economic pressure meant that a quicker and cheaper alternative had to be found. A new route was surveyed from Nakuru to the nearest point on Lake Victoria. The line built to this nearest point was actually an interim solution. The railway line eventually reached the shores of Lake Victoria at a place called Port Florence, later renamed to Kisumu. Construction of the line started at the port city Mombasa in 1896 and seven years later the first train steamed into Port Florence Station (fig.10).³

From 1903, the development of Kisumu was not only reinforced by the fact that several stations were established within her hinterland, but also by the fact that several ports were established in Kisumu's foreland (the term 'foreland' indicates 'those areas which are connected with that port by means of ocean carriers').⁴

Inception of the city layout

Between 1901 and 1909 part of the grid structure that determined to a large extent the shape of the colonial town was put in place. It was essentially a north-east, south-west grid, running at right angles to Kisumu's contours. Milimani, the European sector, was located here at a high part of the ridge near the lake. This portion



fig 9 eastern shore in 1902

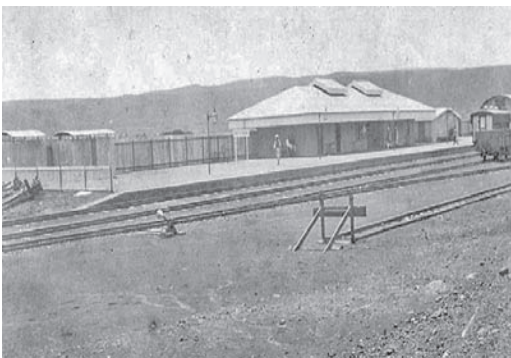
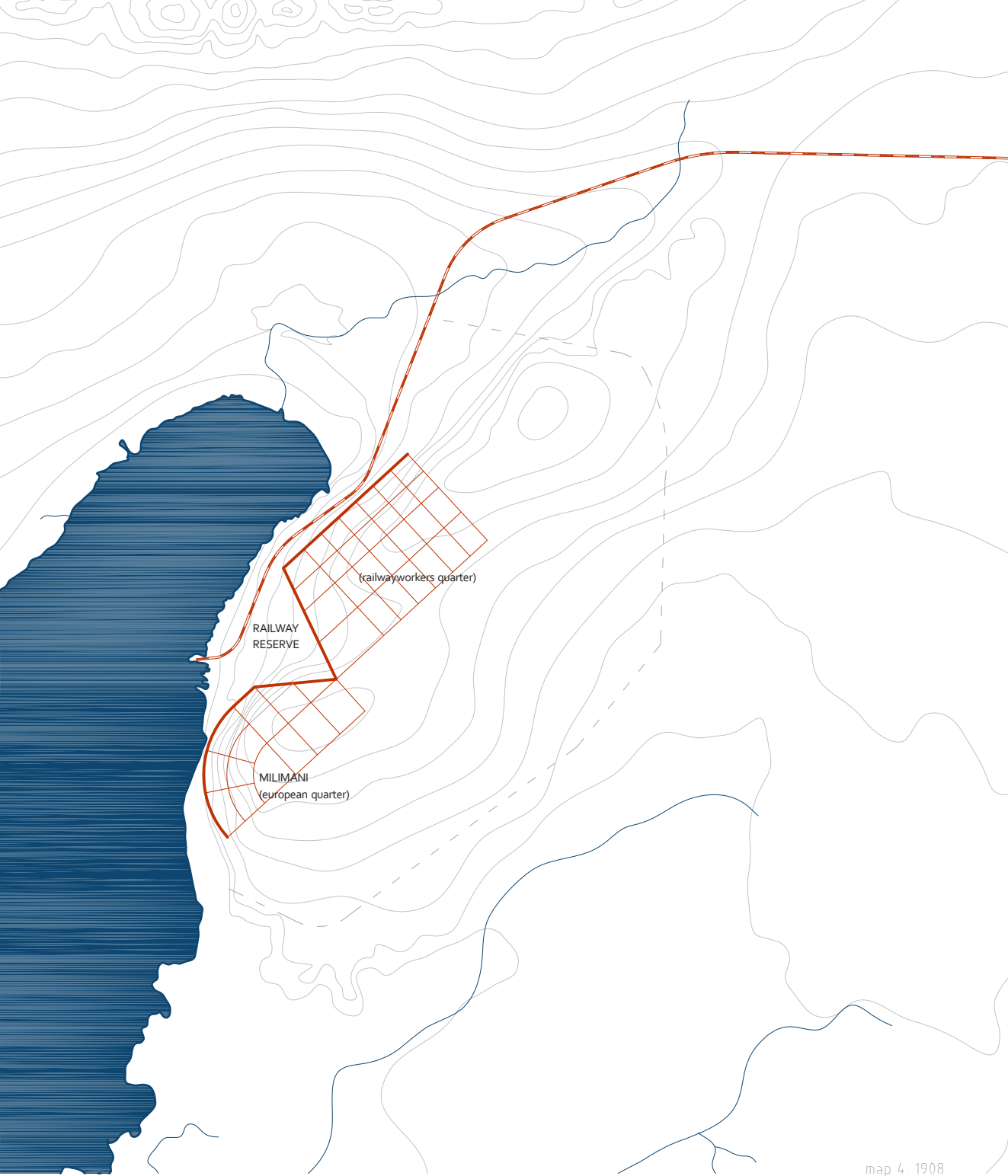


fig 10 railway line reaching Kisumu in 1901



map 4: 1908

--- colonial town boundary - - - railway — new structuring element — new development



satisfied the basic requirements of the British.⁵

The Railway Reserve –coming from Nairobi- entered the township from the North and expanded in area to include the pier, the station and accommodation for railway officers. To accommodate the indent caused by the 'bulging' of the Railway Reserve from the pier, a triangular section was inserted.

At the southern end of Milimani, the grid was adopted to run along the ridge.

From this initial layout would develop an overall grid system, which in turn was separated by the formation of race-specific sectors.

The physical morphology of the township was thus determined by the topographical features of the site which generated the longitudinal direction of the orthogonal grid, and by cultural segregation, which can be perceived as an independent layer over these developments.

The overall grid structure of the town was already divided into two distinct sections, namely the railway and colonial section. Each had its own administration (Uganda Railways and Government administration) and its own centre. This duality in administrative structure forms the nucleus of the colonially segregated character of Kisumu⁶. The Uganda Railways sector was mainly inhabited by native Africans while the Government administration mainly consisted of Europeans. There were even 'strict colour bars in residential accommodation'. This duality has lived for many years in Kisumu and has had a great influence on the overall layout of the city structure.

Amplification of transportation modes

During the interwar-period the Trans-African Highway was constructed, more or less parallel to the railway line. It links Mombasa to Kampala and runs straight to Kisumu. It is up to today, the most common highway to transverse Kenya. Also a ferry boat was brought to Kisumu to provide boat service to Kampala and other port cities along Lake Victoria. By this Kisumu became an international traffic interchange node.

Minor extensions of Kisumu's grid

Kisumu's urban structure in this period of 'Mature Colonialism' didn't substantially alter. Kisumu simply developed within the engineer's grid and the culture-specific sector-framework.⁸ The city started to attract job-seekers and those migrants intensified an already acute housing shortage in Kisumu. Therefore new residential areas have been implemented or at least already defined block were built upon to increase housing possibilities, such as Kaloleni estate –a pure African residential area (fig.12).⁹ But far not all migrants could be sheltered in those new residential areas. Many of them resided just outside the administrative colonial town to avoid the hut tax. This in fact is the very first locating force that has set out the boundaries of the informal settlements as we nowadays know them.

This first phase of 'Mature Colonialism' only represents minor extensions and infilling of the town's structure as was laid out in the previous period.²⁰

Around 1920 Kisumu kept attracting firms and it functioned both as a depot for the distribution of imported goods as well as a depot for exported raw materials gathered from periodic markets in its rich hinterland. Around 1920 Kisumu was without doubt not only a port facility but also a commercial centre for Western Kenya. The Railway Reserve was virtually fully developed and the old market in the centre of Kisumu was replaced by a new one.²¹

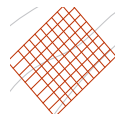
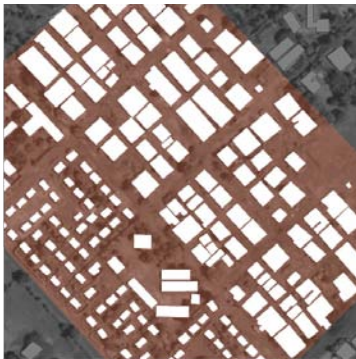


fig 12:Kaloleni estate

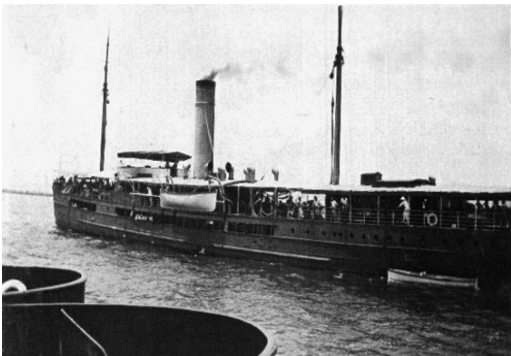
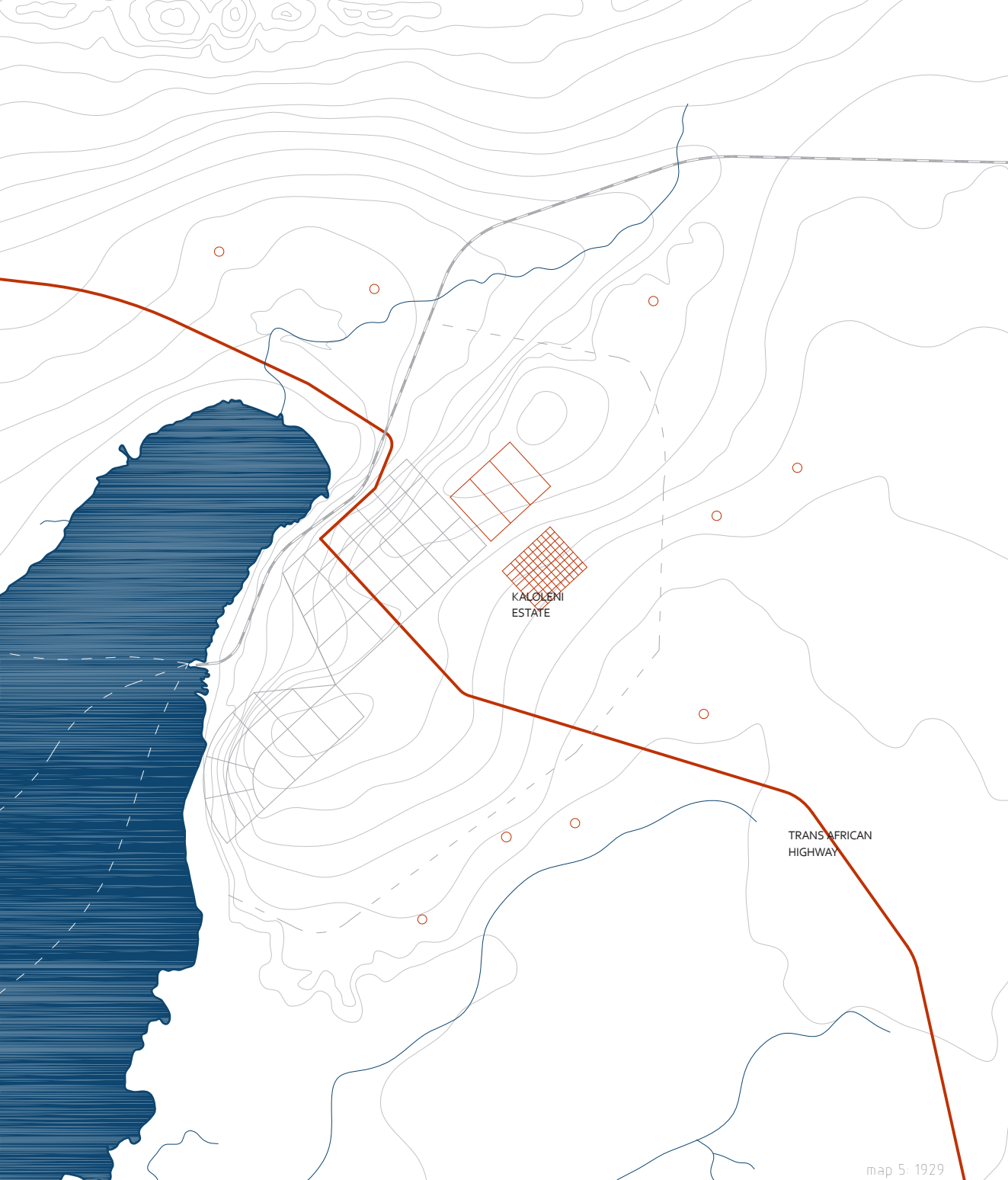
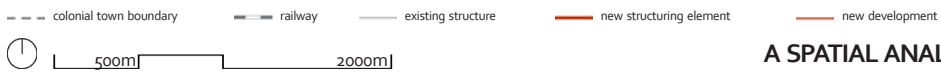


fig 13:ferry boat at Kisumu



map 5. 1929



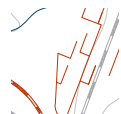
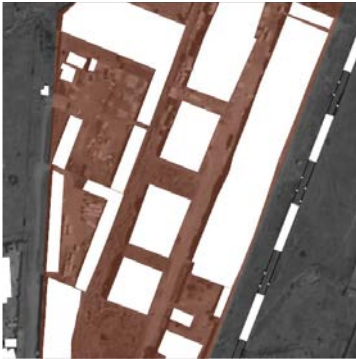


fig 14-industrial sites

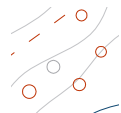
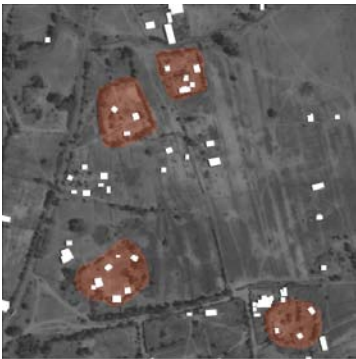


fig 15-homestead structures



fig 16.Oginga Odinga road

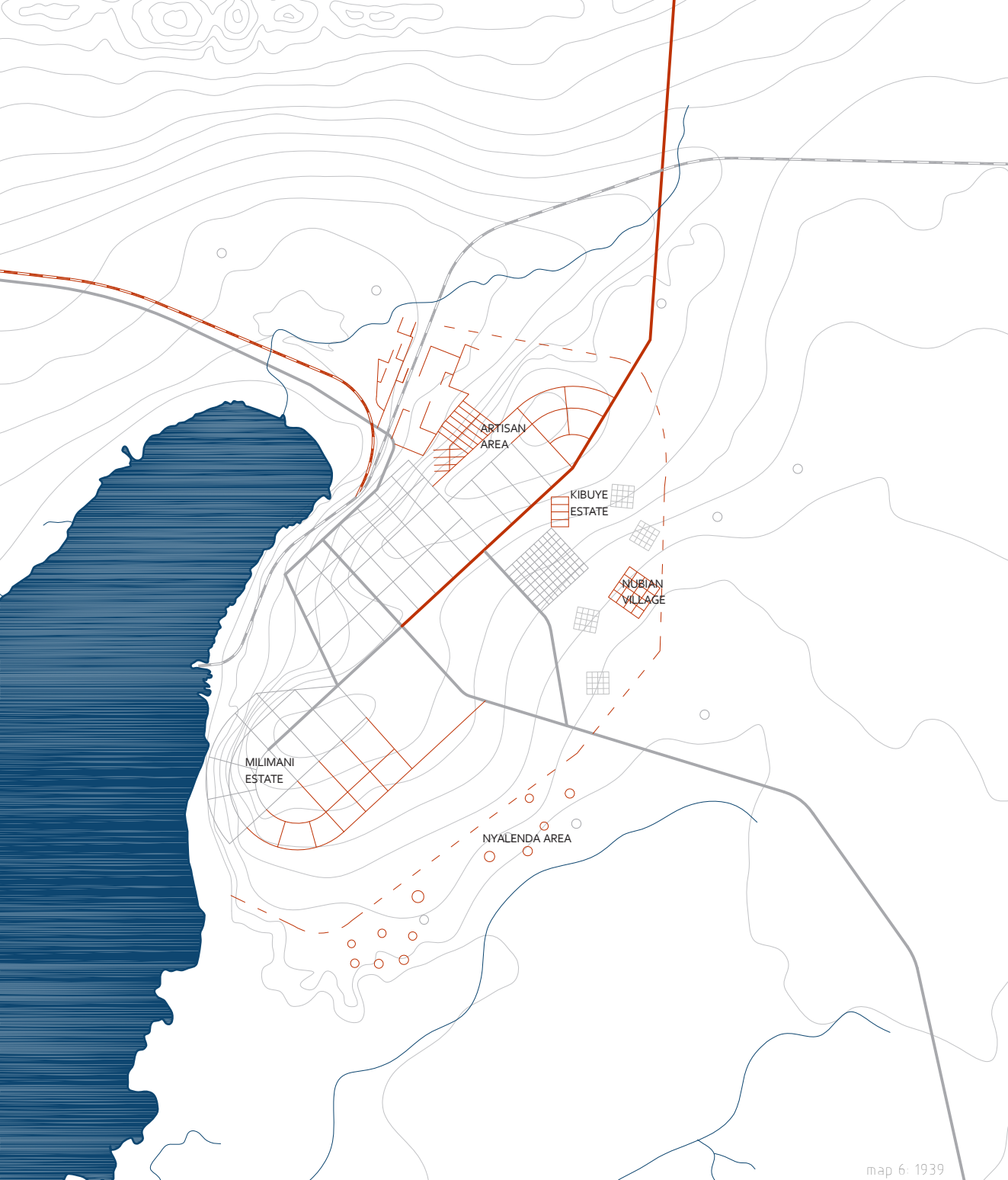
A slight economic boom

The decade 1921-1931 can be characterized as a railway expansion period in Western Kenya¹². After World War I a new main line was constructed from Nakuru on the original, more northerly route around the head of the lake which eventually reached Kampala in 1931. It reduced Kisumu to a branch line in the Uganda Railway system. One year later the railway from Kisumu was extended to Butere, a Kenyan town some 50 kilometres north-west of Kisumu.

Despite some economic difficulties (as this railway expansion and the Great Depression) people continued to migrate to Kisumu town in order to trade in markets, look for jobs and a better place to live. Around 1937 an anti-malaria campaign affected a larger growth rate than expected. Two factors amplified this tendency, namely the fact that gold was discovered in Western Kenya and the fact that very prosperous sugar cane farming and refining industries were in full swing in the neighbouring towns. The growth of the town was also boosted by the fact that its airport became a major link in the African air routes. Thus Kisumu was becoming increasingly important as a modern commercial centre in Western Kenya. This of course resulted in even a larger urban movement.¹³

Further urbanisation

This urban movement also effected an increase in housing demand. Outward additions took place in eastern-Milimani, Kibuye residential area, the Artisan residential area and Nubian Village. Colonial power relationships (race-specific neighbourhoods and segregation on an environmental health basis), one can explain the considerable distances between Milimani and Kibuye or the Nubian Village (both approximately 2,5kilometers) and the intervening open spaces in between.¹⁴



map 6. 1939



At this point a first concentration of homesteads has been noted outside the town boundaries, at African Nyalenda.³⁵

In colonial towns as Kisumu, the African inhabitants were usually located in leeward, low-lying areas. Five African housing complexes were established within the township boundary during this phase, in a virtual belt around the existing structures. The 'Nubian village' (fig.11) is the only one that has not been dismantled in later years because of health hazards.³⁶ They nevertheless all had a strong impact on the current layout of the city. Those areas with African villages have been less developed during the colonial era, eventually resulting in a development-gap between the colonial core and the peripheral areas (the exact location of the other four villages is unknown).

In response to the economic growth and to attract more commercial activities to the town, a new periodic market called Jubilee was erected at the cross point of Nairobi road and the Jomo Kenyatta Highway. It nowadays still is the only market for citizens who live in the centre of Kisumu.

In the northern part of town some factory sites were implemented in the armpit of the railway lines entering Kisumu, completing the industrial zone at the eastern shore of Lake Victoria. Later on, this industrial area will spread towards the other side of the gulf.

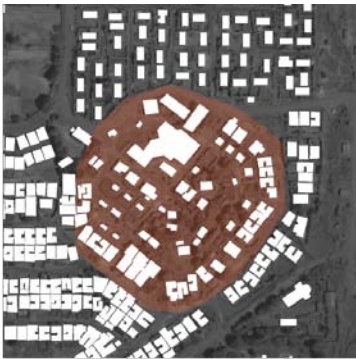


fig 11 Nubian village

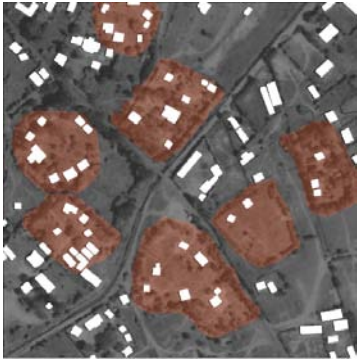


fig 17. concentrated homestead structures

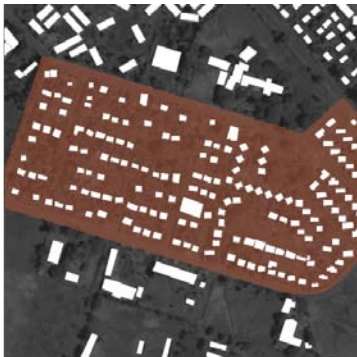
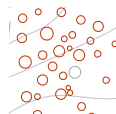


fig 18. Ondiek estate

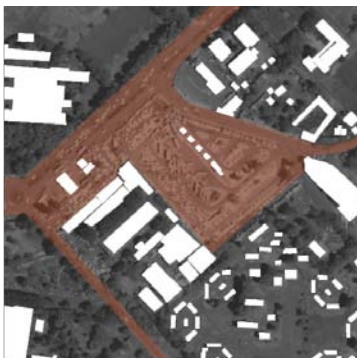
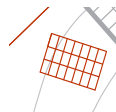


fig 19. Stage



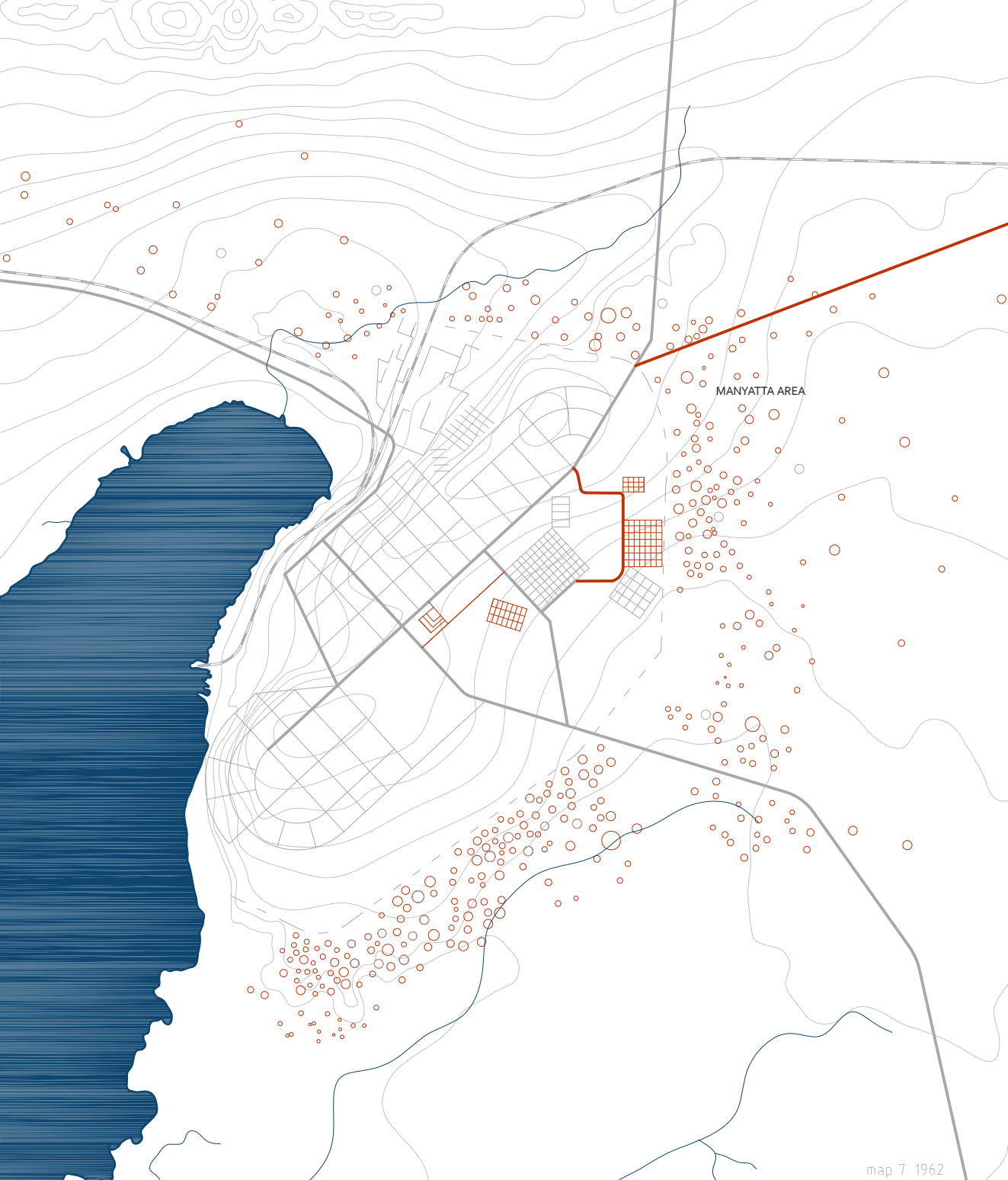
fig 20. Arena

Economic decline

But Kisumu is one of those unfortunate towns which made its fortune and then lost it. During World War II, all construction in Kisumu and all physical planning schemes were halted in order to divert all goods to the war. During the Second World War African males were recruited from the Nyanza province, to serve in Europe and Northern Africa. A most important road to deploy troops was constructed from Kisumu to Kibos, starting at the Kondele junction.

The mining industries in Kisumu's hinterlands, once flourishing during the 30s, were halted as World War II was declared and have since all turned into ghost towns. Also the important airport constructed in Kisumu during World War II, was later replaced in importance by the Nairobi-airport.

Despite these misfortunes, Kisumu has remained a very important industrial centre for the western region. The economy within the environs of Kisumu came out of the Second World War with growth owed to agricultural exports. Economic growth was stable but still, job seekers and families who returned to Kisumu after the war, in order to enjoy security and the educational facilities in town, greatly exceeded demand.⁴⁷



map 7: 1962

- - - colonial town boundary
- existing structural element
- existing structure
- new structuring element
- new development



The urge of housing projects

In the first national population census of 1948, Kisumu had a population of approximately 10 000. In 1960 this number doubled and half of them lived in the peri-urban environment by then.¹⁸

New housing was urgently needed and several town developments took place. But Kisumu had a unique problem: the tenant purchase scheme of houses within the city could not compete successfully with the cheaper accommodations that already existed in the peripheral areas of Kisumu. It was stated by the DC of Central Nyanza that 'no African Housing in Kisumu town would be a possibility until the development of peri-urban dwelling came under control.'¹⁹

This is the first time that the slum-area²⁰ is indicated as a problem area, here because of its cheaper alternative and thus, in a kind of indirect gentrification process, keeping the poorer segments of population out of town, only allowing the more wealthy.

Unfortunately, despite the physical planning and construction that took place within Kisumu's colonial town boundary, septic systems in the peri-urban areas remained totally unregulated. This was because the two local governments (the municipality of Kisumu and the ADC of Nyanza) failed to pool their resources to combat this common problem. Instead, they referred the matter to a third party, the Ministry of Lands and Settlements.²¹

As before, the urban pattern of scattered developments within the grid system continued. Only in these days one started also to build housing projects for Africans. Several housing projects were established in the north-eastern part of the colonial city (e.g. in Kaloleni, Ondiek (fig.18), Arena (fig.20), under which site and service schemes only providing basic supplies and a plot, tenant-purchase houses and three-roomed houses for rental only to Africans).²² Still those projects failed in quantity to solve the inflow of the rural-urban migration.

At Milimani the urban pattern grew steadily and slowly, still keeping a 900 meters wide sanitary zone between the European quarter and the African Nyalenda.

On the junction between Nairobi road and Jomo Kenyatta highway behind the Jubilee market, a parking spot has been prevailed. It is nowadays still the most important traffic node in the city, as well for international, interregional and intern traffic (fig.19).

Forming of an informal centre

During this phase the peripheral zones encompassing the colonial centre still had a typical 'compound' morphology, with a slight concentration at the southern Nyalenda and the north-eastern Manyatta (fig.17).

Many of the Africans that migrated to Kisumu settled in Nyalenda during the colonial eras to work in Milimani as domestic servants. Nyalenda has therefore always been a nucleus of growth because it was the nearest location to the wealthy Milimani without hut-taxes.

Since the decline of colonialism other locating forces started to work on the job seekers. One wanted to start working in the centre, in a self-subsistence manner or in a larger company. Therefore it was necessary to have easy access into the city. The new junction in the north of the town provided such accessibility. It also provided enough "movement" to start self-subsistent informal activities, such as hawking and small scale commerce. The latest housing projects in the east of the colonial boundaries also reduced the 'empty-land' gap between the vivid colonial centre and this peri-urban zone. It since only grew as a favourable spot for self supporting marketers and jobseekers to settle.

So while in the city centre Jubilee became a hotspot for international traffic and commerce on the city scale, Kondele in the north became an informal contra-pole, a hotspot for informal marketers and local traffic.

Facing autonomy

The republic of Kenya became independent in 1963. With the end of colonialism and the departure of the British, the former political relationships were reversed, and decision making was in the power of Africans for the first time since the founding of modern Kisumu Town. In the first years of independency Kisumu suffered under a regime of diminishing local authority power –and finances– while still under an increasing population pressure coupled with a slow pace of industrial development. Later the breakdown in the functioning efficiency of the town planning machinery contributed significantly in Kisumu’s present deteriorated infrastructure and poor environmental conditions.²³ Local authorities did not have enough authority to handle the increasing flow of immigrants appropriately. These settled in a most informal way between the saturated homestead-tissue, increasing the density enormously (fig.21). These tissues lack every form of basic sewage, water supply or accessibility.

However, the post-colonial period was not totally without its gains. The administrative border of the municipality was enlarged almost twenty times in area in order to plan for a vastly increased population and accommodate future urban land requirements (map.9). Kisumu was chosen by the World Bank for experiments in peri-urban housing and environmental upgrading.

Kisumu’s public housing policies followed closely the national trend, inviting UN experts to study the situation and make recommendations.

In 1972 some 30 000 people lived within the old colonial town boundaries, another 53 000 -who worked in the old town- lived in the peripheral areas where accommodation is not up to the standard of living required.²⁴

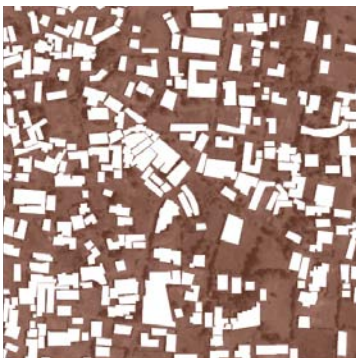


fig 21: informal settlement



map 8: 1976

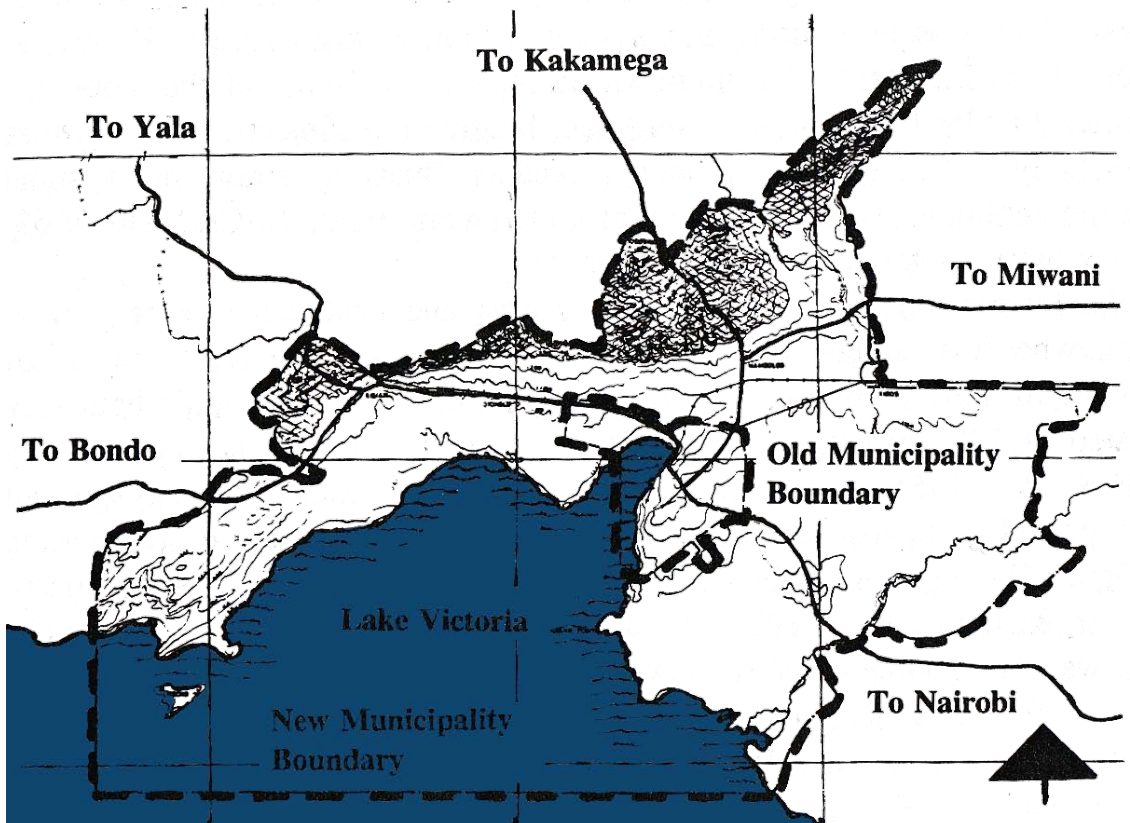
- - - colonial town boundary
- existing structural element
- existing structure
- new structuring element
- new development



Saturation of the periphery

The cooperation with the UN resulted in the some social housing estates in the east of the old colonial town, such as Shauri Moyo and Arena II. The wealthier Milimani has further developed until it has reached the 'boundary' of the old colonial town.

Where in 1962 one only noticed a concentration of homesteads in the periphery, an aerial photograph of 1976 clearly indicates a 'dispersed blob' around Kondele and at Nyalenda, signifying the uncontrolled densification between the original homesteads (fig.22).²⁵



map 9: enlarged municipal boundary



fig 22-aerial photograph of 1976

Informal settlements on the international agenda

The informal settlements have become an urgent point on the political agenda and first attempts to restore urban qualities have been made.

Three urban projects have been implemented from 1975 till 1985, as a collaborative effort between the World Bank and the Government of Kenya, to meet the needs of low-income housing population of Kenya. Those development projects aimed at benefiting the poor, by the 'basic needs approach' which dominated the international thinking in the 1970s. The First Urban Project mainly concentrated on Nairobi, the second project situated itself at Nairobi, Mombasa and Kisumu, the third and last covered five secondary towns in Kenya.

The Second Urban Project focused in Kisumu on 'Site and Service schemes' in Migosi (fig.23) and on the 'Manyatta Upgrading Project' (fig.24).²⁶

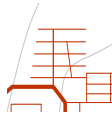


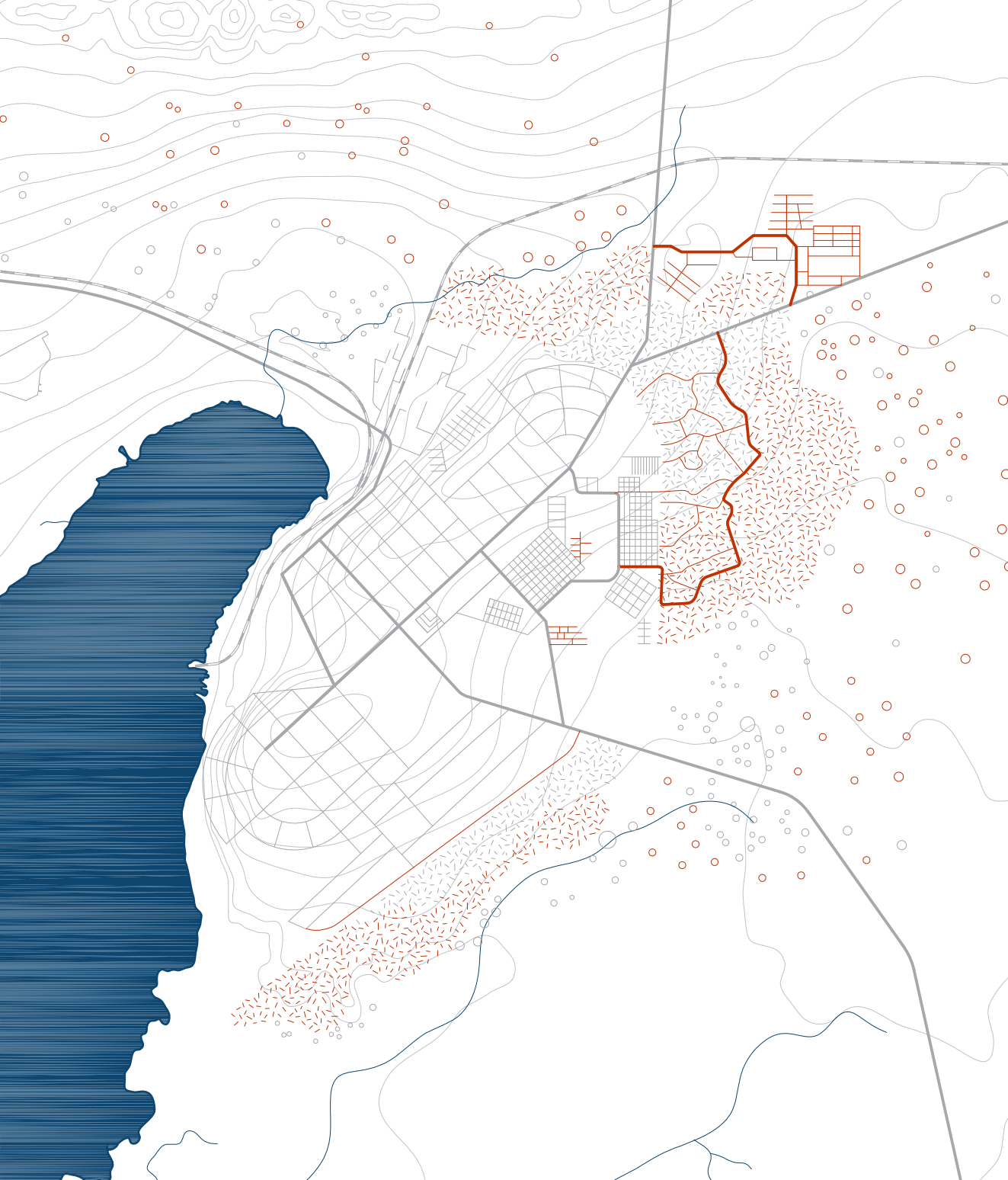
fig 23 Migosi estate



fig 24 Manyatta Upgrading Project

Upgrading schemes of the informal settlements

Around the late 1970's the Migosi Site and Service schemes were launched by World Bank and the Kenyan government to provide adequate land for low-income housing development. Plots ("site") were serviced ("service") with water reticulation, sewerage and roads, and were targeted at low-income groups. In the event, most low-income beneficiaries sold their plots, most of which ended up being developed by medium- and high-income groups. These "site and service" schemes have not met the objective of providing space for the urban poor; instead, the schemes effectively continued to marginalize the poor to areas with inadequate spatial accessibility. People with higher incomes have moved into these areas and inflated the rent market. Development for the urban



--- colonial town boundary — existing structural element — existing structure — new structuring element — new development



wealthier thus leapfrogged the slum belt.²⁷

Initially the Upgrading Projects for Manyatta -as a new road layout- were meant to be implemented in most of the slum belt areas. Due to financial and political reasons only the Manyatta area received a new road layout. Unfortunately those roads, engineered at the 1970's, were worn out by 1990 because of poor construction standards.²⁸

Planning devices

In the planning of post-colonial Kisumu two documents were of great importance; the 'Short Term Development Plan' of 1969 (that dealt with the long term planning of Kisumu up to the year 2000, map.12) and the 'Kisumu Structure Plan 1983-2013' (that provided a framework on which the future short-term development plans can be based, map.11).

This Structure Plan has been replaced by a new one several years ago.

The structural similarities between the two plans were the envisaged expansion northward and westwards along the northern lake shore.



map 11: Kisumu Structure Plan 1983-2013



map 12: Short Term Development Plan

C. Spatial Features of Kisumu

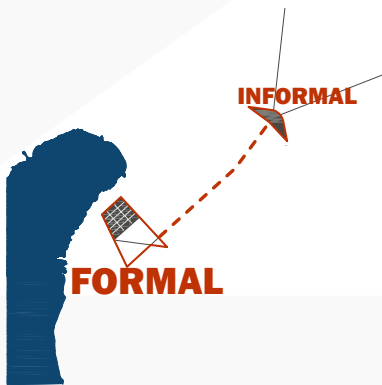




fig 25: aerial photograph

a_ structural elements as a hanger for social life

Kisumu can be read as a city with two poles, a formal and an informal, a planned centre and an unplanned slum belt, an international and a local scale. This reading can be found in the overall city layout. The CBD forms the city's formal centre, the contra-pole of Kondele, Kisumu's informal centre. Both are connected by one long avenue along which many commercial activities have deployed (scheme 1). The international axe bisects Kisumu from East to West and intersects with Kisumu's most important North-South corridor. The junction of these two roads combines two scales and is the beating heart of the city (scheme 2)



scheme 1: duality of the city layout



scheme 2: local and international traffic





map 13: structural elements



fig 26. unloading of a bus at buspark



fig 27. Jubilee market (1 on map)



fig 28. Kibuye open air market (2 on map)

Kisumu's physical layout has a heavy colonial input and is strongly related to its mainly transactional character.

Until today the borders of the colonial centre are still clearly distinguishable. The majority of the shores of Lake Victoria is taken by the railway station and harbour and has always been an industrial zone characterized by its low public accessibility and diffusion possibilities towards the lake.

Next to this industrial area lays Kisumu's main commercial and administrative centre. This CBD (Central Business District) is more or less confined by the two main avenues crossing Kisumu; a North-South corridor (Jomo Kenyatta Avenue) and an East-West corridor (Otieno Oyoo Street) which is a direct extension from the Nairobi road. These are by far the two most important roads in the whole of Kisumu Town and are also the main entrances of the city. At the cross point of these two roads one finds the most important parking place where all traffic in town converges, namely Buspark (fig.26). It lies directly next to Jubilee market (fig.27) which is the biggest formal market in town. Along the Jomo Kenyatta one also finds Kibuye (fig.28) –the second largest open air wholesale market in Kenya – and Kondele (fig.29)–a large informal market where slum dwellers come to purchase goods. It is on these large roads and in the CBD that almost all social life is taking place: working, meeting, resting, selling and buying, waiting for a matatu, entertainment, etc.

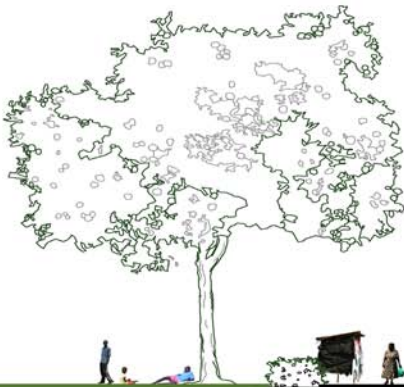


fig 29: Kondele (3 on map)

On the Jomo Kenyatta Avenue (fig.30 & section 1) one can also find some other bigger functions, such as the town hall, major markets, a central park, hotels, petrol stations and a shopping mall. This road is the most vivid one in the whole of Kisumu. Smaller handlers and hawkers sell their goods at the roadside of the Jomo Kenyatta and bodabodas wait here for passengers. At Kondele, the Jomo Kenyatta Avenue branches into two roads going to different satellite towns namely Kibos and Kakamega. This junction is located at Kondele, on the boundary between the inner city and the slum area. This crossroad, a major interface of different transport modes, is nowadays encroached by informal marketers selling their goods to passer-bys.



fig 30: Jomo Kenyatta Avenue



2,5m | 10m

section 1: Jomo Kenyatta Avenue



fig 31: Nairobi Road

The Nairobi Road (fig.31), one of the main entrances of the city, is a 6metres wide road and the primary transport road for goods in and out the city to Nairobi and Mombasa. On this road different large functions are located. A major mall - with movie-theatres, shops and a petrol station- is one of the key objects on this road along hotels and a museum. The high-income classes come here for recreation and purchasing goods.



fig 32: Busia Road

The Busia road (fig.32), another important access road, goes all the way from Kisumu to Busia -Uganda- passing Kisumu's airport. It is mainly used for transporting goods to and from Kisumu. Along this road, the main industrial sites are located making it one of the largest formal employment sites in Kisumu.



fig 33: Oginga Odinga Road

Another vivid and important passage is the spacious Oginga Odinga Road (fig.33), limiting the CBD at the Eastern side. One can find various shopping malls here, several supermarkets, different banks, hotels, bookshops, hardware stores... It is the only road in Kisumu where you can find such a high density of shops. It is also the only road where almost every matatu, riding in Kisumu, drives on. This more or less indicates its importance on a city scale. Because of its gravity, the Oginga Odinga Road has attracted a lot of informal commercial activities. Most of it has settled under the sheds on the footpath, occupying more than half of it (section 2).



fig 34: End of Oginga Odinga Rd opening up to the lake

At the end of this road (fig.34), one catches a glimpse of the lake where the Oginga Odinga Road turns into the Busia Road. To reach this part of the lakeshore -which is the only recreational waterside in the whole of Kisumu- one must cross the railway first. Here, small scale hotels are located, restaurants are serving fresh tilapia and drivers come to wash their cars, busses or trucks.





fig 35: road reserve for bypass in the west

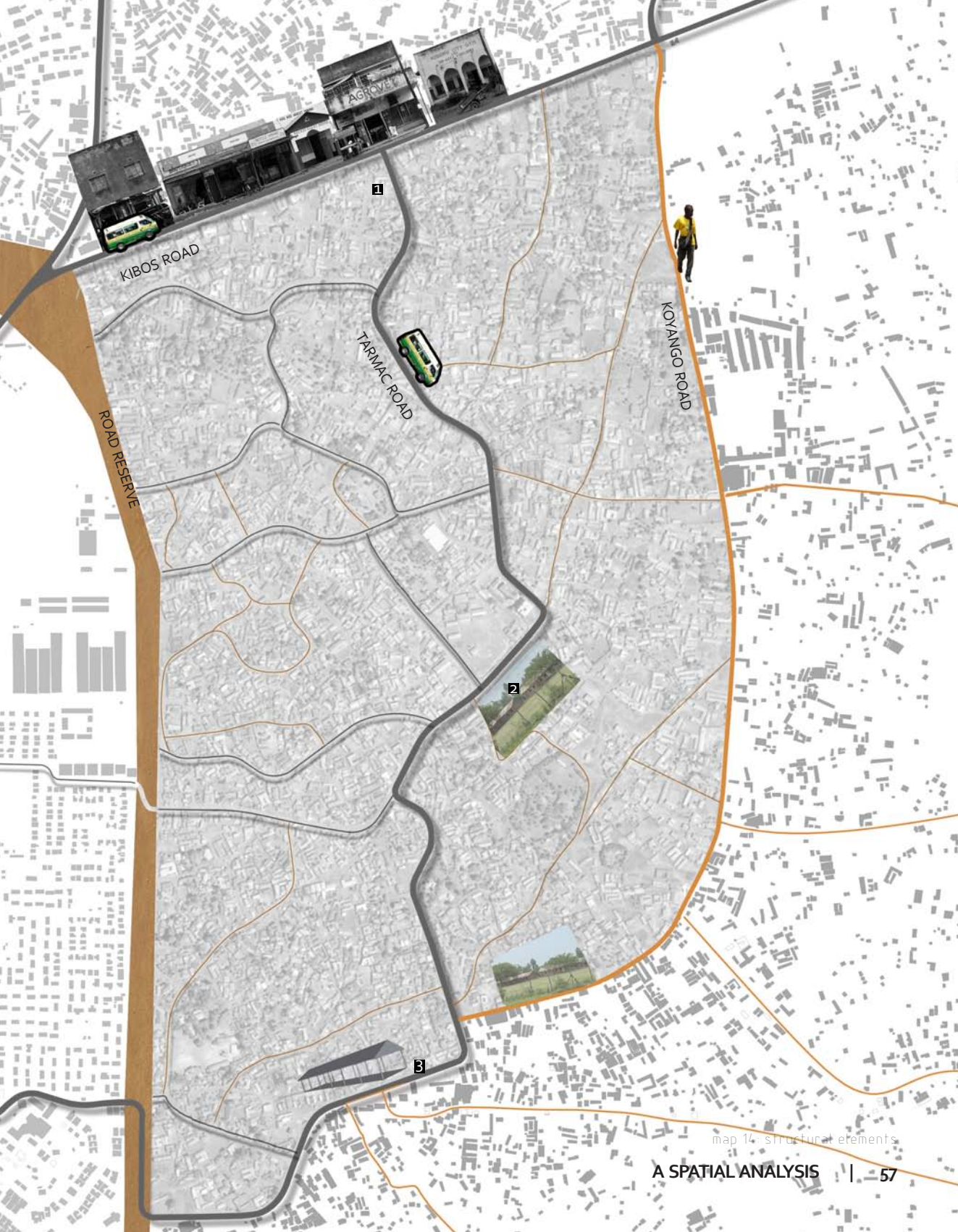


fig 36: Kibos road in the north



fig 37: Koyango road in the east

Manyatta area is mainly confined by two passages namely the Kibos Road (fig.36) -which is a spin-off from the Jomo Kenyatta Avenue- and a 30meters road reserve (fig.35). This road reserve is the harsh demarcation area between the planned centre and the arbitrary formed informal settlements. A less explicit boundary is the Koyango Road (fig.37), a bigger non-asphalted road with a more rural character from where the density of the slums decreases, sprawling out towards Kisumu's hinterland.



KIBOS ROAD

TARMAC ROAD

KOVANGO ROAD

ROAD RESERVE

1

2

3

map 14 structural elements



fig 38: working at the roadside



fig 39: road conflict

The Kibos Road is a vibrant avenue with a couple of large timber-yards for wood working, big hardware stores, hotels, small shopping malls, plenty of informal side road shops like barbers, butchers and vegetables vendors and hawkers. The actual building-line lies some meters further than the roadside, leaving a rather large non-asphalted piece of ‘free’ land consumed by different users (section 3). Informal side road shops have room in abundance to encroach this site and also the permanent shops are taking their share of this open space. They use it as workspace or as an open air gallery for their merchandise. While their shop, the actual structure standing at the building-line, is generally merely used as storage (fig.38).

To pick up or drop off passengers, the matatu driver simple halts on this piece of ‘open’ land. The lack of designated compulsory stops leads to congestion or dangerous traffic situations. On the road itself one can also find another confrontation between different users with a different velocity. There is no division in road-ways forcing all matatus, bodabodas and handcarts on the same asphalted roadside. This leads to a conflict in speed and in that way leads to congestion, dangerous cross manoeuvres and difficult traffic situations (fig.39).





fig 40: Tarmac Road through Manyatta

There is a tarmac road (fig.40 and section 4) going all the way from the Kibos Road through Manyatta area to the 30meters road reserve, making Manyatta the most and best accessible slum area in the whole of Kisumu. At Corner Legio (fig.41)-the junction between the Kibos Road and this tarmac road- a small informal market has invaded the open space in front of the permanent shops. On the tarmac road one can find several schools –from which Manyatta Primary School is the largest, a social hall called Kosawo, some churches, Manyatta Market and small informal side road shops accumulated at other secondary junctions.



fig 41: Corner Legio

The 30meters non-asphalted road reserve –which is to become the bypass- is not a very busy road nowadays. Some trucks are using this sandy pass-through, but most ones prefer driving through the city centre with its good asphalted roads. Nowadays this piece of no-man’s-land is primary used by bicycles and pedestrians. At the roadside one can find mainly residential buildings, a mosque and some small shops.



2,5m | 10m

section 4: Tarmac Road

As part of the Second Urban Project, the tarmac road and the connection roads between this tarmac road and the 30metres road reserve have been upgraded and asphalted. Nowadays this tarmac road is in a very good condition, despite some erosion at the roadsides. The connection roads, in contrary, are in a very poor shape. Some parts of tarmac have crumbled off, leaving major potholes, while other parts have totally disappeared through time.

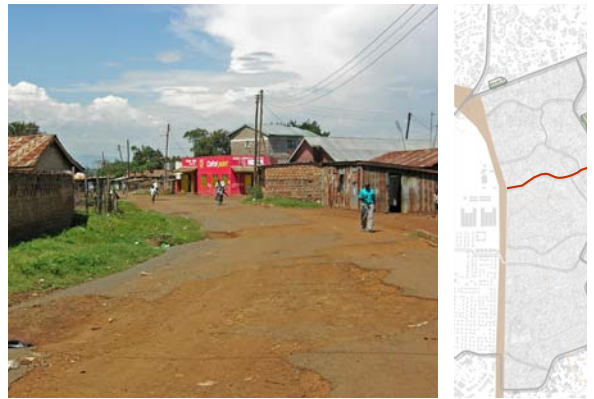


fig 42: road of the 2nd Urban Project



fig 43: small road between tarmac and bypass

At the other side of the tarmac road, the roads -connecting it to Koyango Road and Kisumu's hinterland- were not asphalted at all. Nowadays these sandy roads are merely pathways and motorised traffic is almost impossible due to the bad road condition.

Koyango Road, a narrow sandy connection between the Kibos Road and the lower part of the tarmac road, is not accessible by matatu or car. The main transportation modes used here are the bicycle, handcart or walking. On this road one can find several schools, some churches, a small formal market –Koyango Market- surrounded by informal encroachments and grain mills. Crossing Koyango Road, some large rural roads are connecting the slums to Kisumu's hinterland.



fig 44: road between tarmac and Koyango



fig 46: large rural road



fig 45: small road between tarmac and Koyango



fig 47: small rural road

b_ public spaces

In Kisumu one can distinguish three types of public places. One can find formal open spaces planned by the municipality, formal markets which have a strong 'public space character' and encroached sites on which the everyday life plays. Those three types are closely correlated to the social status of the surrounding inhabitants.

■ official open public space ■ formal markets ■ taken public space





map 15 public spaces



fig 48: Sportsground (1 on map)



fig 49: African part of town (2 on map)

Formal public space as recreation

In the richer city centre one can find mainly officially planned public space, of which Sportsground –located in the middle of the CBD- is the most attractive (fig.48).

It is an open piece of land with a dense green border in the vivid city centre where several crusades, festival, happenings, sport matches, etc. can take place. The trees offer shadow and thereby it is a perfect resting, meeting and eating place. During the day one can find a lot of people lying in the grass, sitting on a bench, walking in the park or buying popsicles from a hawker.

In the African residential areas in the north and the north-south of the city one can find several open spaces (fig.49) in between the patchwork of housing estates. Those open spaces rarely have trees and are not visited as frequently as Sportsground. They more serve as focal points for the surrounding plots, as “neighbourhood squares”.



fig 50: Jubilee market (3 on map)



fig 51: Kibuye market (4 on map)



fig 52: Manyatta market (5 on map)

The market as a meeting place

The second type of public space we distinguish are markets. They serve as focal points on a large scale and due to the African tradition of “going to the market” they are always very crowded. People just like to hang around and join the enjoyable turmoil.

The two most important markets inside the town boundary are Jubilee market (fig.50) and Kibuye market (fig.51). While Jubilee market mainly consists of a permanent structure, crammed with people selling their goods, the major part of Kibuye market consists of temporary structures or people sitting on the ground using umbrellas for shadow. Within the slum area one can find another meaningful market, namely Manyatta market (fig.52) which is the only formal market in Manyatta. During our fieldwork in Kisumu, the municipality was, in cooperation with UN-HABITAT, building a permanent structure to house the marketers of the old open-air market.



fig 53: road side shops



fig 54: Kondete (6 on map)

Encroached open space for everyday life

The last form of public place is a more smeared one and aims at open spaces in the urban tissue occupied by informal marketers –but were not originally meant as a public place.

The largest space consumers are several side road shops, informal restaurants and hawkers that have settled on important streets (fig.53).

The most striking example is Kondete (fig.54) where an entire informal market has settled on a road-reserve (in preparation of the bypass the informal market has completely been torn down). Because it is the only open space in an area where little official public space is foreseen, it has become a vivid public space. Its strategic position –on a major junction along the boundary between the inner city and the slum area- only enforces the weight of this public space, since it is the only exchange point between these two different tissues. Nowadays it works for the slums as the CBD works for the city, it is the informal opposite pole of the formal CBD. It is a meeting place, a major informal employment site, used for crusades and musical performing, a resting place and an important traffic interchange node.



fig 55: Corner Legio (7 on map)

Inside the slum area one can find also smaller informal sites where people have encroached the public space. Most traders are seated at major cross roads or at roadsides with a lot of passer-bys. Corner Legio (fig.55) and Carwash (fig.56) are two examples. They are located on important cross points between the Kibos Road and roads entering Manyatta. Koyango market (fig.57) is a small informal market in the slum area with a more rural character.



fig 56: Carwash (8 on map)



fig 57: Koyango market (9 on map)

c_Vegetation, a socio-cultural element

When we look at a map of the vegetation in Kisumu's urban structure and its surroundings, we notice some different patterns. When one projects this map of vegetation on a map of social groups and their respective status on the social ranking, one can already understand a great deal of the implantation.

●●●●● trees casting public shadow ●●●●● trees casting private shadow ■■■■■ inaccessible green areas ■■■■■ green area in urban tissue





map 16- vegetation



fig 58: Milimani Estate (1 on map)



fig 59: Arena Estate (2 on map)



fig 60: Mosque public housing estate (3 on map)



Milimani & Tom Mboya Estate

First of all, we notice an important density of trees in the wealthier areas of Kisumu, namely Milimani and Tom Mboya Estate. Those are also the areas with the highest concentration of older and thus larger trees, especially in Milimani (fig.58), which is the oldest part of town. Since these areas are more modelled to European standards, one can find broad avenues ornamented with rows of trees. One can strongly feel the Western mentality here and nearly all families have cars. Their daily curriculum goes from the carport, through the avenues, up to the parking of the mall or the hospital, straight to their work, back home along the broad avenues and directly into the carport. In those area's one finds little social life on the streets and everything is organized in 'capsules'²⁹. The trees on those avenues thus mainly fulfil an ornamental and aesthetic function, apart from the few pedestrian who can take advantage of their shadow. Inside the plots though, one notices an abundance of trees, but those are for private use only.

Public Housing estates

In the area with mainly public housing estates (in the north and in the east of the city) one has planted trees with a much more sparing hand (fig.59 & fig.60). Publicly planted trees were not a primary issue when this area was developed through the years. As a result much less trees are found on public places, even though most social life for the middle-income class plays on this public places. Social interaction is concentrated around several gathering places; open spaces foreseen in the maze of different plot systems. The majority of trees stands on private plots and public 'squares' are little provided with the blessing shade



fig 61: Manyatta informal settlement (4 on map)



fig 62: Obunga informal settlement (5 on map)



of trees.

Peri-Urban areas

In the peri-urban areas one can distinct two ways of tree usage. The first one is mainly noticeable within the belt of informal settlements. One notices a scattered pattern of trees looking randomly planted in between the highly dense tissue of small-scale houses. All of them are on private land since there is hardly any official public domain left in these areas -public roads are the only public available land here, the rest is private. But this is only a formal way of looking. In reality most of the 'private plots' are not clearly distinguishable from the 'public domain'. The closer to the major roads, the more one has fenced his domain, but deeper into the informal settlement, public and private form one continuum without any clear boundaries. One can go nearly everywhere he wants even if it is on 'private land' and thus trees –and the wanted shade- have become a common good. In these areas the 'African tradition' is more vivid than within the colonial town, which means trees are gathering places, places where the villagers come together to discuss important matters and where

"the bride marries the brume"(fig.61 & fig.62). It was clearly noticeable that trees in the slum area played a different role than within the town boundaries. In these areas with great job-insecurity trees are also a matter of



fig 63: sisal demarcating a homestead (6 on map)



self subsistence or used as income generators, which we noticed during our fieldwork.

The second pattern to be observed outside the town boundary is that of the original homesteads. One can clearly distinguish the circular or semi-circular patterns in the rural landscape. This is an indigenous inheritance -ordered by unwritten cultural norms- originally realized with sharp edged vegetation to protect one's homestead against predators and hostile clans. It was also a means of demarcating one's possession in the early days when there were no official demarcations. Therefore it was usually done with sisal, a plant with rather deep-going roots and thus not easily removable (fig.63). Those sisals were used for rope making. There was only one major entrance to the homestead, to avoid unwanted escape of the cattle or unwanted entrance of others. The cattle used to be kept in the middle of the circle in a kraal, so originally the middle of the 'circle' was kept free of trees to avoid unnecessary obstacles. Nowadays, many households within the Municipality of Kisumu have abandoned cattle-keeping and the empty space in the middle is used for tree planting -not only for shade but also as a mean of food and income generator.



fig 64: Sportsground (7 on map)



Exceptions

Within these four major patterns there are some concentrated irregularities. One for instance is the main public square in the colonial town centre, namely Sportsgrounds (see fig.64). A combination of sports grounds at one side, an empty public square at the other side with a café-restaurant in the middle that strikes a bit colonial encompassed with an explosion of green. This is one of the few green public spaces in the city (the other one is at the other side of the Jomo Kenyatta avenue) and is very frequently



fig 65: Green area along the lake shore (8 on map)





fig 66: Kibuye open air market (9 on map)



fig 67: trees along a main axial road (10 on map)



used. People come here to lie in the grass and enjoy the refreshing shade of large trees. Unlike Europeans, Africans are truly comfortable with having a little nap in the shade on a public place. These rare green spots in the city-centre are thus a great attraction pole to all classes.

Another irregularity is the Colonial Square within Milimani, also a rather green spot but less frequently used because of the preceding argumentations. It has also lost its centre function since it is mostly surrounded by residential functions these days.

A last irregularity to be mentioned are the two strokes of dense green along the lake shores (the northern and the eastern shore). Those areas have low entrance possibilities and are not for a specific use (fig.65).

When we look at the main public places where, as we stated, most 'public life' engages, we notice that only Sportsgrounds has a real green character. Kibuye, the large open air market, is nearly without any form of vegetation. Shadow is provided through small sheds but the majority of marketers have to help themselves with unhandy umbrellas (fig.66).

Kondele used to have some trees within its market, but also very little. These days all trees have been torn down off course in preparation of the bypass.

The main axial roads have some trees along them and those shaded spots are obviously more frequently taken to settle one's business (fig.67). Some of those trees are purposely planted on those broader avenues but very

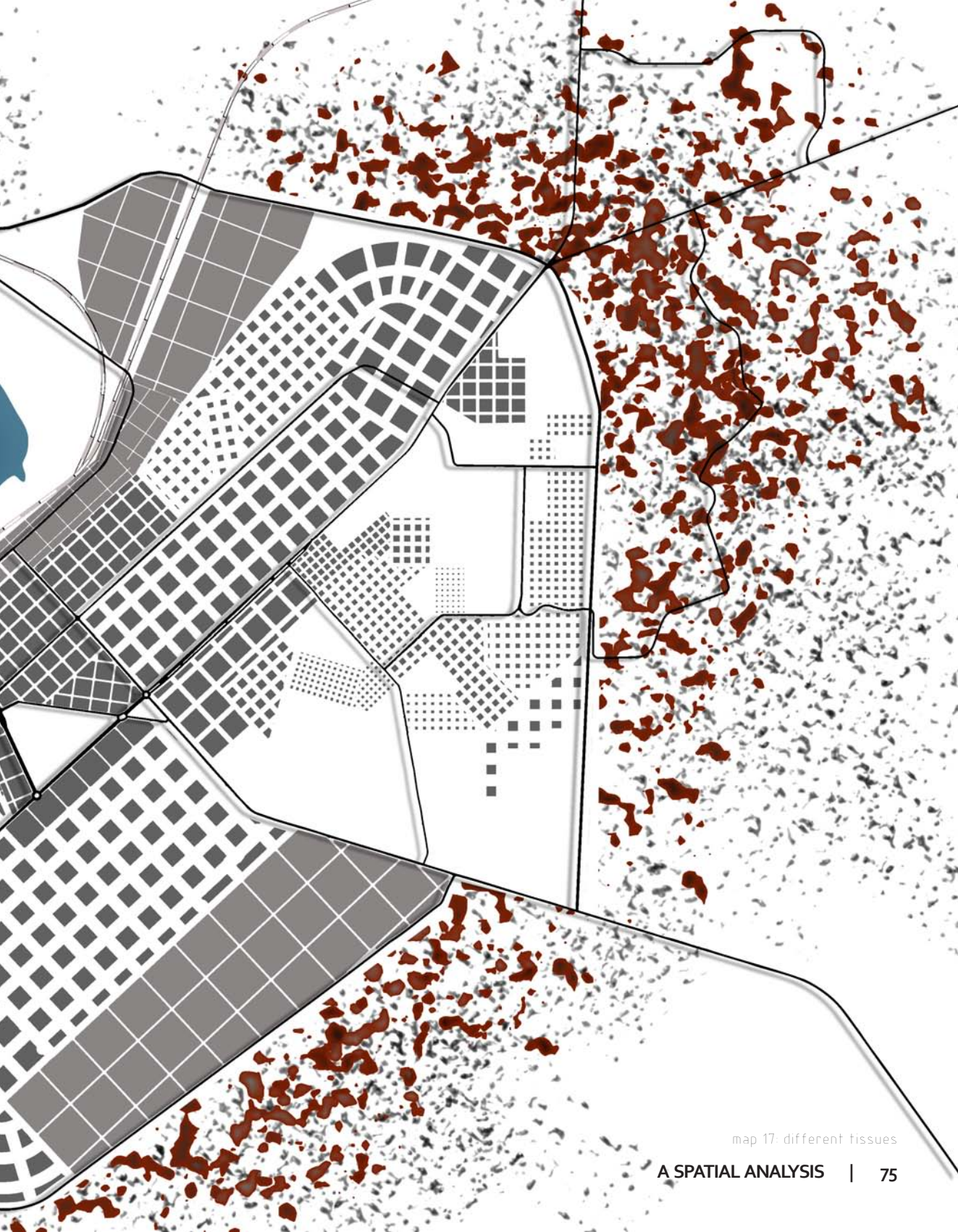
d_Different Tissues within the town boundaries

One glance at the aerial photograph of Kisumu is enough to notice the perfectly sharp edge between two strikingly different urban tissues; the old colonial city centre with its aligned layout and the band of informal settlements, only separated by a thirty meters wide no-man's land. This alienated environment is the result of half a century colonial policies, which is described in the historical morphological analysis.

The physical appearance of this harsh boundary changes over its length. Down in the south a single road and a stroke of a rather open tissue with a large urban grain on the 'colonial' side make the boundary. The boundary at the eastern side of town is the only one that has been softened a bit by two crossroads, which are linking the two totally different tissues in some way. Mostly the two adjacent tissues have no cross-links at all, which enforces the spatial and mental 'gap' between them. Up in the north the 'colonial' tissue has turned its back entirely against the informal settlement opposing it. The no-man's land and the backside of the 'colonial' tissue make the boundary.

When we take a closer look at the different tissues within Kisumu we notice 3 large fractions. The first one consists of the commercial and industrial areas. The second one is the combination of all aligned residential areas within the colonial town boundaries. A last one is the clearly distinguishable peri urban area.





map 17: different tissues

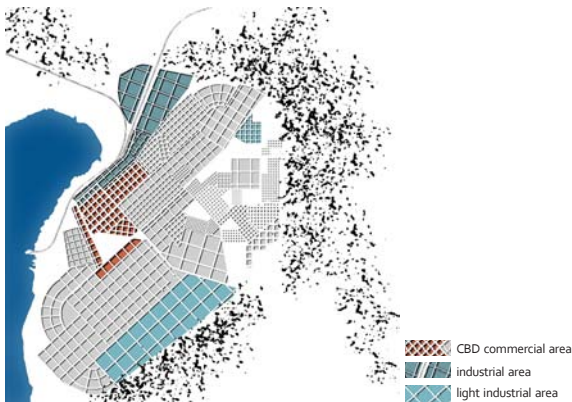


fig 68: main industrial sites & CBD

The first one is the industrial area and the adjacent central business district (CBD) (fig.68). The CBD lies in the armpit of the axial road system according to the logics of Kisumu's constitution –the administrative and transitional centre. The northern industrial tissue, which mainly consists of the primary sector –storage of natural resources and first changing into primary products- has logically grown between the international highway and the railway lands.

The southeastern 'light industrial' area, which mainly embodies the tertiary sector -the provision of services to businesses as well as final consumers- dates from a later era. During colonial times, this piece of land was kept empty as a buffer between the European residential quarters and the peri-urban African settlement. After colonialism, this vacuum was filled in with large plots for the tertiary sector, resulting in a rather impersonal and empty streetscape.



fig 69: CBD

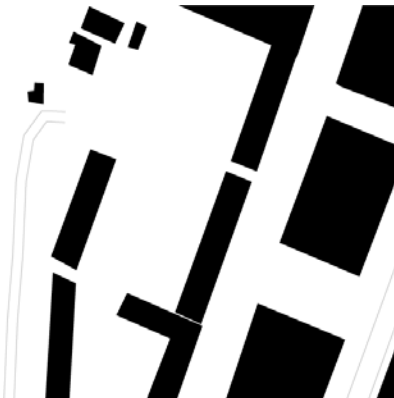


fig 70: industrial site

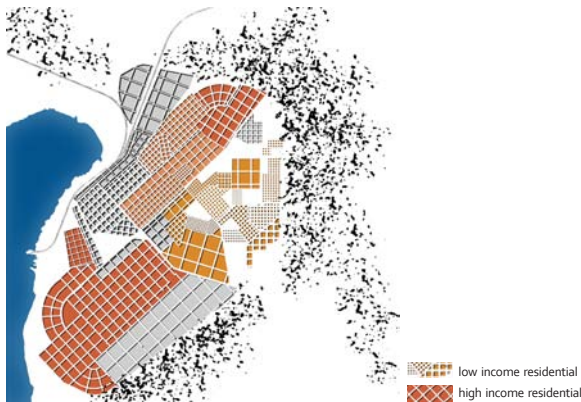


fig 71: residential sites



fig 72: Milimani Estate

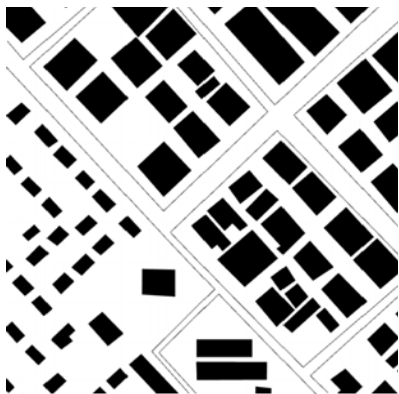
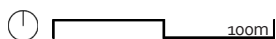


fig 73: public housing estates



The second major fraction encloses the residential areas within the town boundaries (fig.71).

Milimani -the former European quarter (fig.72)- lies next to the city centre on the gentle slopes of the lakeshore with a sight on Lake Victoria. It has a pattern of broad avenues and large plots –with a very low density- according to the 'garden city model' to which many colonial cities have been shaped. In the northern part of town, one can find a similar pattern in Tom Mboya Estate and along the Jomo Kenyatta Avenue –more or less the former Indian residential quarters.

These high-standard estates differ strongly from the low-standard ones -the African estates- which form the last major component within the boundaries of the colonial centre.

As we have outlined during the historical morphological analysis, the African residential parts lie in the eastern quarter of the town (after independence in 1963 also a small part of social housing projects was erected between Tom Mboya and the industrial zone). These parts of town have a small-scale tissue with a rational rectangular street pattern, according to the logics of a public housing estate.

These blocks have been partitioned into small plots, enclosed by an orthogonal raster of small streets (fig.73). Each plot bears one single-family dwelling. The density of these blocks is much higher than the density in the high-standard areas, but nevertheless it remains rather low because it are all single-family dwellings—a space consuming concept. Social housing in the form of building blocks is rarely used in Kisumu even though the demand for housing was very high.

These separate housing estates form a patchwork of networks linked to each other by a couple of asphalted roads. Although these are the main enclosure roads through this patchwork, pedestrians often take the smaller and more direct unpaved roads to reach their destination.

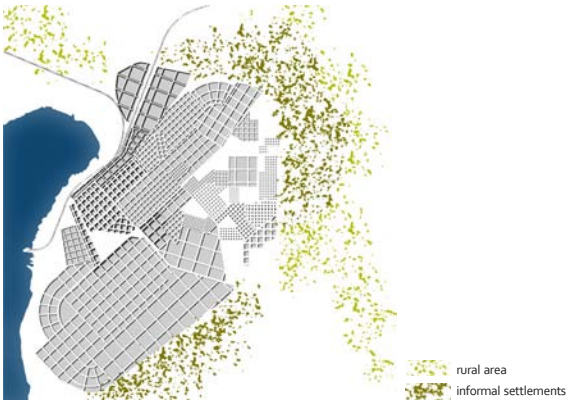


fig 74: peri-urban areas



fig 75: informal settlements

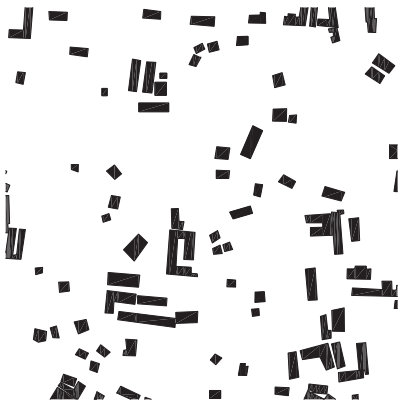


fig 76: rural extensions

Outside the town boundaries one can distinct a third major fractions. It embodies two different tissues; one is the highly dense informal settlements and the second is the low density rural extensions (fig.74). There is no clear boundary between these two tissues but the farther from the colonial city centre, the more the one tissue sprawls out making room for the other.

The first component is characterized by its low accessibility, high density and deteriorated environs. It has grown through the years from the indigenous homestead structures, outlined in the historical morphological analysis. The second component, which consists of rural homestead structures, is clearly noticeable on the aerial photograph. The circular or semi-circular shapes are recognizable figures in the landscape of Kisumu's hinterland, which is described in chapter of vegetation.

One glance at Manyatta's figure ground is enough to notice the huge density range inside Manyatta area. What used to be privately owned homestead structures have developed into an enormous tissue of arbitrary placed tenant configurations. Because buying or hiring a structure in the city centre is a very expensive effort, most people tend to live inside the slum area, for it is much cheaper and yet as close to this vivid centre as possible.

As a huge amount of people are passing Kondele and the Kibos Road, these sites have gained economic importance through time. It is here that most of the shops –formal and informal- are located, making this very dens tissue almost not permeable with the exception of some major roads.



KIBOS ROAD

ROAD RESERVE

TARMAC ROAD

KOVANGO ROAD



map 18: different tissues



fig 77: very dens tissue

Another very dens tissue is the one between the 30metres road reserve and the tarmac road. It is a bit more permeable for there are several major roads separating big parts of land (fig.77). A network of different smaller paths is subdividing this tissue into smaller plots where numerous structures are erected. Most of the small plots don't have a real front- or backside because the buildings are clustered together leaving almost no free space in between.



fig 78: dens tissue with voids

The middle part, between the tarmac road and the Koyango Road is less densely built (fig.78). Although the structures are still standing very close to one another, they are grouped around a courtyard. These courtyards are little 'gardens' or green areas where inhabitants cook or are hanging clothes to dry. Several large pathways are dividing this tissue into large portions but because of the more spread structures, there are less narrow paths retraceable in this area. There is almost no free land left and the pieces of open land that one can notice here, mostly are over-proportioned playfields for schools.

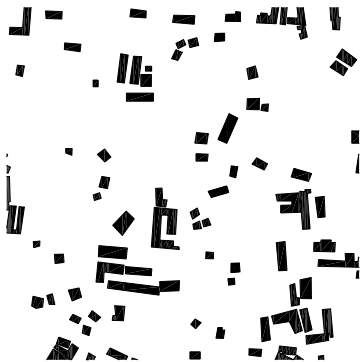


fig 79: widely spread houses

Between the Koyango Road and Kisumu's hinterland the structures are spread in their green environment and are mostly standing by themselves (fig.79). Small and narrow pathways between the grass and trees link these structures to the major roads, which in their turn are linking this part to the Manyatta area. On the aerial photograph only this large passages are visible in between the green open space.



fig 80: neighbouring compounds



fig 81: Koyango school



fig 82: rural area

e_Transportation modes

Accessibility of places, and thus transportation and movements, is a very important issue in relation to the economical and social life in Kisumu. Markets designated on good accessible places are more numerous attended, because of the larger number of passer-bys in contrary to the less reachable ones. It is also in this prospective that informal activities start to flourish at major junctions and roads.

Public transportation is very commonly used in Kisumu as it is a cheap way to cover a distance too far for walking. Going to neighbouring towns or village's one takes the bus but in the inner city, the matatu is the primary used transportation mode.





map 19 transportation modes



fig 83: matatu

A matatu (fig.83) is a minivan that, legally, can carry up to 14 passengers (although they, most of the time, cram up to 22 passengers in their van) and costs 10 to 15 shilling (or bob as it is popularly called) for the normal trip. Every day the matatu drivers have to obtain a legal document and place it at their front window. This is an approval to drive, transport people and especially to park at the official stopping-places. Most matatu-drivers use a lot of non-designated, and thus illegal, drop offs at different locations, they simply halt at the roadside, performing dangerous manoeuvres and creating congestion.

The matatus, driving in the city, are using the Jomo Kenyatta Avenue to get to and from Manyatta slum area. Coming from Manyatta and driving through the city centre, the matatu makes a small loop around Sportsground (1 on map) to rejoin the Jomo Kenyatta. When the matatus reaches inside the slum area, they do not establish a complete tour but they make a stop and turn. For example: after driving in at Carwash (2 on map) and reaching Migosi Market (3 on map), the matatu stops and drives back instead of completing a possible tour of joining the Kakamega Road.

A more striking example is the stop and turn in the heart of Manyatta area: at Corner Legio (4 on map), the matatu drives into Manyatta where he stops at Manyatta Market (5 on map) and turns back. By this the eastern part of the city is not accessible by matatu and one has to take another transportation mode to reach or cross this part of town. It would be much shorter and faster if the matatu would make a complete loop for example from Sportsground, passing Kondele, into Manyatta area and then driving through Arena Estate (6 on map) back to the city centre. Instead it is now making a complete detour. People willing to go from Manyatta market to the city centre or vice versa are now forced to walk or take a bicycle taxi, a bodaboda, to cross this

distance.

A lot of inhabitants of Manyatta visit or sell at Kibuye market (7 on map) and therefore they have to cross the 30metres road reserve to infiltrate the town centre via small roads. It is much cheaper and shorter to walk via this shortcut instead of taking the matatu all the way to the major market and therefore most inhabitants are attending this route.



fig 84. bodaboda



fig 85: tuktuk



fig 86: handcart

The bodaboda (fig.84) is another frequently used mean of conveyance. It's a single bike that can carry an extra passenger at the back and costs between 10 and 40 shilling, depending on the distance one has to cover. Every bodaboda needs an official number plate as approval to transport people and at the back, the bicycle has to be furnished with a cushion, a handle and two bars to support the passenger's feet. Waiting at important junctions and roadsides, the bodabodas pick up passengers and bring them wherever they want and return back to their fixed waiting place. Because no bicycle tracks are foreseen in Kisumu, the bodabodas are forced on the same roads as all motorised traffic, sometimes leading to dangerous situations. In Tom Mboya Estate (8 on map) there are no matatu tracks foreseen and the people living there use a bodaboda for moving through the calm roads of the estate. Also on the Koyango Road a lot of people take the bicycle to move from one place to another.

Taxis or tuktuks (fig.85) are a less used means of conveyance due to their higher price but they are preferred by the higher class. A tuktuk is a motorized tricycle with a waterproof shed. It easily costs more than 100shilling for a not to far drive. They pick up and drop off wherever one wants.

For transporting heavy goods, one can hire a delivery van or a handcart (fig.86). The handcart is the cheapest way for transporting and thereby the most frequently used inside the slum area. In this slum area, a lot of handcarts are transporting water because of the lack of water pipes.



fig 87: pedestrians at the bypass

At Kondele (9 on map), a major transportation node, a lot of people are switching means of conveyance to reach further or other places in Kisumu. It is the pre-eminent place for matatus, handcarts and bodabodas to wait for new passengers. People getting off the matatu take a bodaboda or walk to reach their destination. The 30metres wide road reserve is used by pedestrians (fig.87) and bodaboda as shortcut to cover distance before infiltrating the slums.

f_ Spatial Dynamics

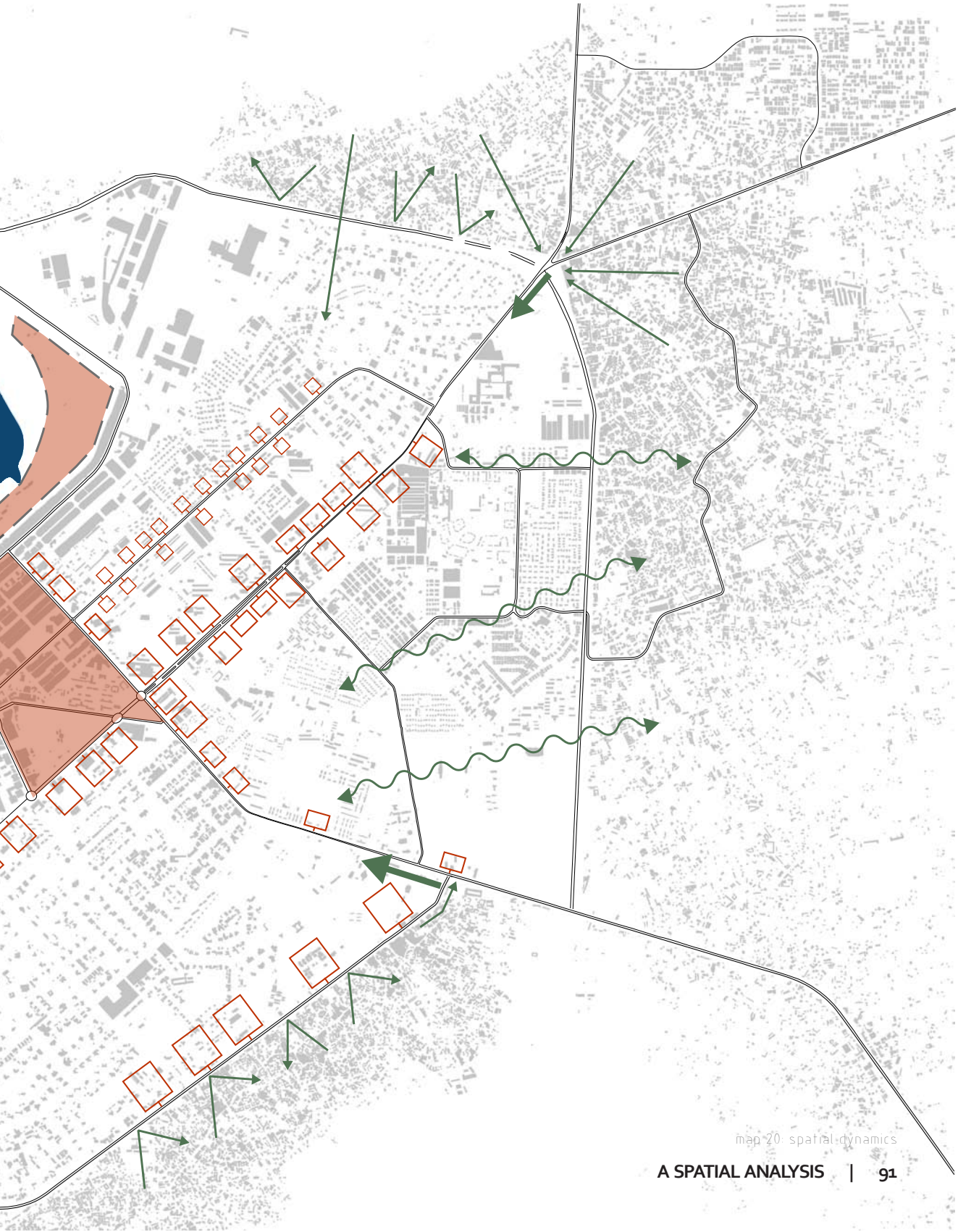
The main spatial (development) dynamics in Kisumu have happened along its major axial entrance roads. The densest area of town –the CBD- lies in the armpit of these axial roads. Stressed between the lakeshore and the Busia Road (the main axial entrance road towards the west –to Uganda) lies the industrial area. This area is characterized by its low public accessibility and diffusion possibilities towards the lake. The industrial grounds are more or less fully developed and have no further expansion possibilities here. A possible alternative location is at the other side of the lake where fabrics have already been erected.

Furthermore, we notice that most public facilities (such as schools, hotels, court...) have graft upon the axial roads, enforcing their importance. At the Nyalenda Road, one also finds larger entities that serve the community (such as a water company, electricity distributor ...) but that need less public accessibility. Along the Nyerere Road one finds a similar process but on a much smaller scale. Different car mechanics have settled along this road making this a parallel and informal equivalent of the larger Jomo Kenyatta Highway.

The main spatial (movement) dynamics in Kisumu also happen along these axial entrance-roads. The most vibrant part of town lies, as to be expected, in the centre of the city where all axial roads converge. It is here that all movement starts, ends or passes. These axial roads are the only means of crossing the city.

When we look at the different means of entering the city from inside the slum belt we notice three different intermediary mechanisms. In the north –where Obunga faces Tom Mboya estate- there is only one single entrance possibility that gives out on Nyerere Road. Tom Mboya forms a strong boundary that forces all pedestrians either first to go to Kondele before entering the city or to use this one single passage. In the east –where Manyatta faces different public housing estates- there is a high permeability towards the city centre. There are two asphalted roads that link these tissues and in between there are several non-asphalted roads that provide a good accessibility. In the southeast –where Nyalenda faces Milimani estate- there are several entrance possibilities but they are not often used by pedestrians. One reason is an assumed 'mental boundary' between the very high- and very low-income inhabitants. The other one is the fact that there is very little 'public life' in the streets of Milimani, by which there is no specific need of penetrating this area.





g_Vegetation on public spaces

Shade on formal public spaces

When we impose the map of vegetation on the map with public space one notices immediately the large density of trees in the south-western formal public spaces. Sportsground (1 on map), the Colonial Square (2 on map) in Milimani Estate and the public square on the eastern side of the Jomo Kenyatta Avenue (3 on map) are overwhelmed with trees. The public squares in the northern and eastern part of town have nearly no trees.

Markets

Kibuye Market (4 on map), Jubilee Market (5 on map) as well as the smaller markets in the informal settlements have nearly any form of vegetation. The marketers shelter underneath roofed structures or provide their own shadow by using umbrellas, as mentioned earlier.

Shaded encroached open space

Within the city centre one can find 'public shade' along the major roads. Marketers selling their goods at these roadsides are thus using the shade of these trees. The Jomo Kenyatta Avenue and the green triangle between Sportsground and Jubilee market are overwhelmed with trees. The many people passing by these two sites in combination with the abundance of trees makes them the ideal places for erecting informal businesses.

At Kondele (6 on map), the few trees have been removed in preparation for the bypass, leaving a large empty void without any form of shadow.

In the informal settlements, many people are making use of shadow casted by the few trees standing there. The people encroaching the public space at important intersections are mostly erecting their business in favour of the casted shadow.



●●●●● trees casting public shadow ●●●●● trees casting private shadow ■ official open public space ■ formal markets ■ taken public space



map.21: vegetation on public spaces

h_ Transportation modes and the structural elements

Several conclusions can be made when we combine the map of transportation and structural elements of Kisumu.

The major roads of Kisumu are the ones most used by motorised traffic. At the cross point between the Jomo Kenyatta Avenue and the Otieno Oyoo Street trucks, cars, matatus, bodabodas and pedestrians are crossing each other making it a very congested place. With the coming of the bypass, not all traffic will be obliged to pass the city centre as it is now. This will descend the pressure on this junction.

At Kondele (1 on map) one can find larger infrastructure than in the rest of the slum belt due to its good location and connection with the inner city. Many people pass here and change means of transportation, creating a vivid place as discussed earlier.

When one takes a closer look at the slum area, one notices that Obunga (2 on map) has a poor connection with the inner city or with other parts of the informal settlements. People therefore have to walk or take a bodaboda to reach Kondele or the city centre. In Manyatta (3 on map), the matatu drives all the way into the heart of the slum, making this the best accessible one. Still, many parts of Manyatta are not accessible for motorised traffic obliging people to walk or take a bodaboda.





map 22. transportation modes and structural elements

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figures, maps, schemes and section references

1 | PROBLEM STATEMENT & HYPOTHESIS

Figures:

1-3: figure based on Google earth map, 2003

4, 7-10: figure based on GIS-file received from the Municipality of Kisumu in Jul-Oct 2007 (GIS-file based on aerial photograph Kisumu, 2003)

5-6. **UNHABITAT**, 2006, *Kisumu Urban Sector Profile*, Rapid Urban Sector Profiling for Sustainability (RUSP), UN-HABITAT, Nairobi

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1-4. map based on GIS-file received from the Municipality of Kisumu in Jul-Oct 2007 (GIS-file based on aerial photograph Kisumu, 2003)

2 | A SPATIAL ANALYSIS

- A. A transition hub at the shores of Lake Victoria
- B. Historical Morphological Analysis
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Figures:

1-3, 5-6, 26-47, 49-63, 65-67, 80-87: picture taken during fieldwork, Jul-Oct 2007

4: figure based on Google earth map, 2003

7-10, 13, 16: figure out: **MWAMBURI, W** and **ADOLWA, P**, powerpoint: *Urbanization of Kisumu, Case Study on how Urbanization has Impacted on Kisumu and How Related challenges are Being Addressed by the Municipal Council & Other Stakeholders*, received from Betty Okero in Jul-Oct 2007

11-12, 14-15, 17-21, 23-25: figure based on the aerial photograph of Kisumu, 2003, received from the Municipality of Kisumu in Jul-Oct 2007

22: figure out: **ANYUMBA, G** 1995, *Kisumu Town: history of the built form, planning and environment: 1890-1990*, Series: Housing and urban policy studies, Delft university press, Delft

48, 64: figure out: **UNHABITAT**, 2003, *Kisumu city development Strategy*, Lake Victoria Region City Development Strategy for Improved Urban Environment and Poverty Reduction, UN-HABITAT, Nairobi

68, 71, 74: figure based on fieldwork in Jul-Oct 2007 and GIS-file received from the Municipality of Kisumu in Jul-Oct 2007 (GIS-file based on aerial photograph Kisumu, 2003)

69-70, 72-73, 75-79: figure based on GIS-file received from the Municipality of Kisumu in Jul-Oct 2007 (GIS-file based on aerial photograph Kisumu, 2003)

Maps:

1: map based on Google earth map, 2003

2: map based on GIS-file received from the Municipality of Kisumu in Jul-Oct 2007 (GIS-file based on aerial photograph Kisumu, 2003)

3-12: map based on **ANYUMBA, G** ,1995, *Kisumu Town: history of the built form, planning and environment: 1890-1990*, Series: Housing and urban policy studies, Delft university press, Delft

13-22: map based on fieldwork in Jul-Oct 2007 and GIS-file received from the Municipality of Kisumu in Jul-Oct 2007 (GIS-file based on aerial photograph Kisumu, 2003)

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1-2: scheme based on GIS-file received from the Municipality of Kisumu in Jul-Oct 2007 (GIS-file based on aerial photograph Kisumu, 2003)

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1-4: section based on photographs and fieldwork, Jul-Oct 2007

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