KISUMU ISUD-PLAN

PART 2
PLANNING FOR KISUMU'S FUTURE

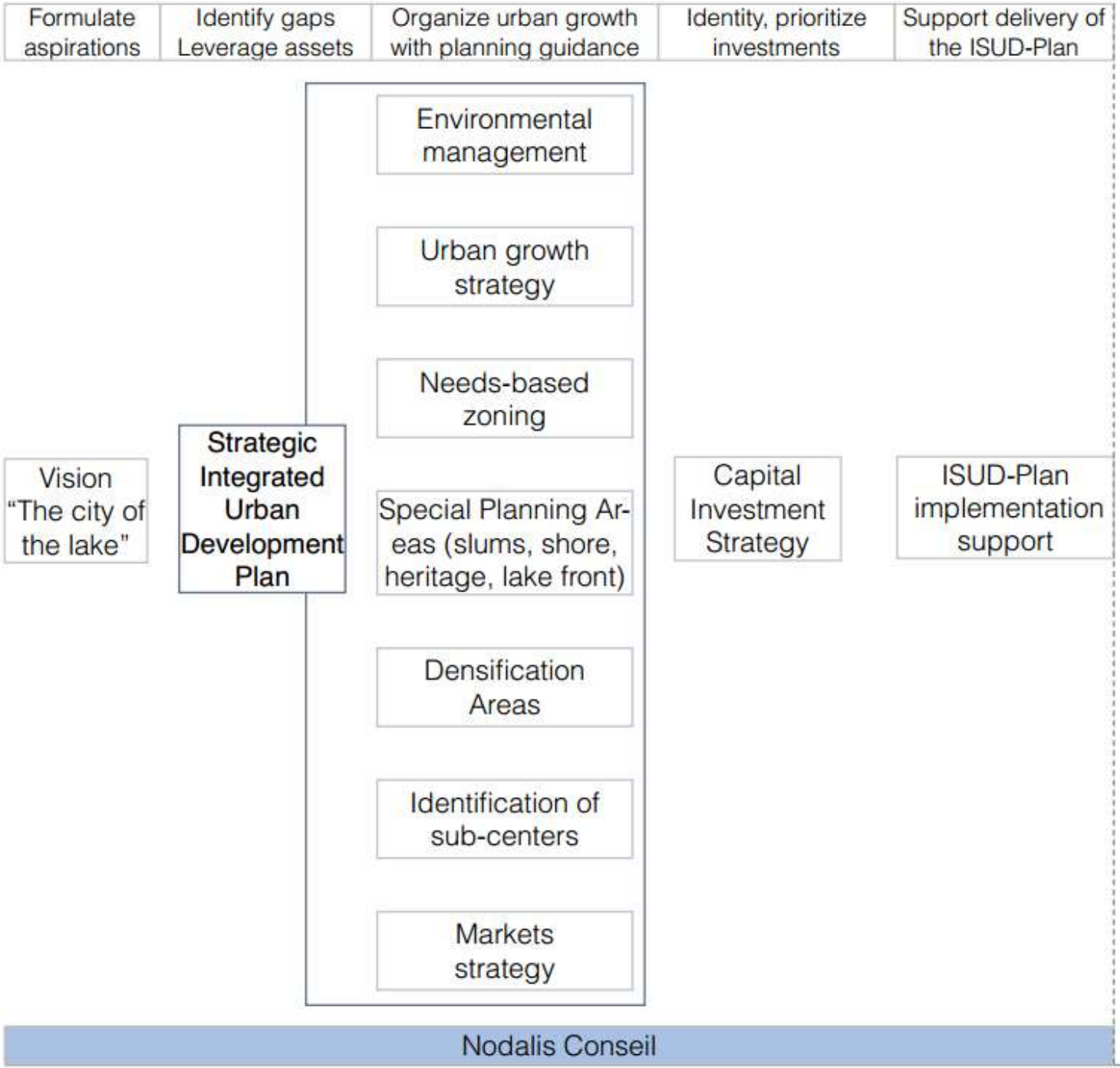
THE PLAN

November, 2013

Nodalis

This report presents Kisumu Integrated Strategic Urban Development Plan. It is number 2 in the suite of documents including the first report entitled "Understanding Kisumu" which is an analysis of present conditions in the city, and is followed by a Capital Investment Strategy focused on financing and implementation.

Kisumu's ISUD-Plan is strategic document, it is not then end of the planning process for the city but takes it far enough for essential decisions to be taken.


Formulate aspirations
Identify gaps Leverage assets
Organize urban growth with planning guidance
Identity, prioritize investments
Support delivery of the ISUD-Plan
Environmental management
Urban growth strategy
Needs-based zoning
Vision "The city of the lake"
Strategic Integrated Urban Development Plan
Special Planning Areas (slums, shore, heritage, lake front)
Capital Investment Strategy
ISUD-Plan implementation support
Densification Areas
Identification of sub-centers
Markets strategy
Nodalis Conseil

RATIONALE

Planning for Kisumu's development must address a number of inter-related issues described at length in Understanding Kisumu and recalled here:

The city's growth pattern has been mainly organic for the last 50 years with only a few new parts of it and a few buildings produced through planned development. This dynamic of growth has hardly been supported by public investments neither kept in check through timely land release and appropriate zoning. Housing deficit has grown steadily and has been bridged mainly by way of spontaneous responses either through small scale community development by private developers or, for the majority, through self-built substandard housing.

The enduring attractivity of Kisumu has not been on a par with livelihood and employment opportunities: major economic actors and activities have either disappeared or became dormant, such as transport and logistics with port and railway business at a standstill for two decades, industry with cotton mill and brewery now closed, sugar striving, rice and aquaculture on a slow take off and tourism hardly developed despite the region high potential.

As much as the city could not reinvent itself, it remained ensconced in a gridiron layout mostly intended at the time to serve port and railway activities and to render in space the social divide of the colonial organization. In addition to a growing slum belt circling it almost entirely, Kisumu remained pushed away from the lake by the KRC holding despite the area not being in use anymore.

City and county are at a turning point today. Kisumu is manageable in size and in population; its environment is particularly conducive to growth in sectors with high job generation potential: tourism, transport and logistics and related services, agriculture and fishing and related activities, higher education. The ISUD-Plan is intended to help free Kisumu's potential and to help its authorities and residents capitalize it. A successful outcome however will require a strong mobilization of all actors, public and private sector, civil society.

DESIGN BRIEF

Kisumu is one of Kenya Vision 2030 flagship city; as such the city has been assigned a specific role within the country national development policy and will benefit from important public investments. Vision 2030 acknowledges the pivotal role the city could play in the planned overhauling of the larger region transport infrastructure – a role Kisumu had for more than half of the last century and which capital investments in rail (Mombasa - Kisumu - Kampala railway), port (planned PPP for Kisumu port development and operation, redevelopment of lines to Jinja and Mwanza, new one to Kemondo Bay) and road (KT-TCA-NC) infrastructure as well as the ISUD-Plan should revitalize.

The ISUD-Plan should help Kisumu's development momentum through the provision of a renewed spatial organization improving living conditions for all and conducive to business.

In this view the Plan proposals, developed according to an integrated approach considering the variety of urban sectors and scales, intend to:

- Provide for a predicted population growth of around 300 000 people (45% increase) by 2030
- Guide urban growth so as to contain the urban footprint extension, achieve an efficient density and an adequate repartition of services and amenities
- Reconnect the city and the lake to make Kisumu a true lakeside city
- Provide better mobility and accessibility to and within the city
- Re-integrate and restructure the slum belt
- Prevent sprawl and slum formation through adapted housing supply and zoning
- Provide land for undersupplied land uses, in adapted size and location
- Protect and valorize Kisumu's natural environment
- Protect and valorize Kisumu's heritage
- Improve public realm

TOOLS

The ISUD-Plan calls upon a range of planning tools to contribute to Kisumu achieving its development objectives, as set by the city leaders through a number of consultations and a sustained dialogue with a variety of stakeholders. Each chapter in this part shows how they are applied and how, together, they form the Kisumu Integrated Strategic Urban Development Plan, the blueprint for Kisumu's future.

Planning tools used for the ISUD-Plan include:

- Management of the natural environment in order to protect it, valorize it and protect people from natural hazards through zoning regulations
- Creation of 5 Special Planning Areas identified according to their high strategic value and for which specific planning guidelines will apply (Nyalenda and Manyatta A & B, KRC lake front holding, CBD, coastal area)
- Identification of 10 Densification Areas allowing infill development and retrofitting of under - used pieces of publicly owned land, a land use schedule is proposed for each of them
- Market strategy with refurbishment of selected markets, creation of a wholesale market, creation of souks and of a network of kiosks, all intending to rekindle trade and better street and handicraft vendors conditions
- Provision of space for land uses currently under-supplied through zoning and planning guidance, especially economic activities and housing including affordable housing
- Provision of space within designated areas to accommodate predictable spatial needs based on demographic projection
- Creation of new sub centers destined to attract and anchor urban extension. Sub centers are located where a high concentration of transit-linked activities is already emerging; a typical land use schedule is proposed for each of them

The implementation of the Plan is expected to provide a robust growth impetus as long as it is timely, coordinated between proposed initiatives and with other major investments.

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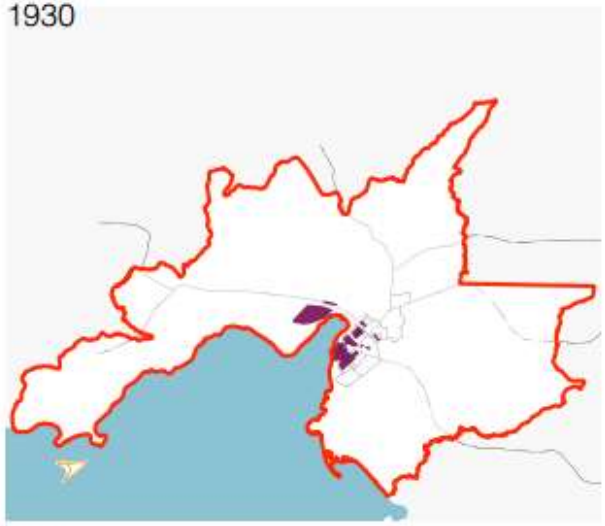

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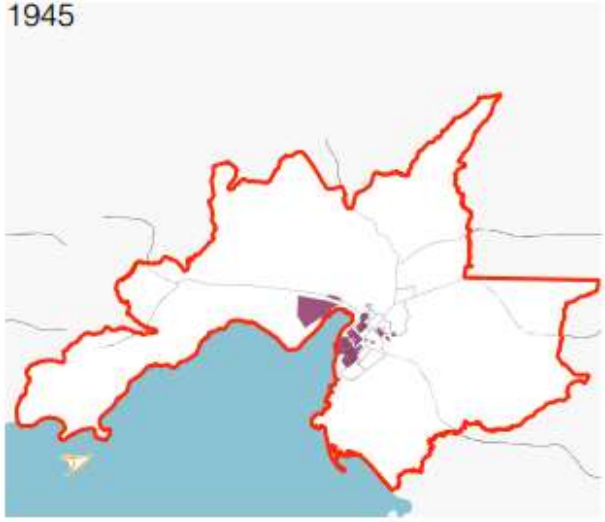

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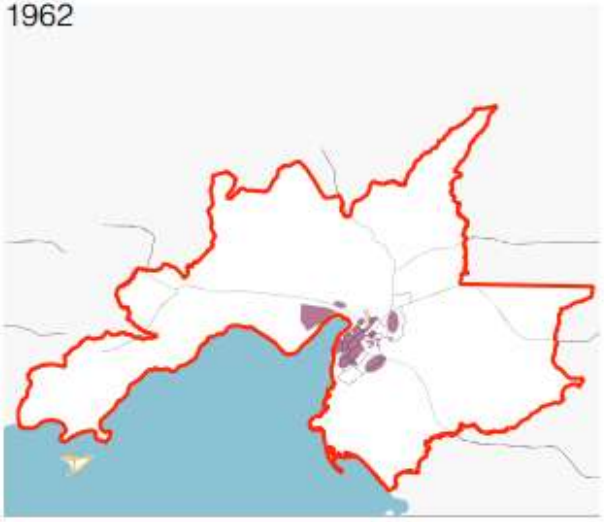

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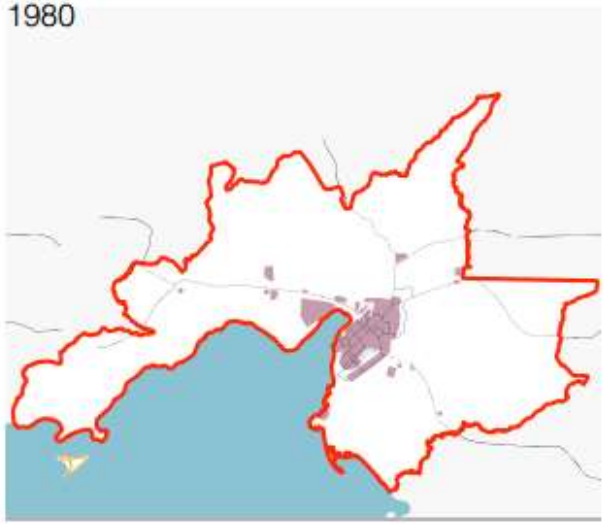

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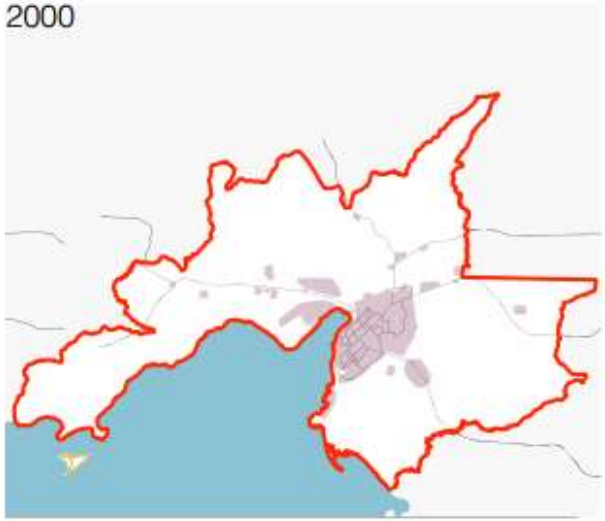
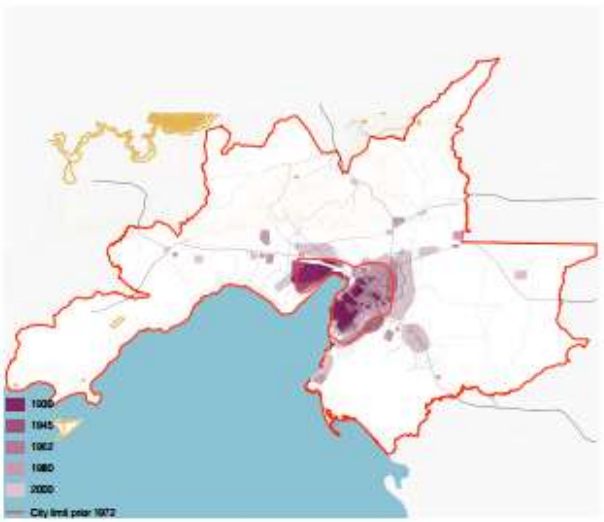
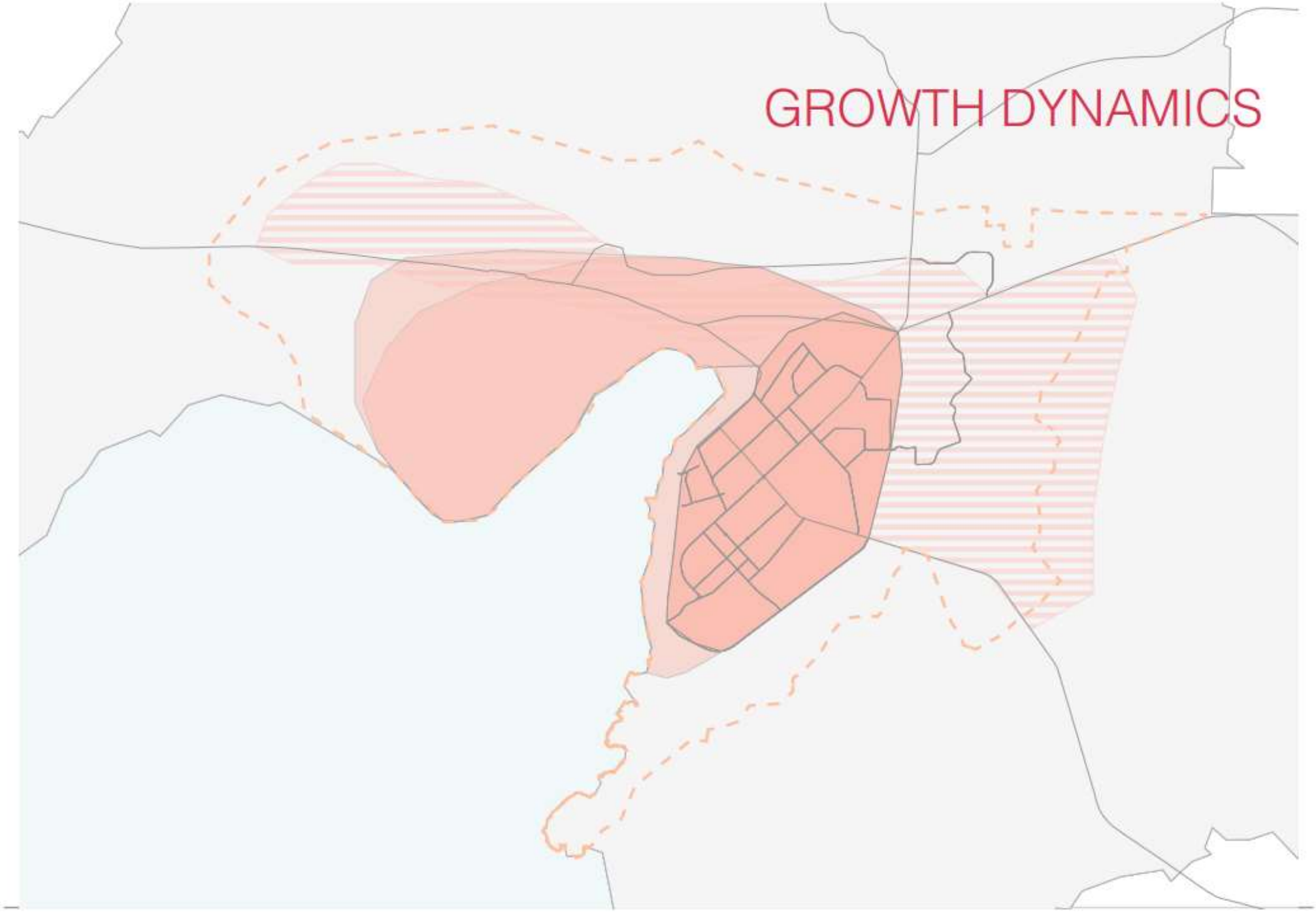
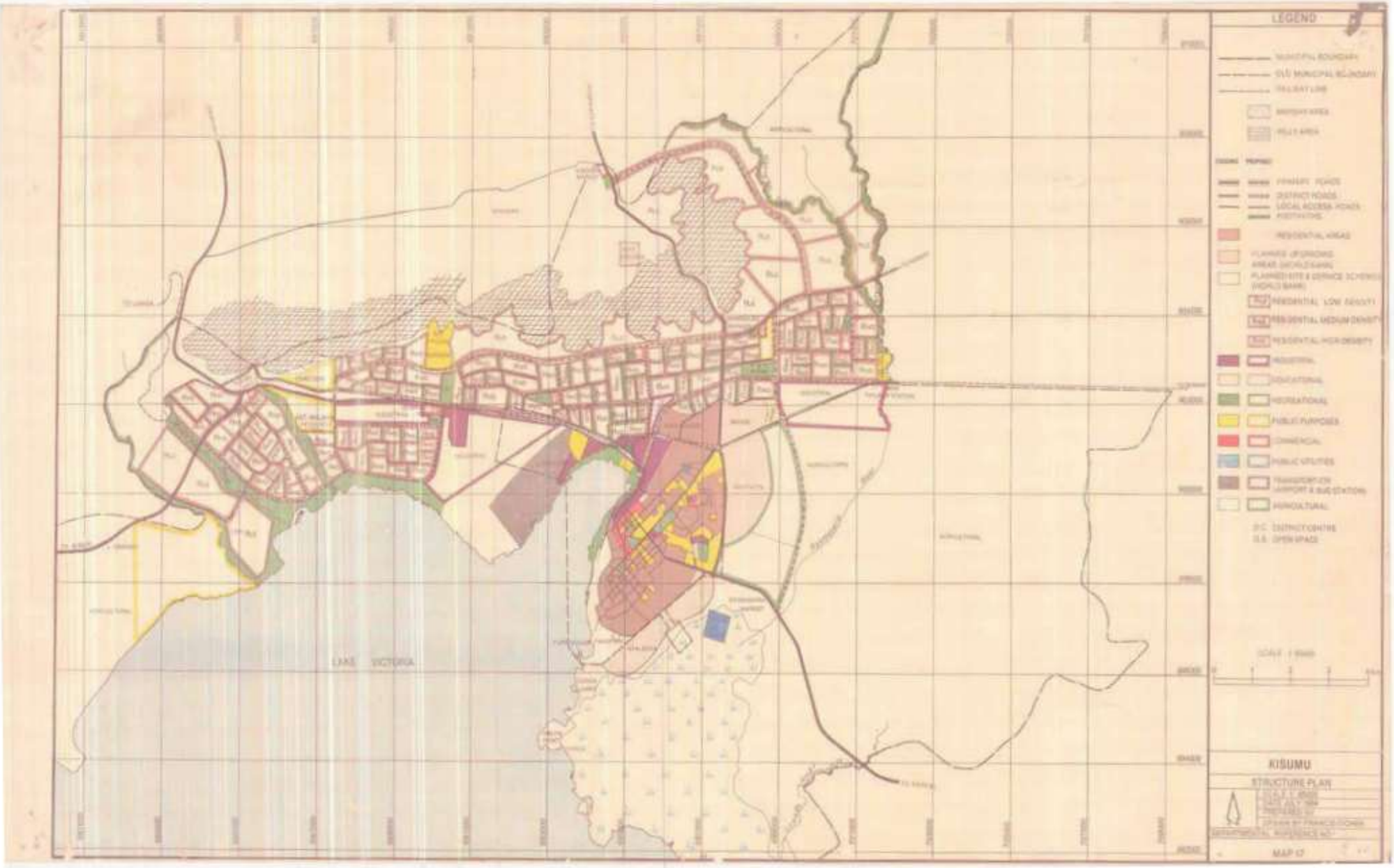


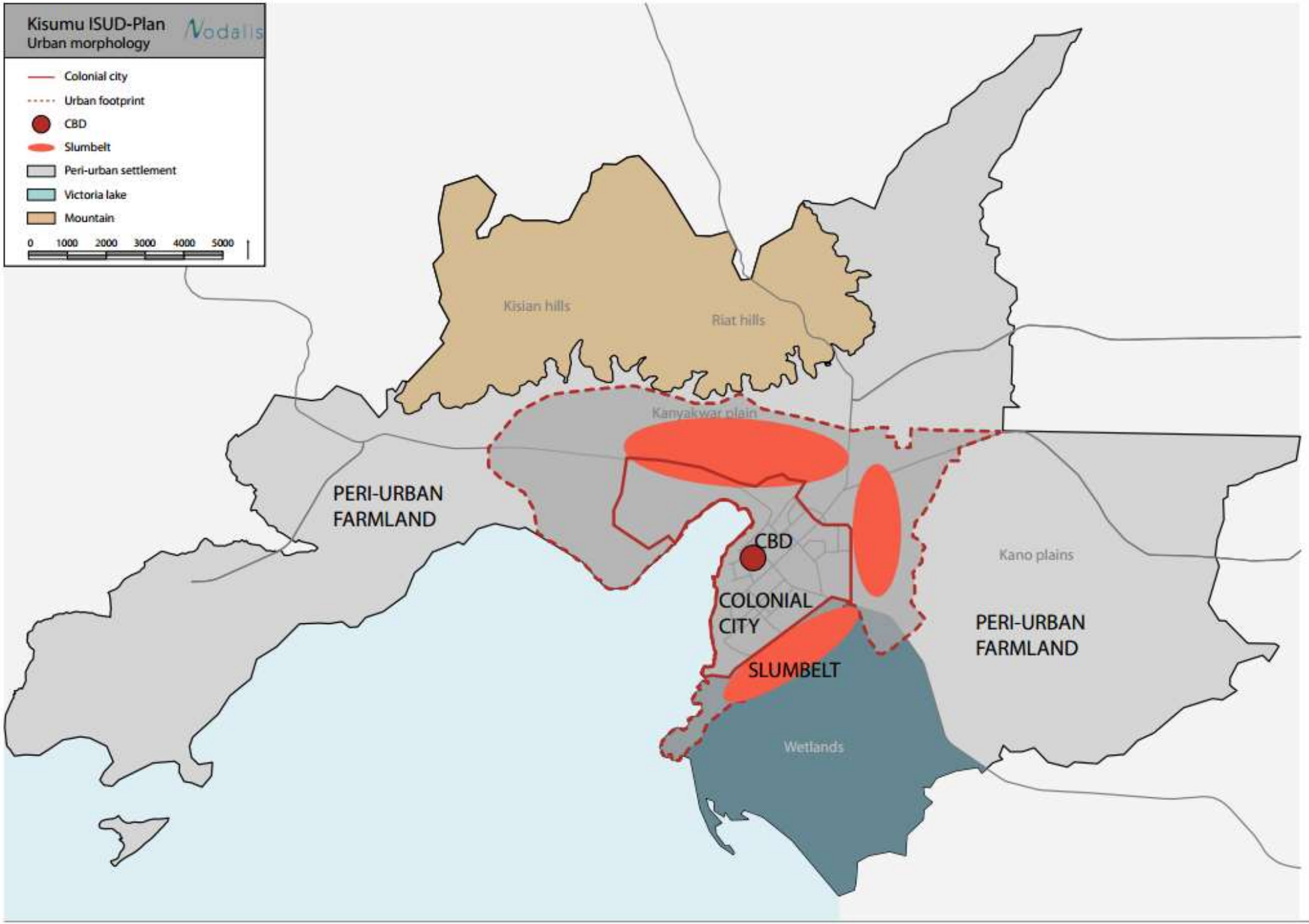


GROWTH DYNAMICS

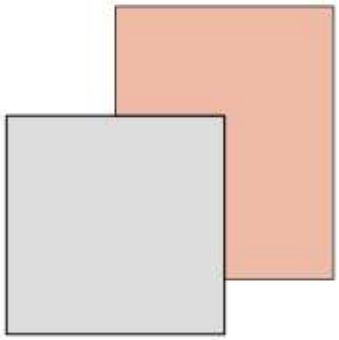



LEGEND
RESIDENTIAL AREAS
INDUSTRIAL
EDUCATIONAL
RECREATIONAL
PUBLIC PURPOSES
COMMERCIAL
PUBLIC UTILITIES
AGRICULTURAL
LAKE VICTORIA
KISUMU
STRUCTURE PLAN

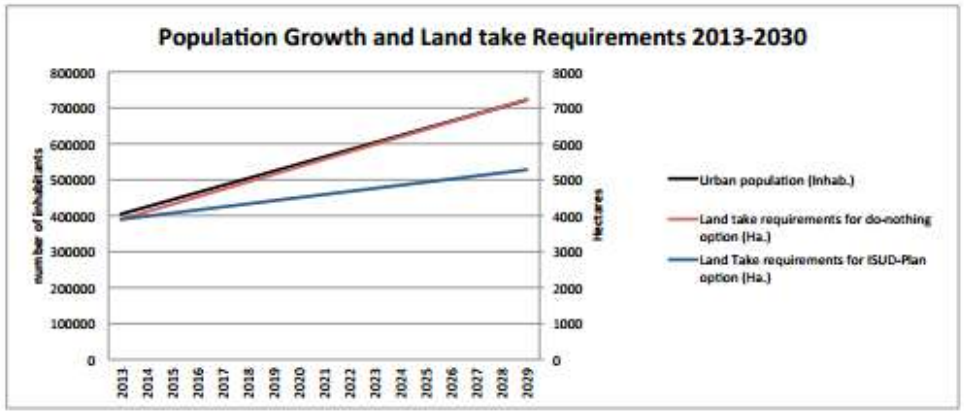
The 1984 structure plan planned for a growing city with a land use proposal including a large proportion of residential area with three sub designations for three different densities. The plan also increased recreational space and improved their spatial distribution but failed to reclaim the shore area from Dunga on, except for green spaces ; it increases industrial land use whilst keeping the actual location by proposing two new locations, one on the Kisumu-Busia road further west after the airport and one to the east on Kibos road in Migosi area. Provision for commercial land use seems insufficient. More importantly, the plan directs growth around the lake, in the area between coastline and the foot of Riat and Kisian hills. This key strategic direction did not materialized on the ground for lack of political will and of resources. It remains mostly valid however even if, 29 years later, the location of the airport raises issues, by the same token, this plan did not provide for an alternative location for the port.

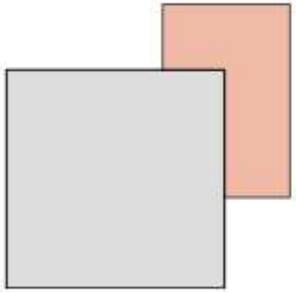

Kisumu ISUD-Plan
Urban morphology
Nodalis
Colonial city
Urban footprint
CBD
Slumbelt
Peri-urban settlement
Victoria lake
Mountain
0 1000 2000 3000 4000 5000
Kisian hills
Riat hills
Kanyakwar plain
PERI-URBAN FARMLAND
CBD
COLONIAL CITY
SLUMBELT
Kano plains
PERI-URBAN FARMLAND
Wetlands

	Year	2009	2029 (Do-nothing)	2029 (ISUD)	Land take
	Population	400 000	720 000	720 000	320 000
Land use	Residential	2 690,00	5 380, 00	3 578,89	889,00
	Commercial	24,40	48,8	92,24	67,84
	Industrial	789,69	1 196,38	1 007,88	221,19
	Parks	110,30	110,3	215,90	105,6
	Health	9,35	18,7	14,34	4,99
	Education	283,47	566,94	365,02	81,55
	Total	3 904,21	7321,12	5 274,27	1 370

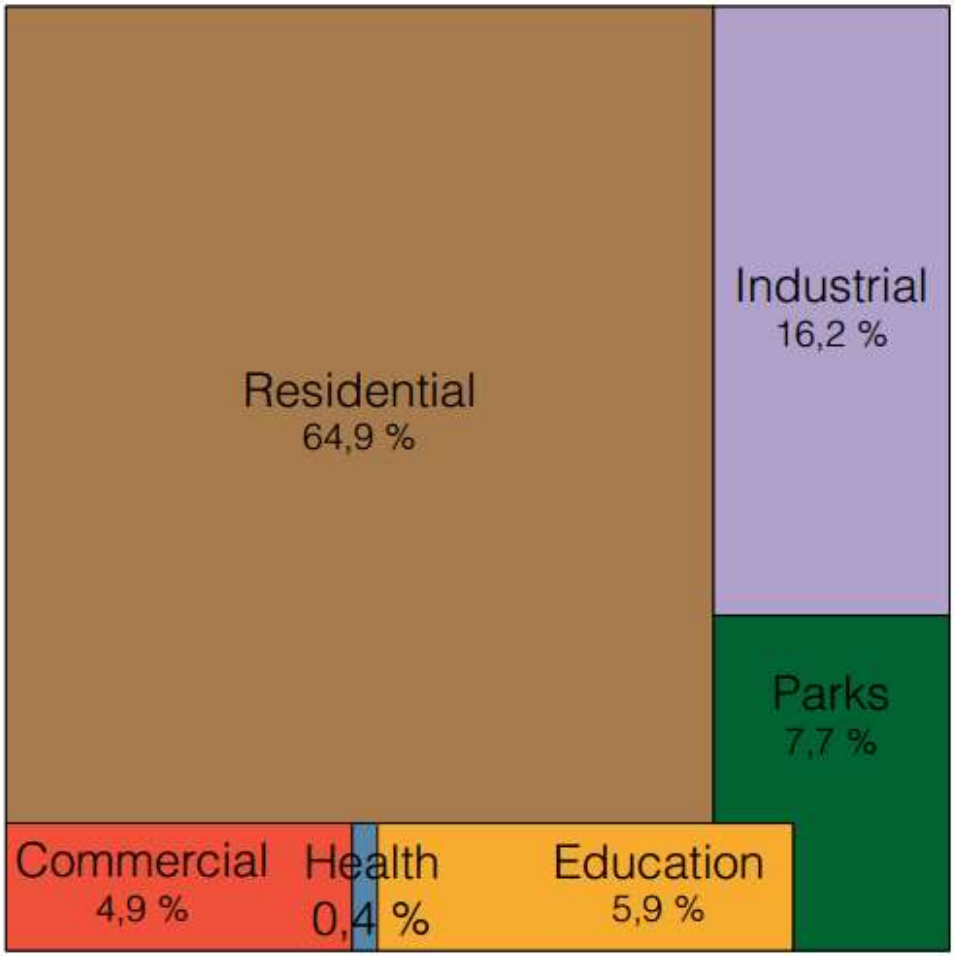


Scenario 1 : do-nothing option
2029 land take projection
Projected population increased 320 000 people
Total area : 3.904 ha + 3.417 ha





Scenario 2 : ISUD-plan option
2029 land take projection
Projected population increased 320 000 people
Total area : 3.904 ha + 1.370 ha

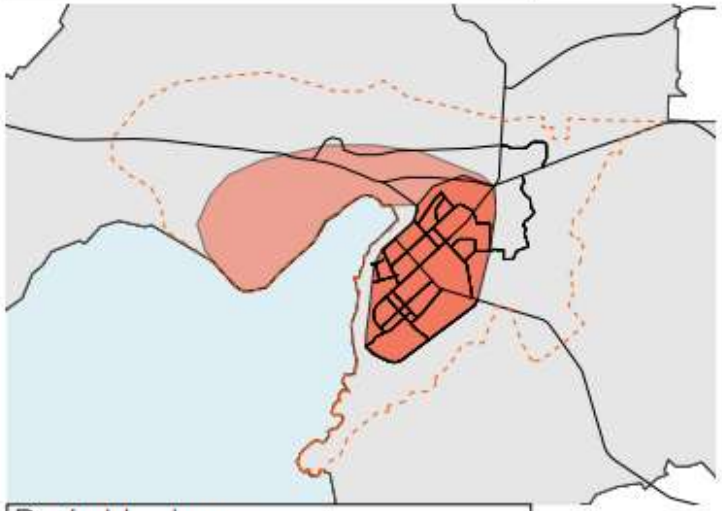


Land take estimates for do-nothing and ISUD-Plan scenarios have been calculated as follows:

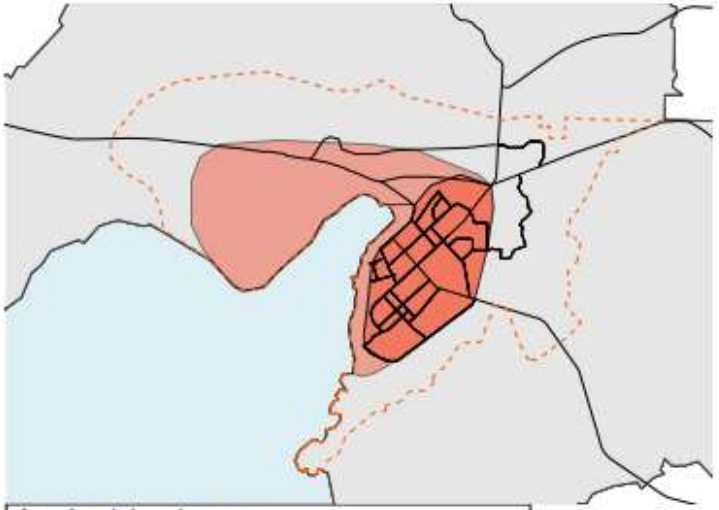
For the do-nothing scenario land take per land use has been estimated based on the assumption urban development would carry on unchanged without planning guidance nor new zoning and development control regulations, and, without adapted housing supply.

The second scenario is an optimal scenario. It has been built based on the following assumptions: 53 333 new housing units will be needed, which can be delivered at an average density of 60 units per hectare; commercial zones are augmented using a ratio of 4 square meter per head with a share of the population in the 15-64 years of age bracket of 55,1% and an average FAR of 2,5; industrial land take has been calculated with an FAR of 2; parks and recreation areas have been estimated using the minimum requirement of 3,3 square meter per head; health land take is based on a ratio of 0,39 hectare for 30 000 people, with an FAR of 2,5 (ten additional facilities required); education land take is based on an averaged land take per type of facility and an FAR of 2. The introduction of an FAR rule per land use, superior to 1 in all land uses except for some residential designation allows to optimize use of land significantly.

Present and foreseeable shape



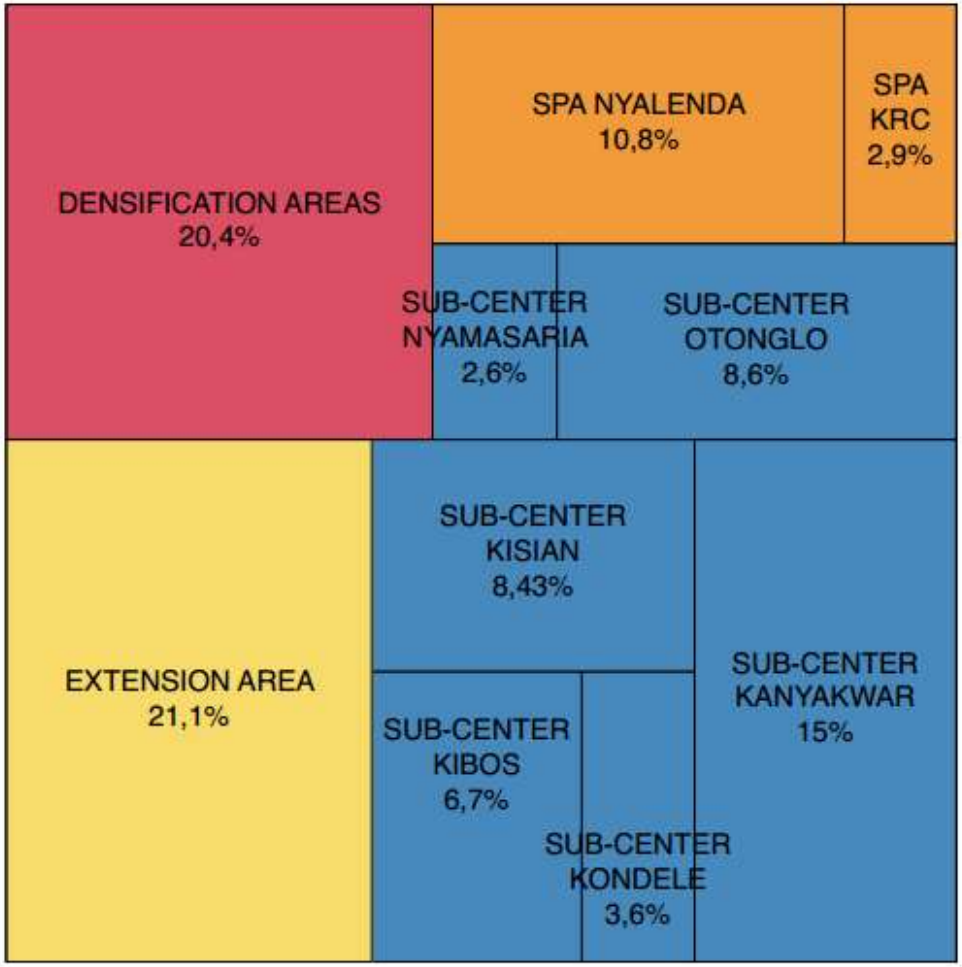
Desirable shape

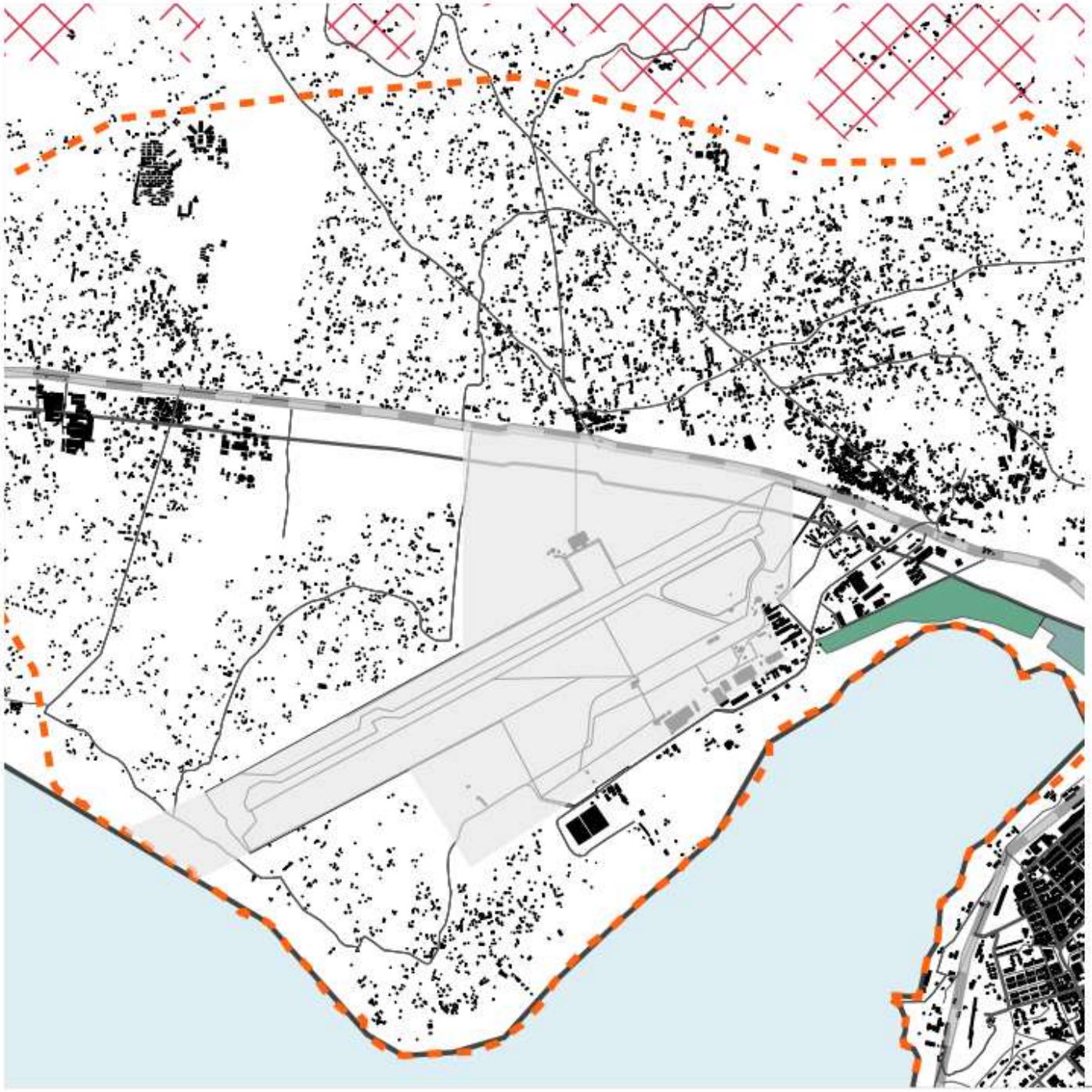


Attainable shape

GROWTH ALLOCATION AREAS

AREA	Total Area	Development area	FAR	Built up area
DAs	102,70	82,22	3,40	279,50
SPA KRC	108,70	8,00	0,23	1,40
		15,00	3,20	39,00
		85,70	-	-
SPA Nyalenda	108,60	86,90	1,01	87,77
	91,04	72,83	0,22	16,02
	159,69	127,75	0,35	44,71
SPA Manyatta	tbd	tbd	tbd	tbd
S/C Kondele	78,50	9,80	5,00	49,50
S/C Kibos	78,50	26,20	3,50	91,70
S/C Kanyakwar	78,50	58,90	3,50	206,10
S/C Otonglo	78,50	39,20	3,00	117,60
S/C Kisian	78,50	62,80	1,80	113,00
S/C Nyamasaria	78,50	19,60	1,80	35,50
Extension area	1 481,56	1 185,26	2,50	2 963,15
	2 372,94	1 897,50	3,50	6 641,25





Kisumu's airport has been in its current location since the beginning of the 20th century. It was at the time in a farmland area, predominantly occupied by rural settlements. Demographic growth and related sprawl have caused the areas surrounding the airport to become more densely populated, especially between the Kisumu-to-Busia road and the foot of Riat hills, as well as to the West of the landing strip. Over the same period, air traffic has grown, with an acceleration after the upgrading of the airport now able to receive high-capacity air liners and air freighters, generating increased road traffic and a higher environmental impact. Whilst increased air capacity is positive for the county and the city in terms of business development, including for tourism, the airport in its present location raises a number of issues:

Increased environmental impact is making its surroundings increasingly less adapted to human settlements and current urbanization trends causing rising density to near the airport will only worsen these conditions. This evolution is not uncommon where airports finds themselves in the way of urban growth which impedes their development as they need to expand. The Kisumu international airport area totals XX square meters which compares with the XX square meters of the "slum belt" or the XX square meters of the "formal city", the area is able to capture XX% of predictable gross spatial needs.

On the other hand, the airport is located on the side of the city which is best suited to accommodate foreseeable spatial needs: the northern part of the gulf.

The airport relocation, whilst needed, is an important decision : it implies important decommissioning costs, and land, infrastructure, utilities and building costs for the new facility in an area yet to be identified. East Kolwa or Ahero, both to the South East of the city, have already been mentioned as possible locations for a new airport; traffic interruption would also need to be kept to a minimum. Land required would need to be at least as large as the present KAA designated land. Part of relocation costs could be covered by the development of the current airport land which is one of the most desirable location in the city (together with KRC lakeside holding).

KCAA

efficiently managing air safety


Land occupancy per type of residential land use
Samples sub-standard housing
Samples mid and high end housing
Samples tenement housing
0
2,000
kilometres

EXISTING CONDITIONS

ISUD-Plan 2013

		RESIDENTIAL LAND USE TYPE	Residential Substandard Housing	Residential Tenement Housing	Residential Mid & High Range Housing	TOTAL / AVERAGE
DATA	AREA	Total Hectares	1 774	135	776	2 690
		%	66%	5%	29%	100%
	OCCUPANCY	Built units	27 206	2 430	7 920	37556
		%	72%	6%	21%	100%
	CAPACITY	Population Estimates	149 633	60 750	39 600	249 983
		%	60%	24%	16%	100,00%
BASE MODEL (method 1)	LAND TAKE	N° of housing unit per ha	15	18	10	15
	DENSITY	N° of inhabitants per ha	84	451	51	195
BASE MODEL (method 2)	LAND OCCUPANCY	N° of housing unit per ha	36	14	11	20
	DENSITY	N° of inhabitants per ha	180	345	57	194
Delta	LAND OCCUPANCY	N° of housing unit per ha	-21	4	-1	-6
	DENSITY	N° of inhabitants per ha	-96	106	-6	1

Housing is the chief engine of spatial growth in Kisumu. Housing typology dictates more than any other land use the shape of a city, its land take, its utilities, roads and services requirements. The single family detached house sprawling model, whether planned in the form of residential communities or unplanned in the form of self-built neighborhoods, has the highest consumption rate in terms of land, networks and services as shown in tables below.

Using a sampling method, see map, the three dominant residential land use types in Kisumu have been analyzed in terms of land take, built density and people density. It appears clearly the slum belt typology, which houses an estimate 60% of the population on 66% of the built up area is particularly inefficient with 84 persons/ha (based on total count method), or 180/ha (based on sampling method), whereas tenement housing yields 451 persons/ha (based on total count method), or 345/ha (based on sampling method). The minority residential community typology yields 51 or 57 persons/ha.

DO NOTHING OPTION

Scenario 1 2029

No change in the existing residential land take models nor in the distribution of the population; based on a projected population of 721,790 inhabitants

		RESIDENTIAL LAND USE TYPE	Residential Substandard Housing	Residential Tenement Housing	Residential Mid & High Range Housing	TOTAL / AVERAGE
BASE MODEL	LAND TAKE	N° of housing unit per ha	15	18	10	15
	DENSITY	N° of inhabitants per ha	84	451	51	195

DATA	AREA	Total Hectares	3 090	231	1 358	4 679
		%				
	OCCUPANCY	Built units				
		%	72%	6%	21%	
	CAPACITY	Population Estimates	259 844	103 938	69 292	433 074
		%	60,00%	24,00%	16,00%	

MEDIUM EFFORT ON HOUSING SUPPLY

Scenario 2 2029

Major effort on collectivehousing through densification of tenement housing, densification and improvement of informal neighborhood ; based on a projected population of 721,790 inhabitants

		RESIDENTIAL LAND USE TYPE	Upgraded social Housing	low and mid range collective Housing	Residential Mid & High Range Housing	TOTAL / AVERAGE
MODEL 2	LAND TAKE	N° of housing unit per ha	12	30	10	17
	DENSITY	N° of inhabitants per ha	150	500	51	234

DATA	AREA	Total Hectares	1 925	393	1 811	4 129
		%				
	OCCUPANCY	Built units				
		%				
	CAPACITY	Population Estimates	288 716	196 327	92 389	577 432
		%	50,00%	34,00%	16,00%	

MAJOR EFFORT ON HOUSING SUPPLY

Scenario 3 2030

Major effort on residential mid and high end housing to impose density / social mixity on private estate developpers and work on social housing; based on a projected population of 721,790

		RESIDENTIAL LAND USE TYPE	Upgraded social Housing	low and mid range collective Housing	Residential Mid & High Range Housing	TOTAL / AVERAGE
MODEL 3	LAND TAKE	N° of housing unit per ha	12	30	30	24
	DENSITY	N° of inhabitants per ha	150	500	500	383

DATA	AREA	Total Hectares	1 540	404	289	2 233
		%				
	OCCUPANCY	Built units				
		%				
	CAPACITY	Population Estimates	230 973	202 101	144 358	577 432
		%	40,00%	35,00%	25,00%	

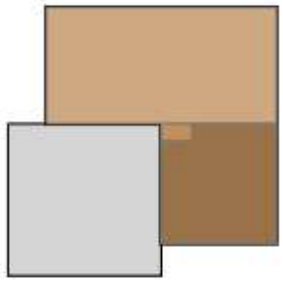
This has strong implication in view of projected demographic growth: Kisumu's current population of around 400 000 is expected to reach 700 000 by year 2030 and related housing demand will grow accordingly.

Three growth scenarios have been prepared. Scenario 1, the do-nothing options shows that in the hypothesis a similar share of the population (72% projected) has to resort to self-built housing solution in unplanned areas, needed land take to accommodate housing demand will amount to 3 090 ha, whilst scenario 2 shows an effort to lower this share to 50% would lower land requirement to 1 925 ha and another 10% more in multifamily housing, scenario 3 would further reduce housing land take to 1 540 hectares.

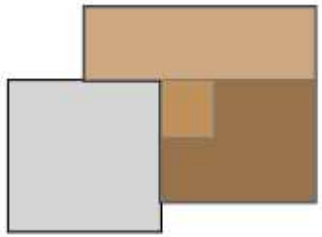
The diagram on the right shows projected land take requirement, for housing only, as an addition to the existing residential land take, with the share of each typology. It demonstrates clearly housing demand should be taken into account with adequate supply or Kisumu's expanse will grow to unmanageable dimensions.

Total residential area : 2.690 ha
2013

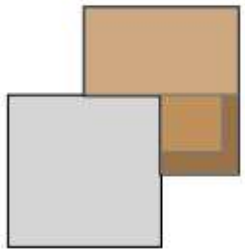
Scenario 1
2030 residential area projection
Total area : 2.690 ha + 4.979 ha

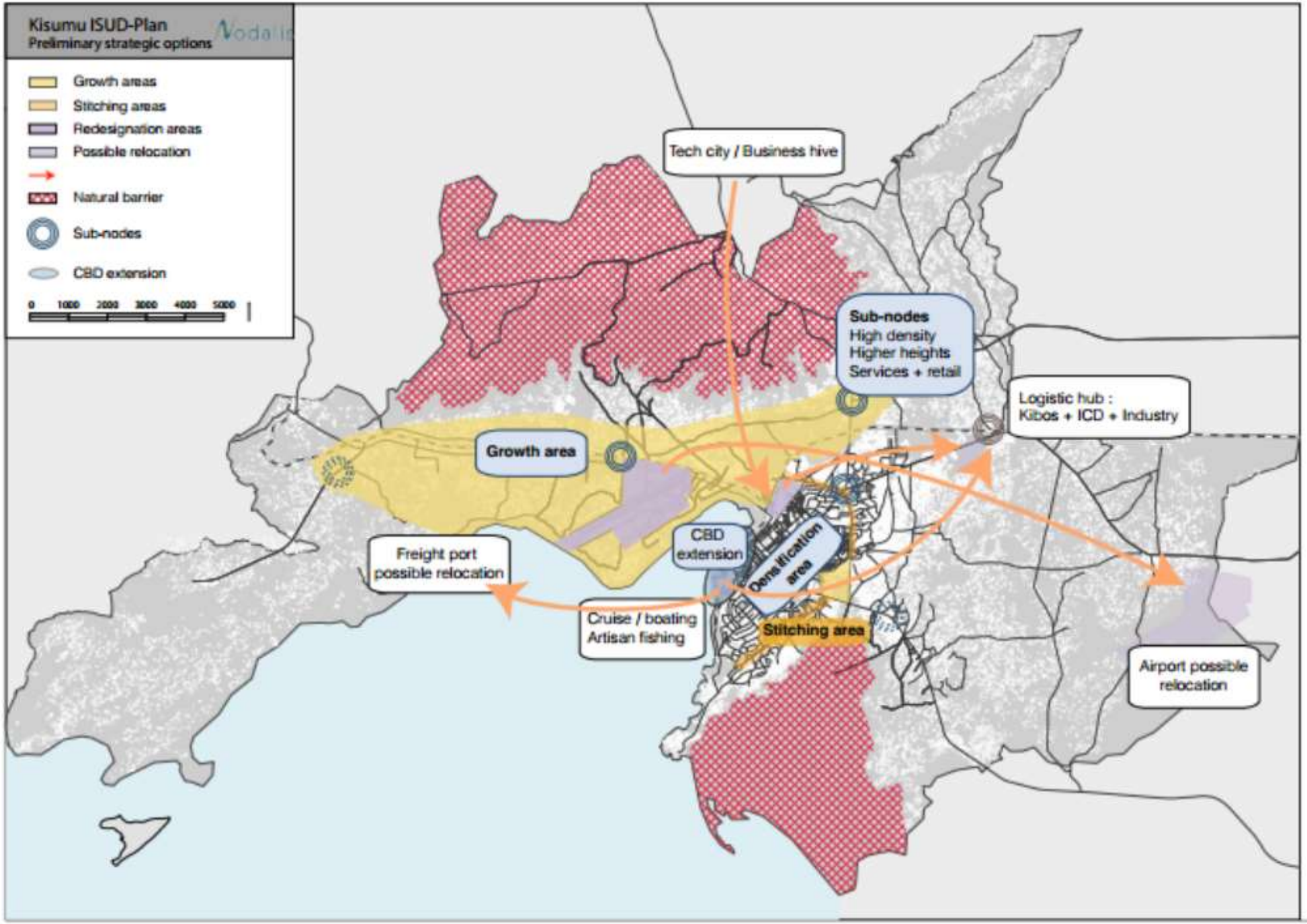


Scenario 2
2030 residential area projection
Total area : 2.690 ha + 4.129 ha



Scenario 3
2030 residential area projection
Total Area : 2.690 ha + 2.233 ha



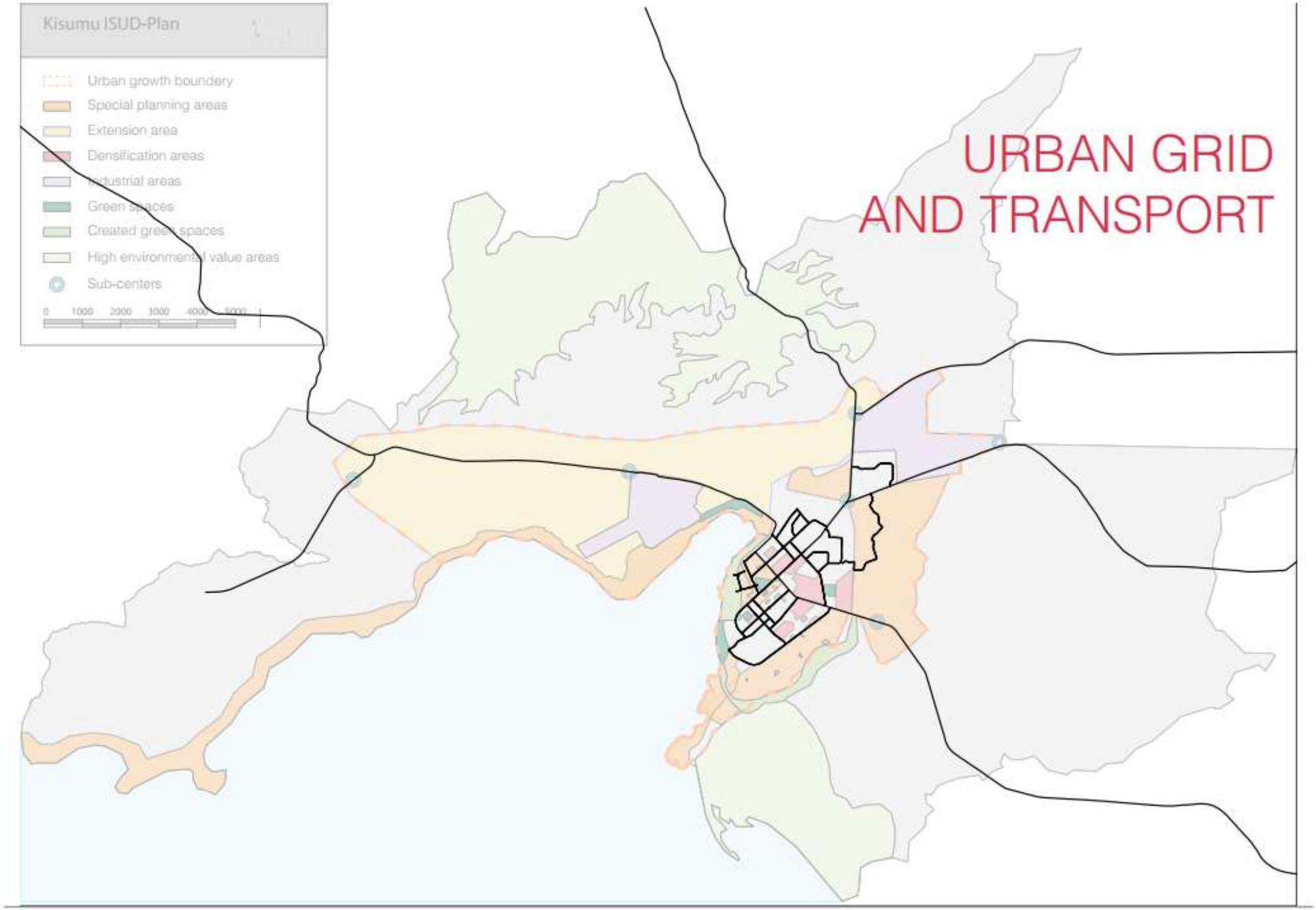

Kisumu ISUD-Plan
Preliminary strategic options
Growth areas
Stitching areas
Redesignation areas
Possible relocation
Natural barrier
Sub-nodes
CBD extension
0 1000 2000 3000 4000 5000
Tech city / Business hive
Sub-nodes
High density
Higher heights
Services + retail
Logistic hub :
Kibos + ICD + Industry
Growth area
CBD extension
Densification area
Freight port
possible relocation
Cruise / boating
Artisan fishing
Stitching area
Airport possible
relocation

The area between shore and foot of the hills would allow to develop Kisumu as a lakeside city with an urban shape curving around the lake and keeping relatively thin rather than growing fat to the North-East (in a Kondele-Kibos-Kolwa triangle) eating up farmland – which would also create severe spatial disparities whereas the Riat/ Otonglo area offers a variety of locations on a gentle slope able to accommodate all land uses. The Nairobi-to-Busia road provides a spine from Kanyakwar on to Otonglo and Kisian sub-centers from which feeders can serve development on either side.

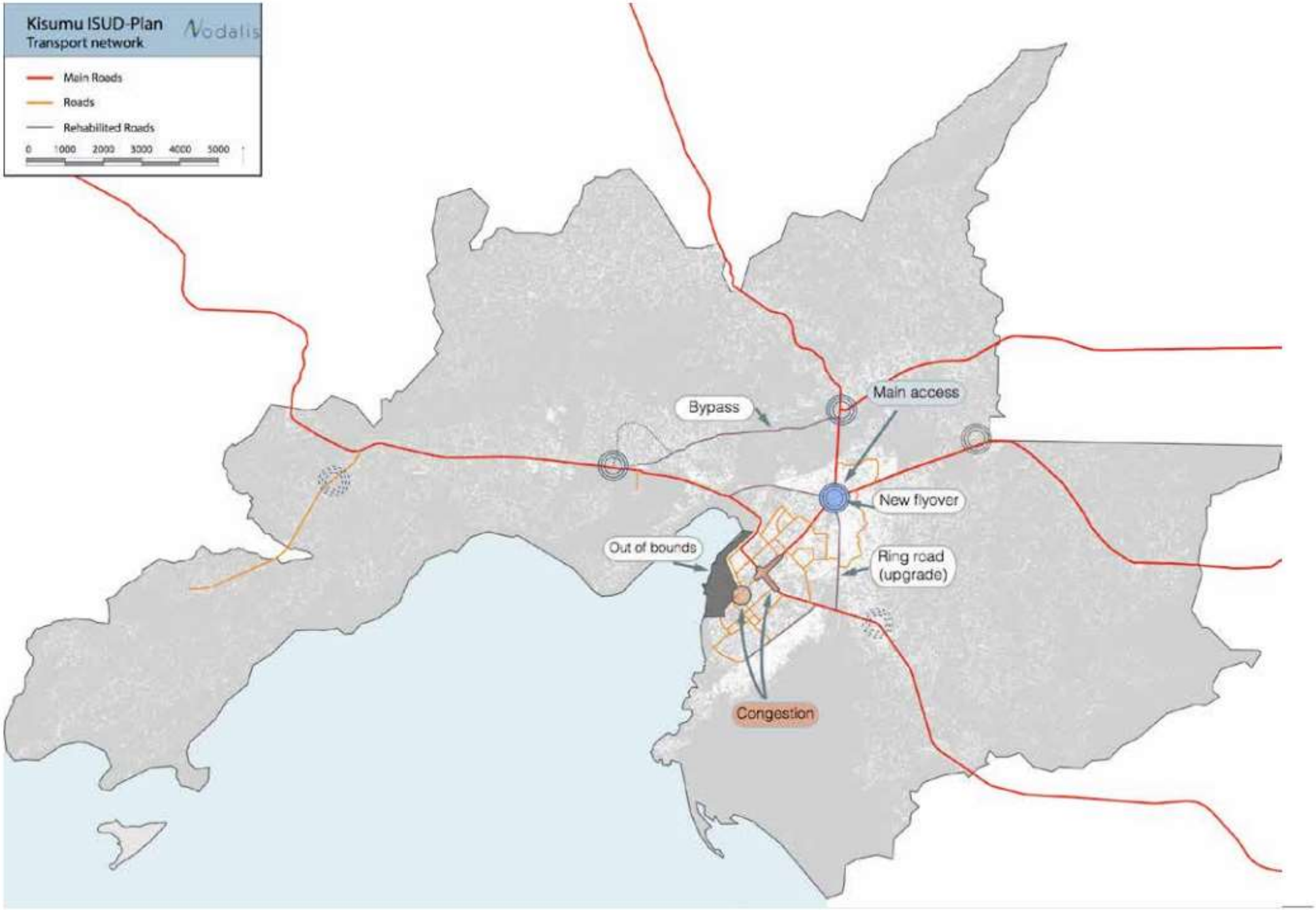
The urban shape thus created would balance well the existing urban footprint and avoid the creation of very large suburban areas, remote and disconnected from road and utility networks and other services; it allows a good repartition of land uses, densities, services and amenities and can be developed eastward incrementally as needs grow whilst the city would stay centered around the coast and expand its center alongside the shore line, keeping it accessible and attractive. With regards to transportation, the cusp of Winam gulf is 1,20 to 2,5 kilometers wide, it offers the possibility to create water bus lines connecting both sides as an alternative to road transportation.


Kisumu ISUD-Plan
Urban growth boundery
Special planning areas
Extension area
Densification areas
Industrial areas
Green spaces
Created green spaces
High environmental value areas
Sub-centers
0 1000 2000 3000 4000 5000

General Land Use Schedule (A)				
Designation	Color	Definition	%	Remarks
Urban		This designation delineates the urban growth boundary.		This designation permits the development of a full range of housing types, retail, services, commercial, recreational uses.
Housing		This designation permits the development of a full range of housing types.		Zoning by-laws will plan for support land uses such as school, retail, recreation & leisure and services and for plot size and ratio, setbacks and parking requirements for each Housing sub-designation.
Commercial		This designation permits the development of office, retail, hospitality, food & beverage, markets, kiosks and souks uses.		Zoning by-laws for commercial sub-designations will plan for types of trade, heights and massing, parking requirements.
Industrial		This designation permits the development of manufacturing, processing, packaging, repair activities for mill, factory, workshop, laboratory uses.		Zoning by-laws will plan for safety, environmental impact, plot size and ratio and setbacks.
Conservation		This designation refers to the Kisumu environment management plan. It delineates Off limit areas, Protection and remediation areas, High environmental value areas.		Zoning by-laws will plan for specific protection and remediation measures for rivers and river banks, shore, slope areas, hilltops, wetlands, including permitted uses and activities, buffering, view sheds, etc.
Special Planning Areas		This designation refers to the 4 areas identified as strategic areas: the CBD zoned as heritage conservation area, KRC holding on the lake, the lake shore, the slum belt.		Zoning by-laws will plan for each SPA, including detailed layout and land use schedule, plot size and ratio, heights, setbacks, street frontage, parking requirements, new roads alignment and hierarchy, and detailed implementation guidelines for land assembly and compensation, maintenance of ownership and housing schemes for the slum belt.
Densification Areas		This designation refers to areas eligible for infill development.		Zoning by-laws will plan for land use schedule, plot ratio, heights and setbacks, parking requirements and new roads and road hierarchy for each DA, as well as for planning incentives.
Sub-centers		This designation refers to new development areas with the urban area. It permits mixed uses with variations depending on each sub-centers.		Zoning by-laws will plan for detailed land use schedule and layout for each sub-centers, as well as for planning incentives. The exact delineation of each sub-centers will be defined after further studies and assessment.
Development corridors		This designation refers to selected and future transit-based corridors.		Zoning by-laws will plan for area specific land use schedule and layout, plot size and ratio, height and massing, street frontage, secondary roads layout as well as for planning incentives. The exact delineation of development corridors will be defined after further studies and assessment.
Parks and Leisure		This designation refers to the green belt, parks, gardens and leisure and recreation areas. It only permits these uses.		Zoning by-laws will plan for permitted uses such as authorized ancillary services, leisure equipment, food and beverage and nature of permitted constructions.
Rural		This designation refers to areas outside of the urban area.		This designation intends to protect farmland and farmers and to encourage agriculture development. It prohibits activities other than agriculture, forestry, cattle grazing and breeding and fishing. If deemed necessary, plot size and plot ratio for rural habitat can be made into a zoning by-law based on current settlement pattern.



URBAN GRID AND TRANSPORT


Kisumu ISUD-Plan
Transport network
Nodalis
Main Roads
Roads
Rehabilitied Roads
0 1000 2000 3000 4000 5000
Bypass
Main access
New flyover
Out of bounds
Ring road (upgrade)
Congestion

LOCATION OF FREIGHT RAILWAY STATION

As part of the reclamation of the KRC Lake Front area, the train station in its present location is bound to be decommissioned and reconditioned. An alternate location is proposed at Kibos sub-centre, where a station already exists on this part of the tracks and where transportation dependant activities exist with the dry container port and will develop with the creation there of an industrial zone and a wholesale market. The proposed relocation area fits well with the planned overhauling of the Mombasa Nakuru Kisumu rail link.
If the present alignment needs to be modified as part of planned works, location of the new corridor needs to be passed on to Kisumu planning authorities.

LOCATION OF PASSENGER RAILWAY STATION

Passenger train traffic is not expected to reach high numbers for destinations where it competes with plane. The Nairobi Nakuru Kisumu and Kisumu Butere lines conceded to Rift Valley Railways are not in operation. On the other hand, in-county and neighbouring counties destinations would be better served by train hence the need to identify a new location for a passenger train railway station. Depending on traffic projection, the station could either be coupled with freight traffic and located at Kibos or disjointed with a station further to the South – East in what is now the industrial area.

Kenya Railway Corporation has commissioned a study (see p. 62, part 1), for the development of a railway project including a "ring line" circling the city and radial connections extending from Kisumu to Homa Bay, Kisii, Kericho, Kapsabet, Kakamega, and Siaya. The study has not been carried out in collaboration with the local authorities or the ISUD-Plan planning team and its present status is not clear. Despite outstanding feasibility issues there is some merit in developing a public transport network but strong coordination must be sought with the ISUD-Plan so that the scheme matches land uses, densities and present and foreseeable catchment areas, such as, i.a., proposed sub-centers, restructured slum areas (Nyalenda and Manyatta especially), tourism areas.

RATIONALISING PUBLIC TRANSPORT OFFER WITH RESPECT OF VARIETY OF MODES

In order to obtain best fit between public transport (see p. 55, part 1) routes and land uses, the choice of transportation modes with the objective of fit-for-purpose requires further studies including origin destination studies, traffic count, existing routes, passenger volume, fares for each public transport mode. At present, the range of transportation means matches relatively well both demand and financial capacity of users, and it provides a livelihood for drivers, especially of bikes and motorbikes. On the other hand, the absence of dedicated traffic lanes, stops for matatus, boda bodas, taxis, affects traffic flow and creates concentrations of vehicles encroaching on the roadway such as around markets, or at the Achieng' Oneko – Oginga Odinga roundabout for instance.

In the short to medium term and before alternative public transportation is put in place, with tramway or train and passenger boats, the present modes mix should not be altered but organized. In this view, adaptation of a number of roads, selected through traffic studies, to multiple users should be envisaged with:

- Creation of dedicated lanes;
- Creation of stops and of waiting areas.

Existing road reserve on arteries with heavier traffic should allow to adapt road profiles to public transportation needs. Besides interventions on infrastructure various operators and other actors need to be associated to the betterment of public transportation including road works, new routes, location of stops, as well as possible operation arrangements.

DEVELOPMENT OF NAVAL TRANSPORTATION

Naval transportation is an opportunity for local economic development as well as in terms of improving mobility through a larger service offer. The potential of the lake is at several scales :

At the scale of the city

Winam gulf offers the possibility to develop public transportation to and from each of its banks as the city develops around the lake as intended, as well as to Kiboko and Dunga. This would relieve downtown roads, especially Obote Road, Karume Road, Ondiek Highway and Busia Road. Location of piers would be determined according to land uses and activities to ensure sufficient ridership.

At the scale of the county and beyond

The lake is a natural hub allowing to reach a number of destinations in the region. Destinations for which a demand exists include: Homa Bay, Jinja, Entebbe, Kemondo and Mwanza; Speke Gulf, Musoma and Muhuru are destinations to be developed as part of the inclusion of Kisumu in the Western Kenya Tourism Circuit, they are also intended to serve Mara and Serengeti game parks from Kisumu with a plane – boat combination.

Development of these activities has important implication with regard to planning for the reclaimed KRC lakefront area. Consultation with potential operators, public and private, Kenyan and foreign is required in order to prefigure volume of operations, space needs, connection with road network as well as possible operation arrangements.

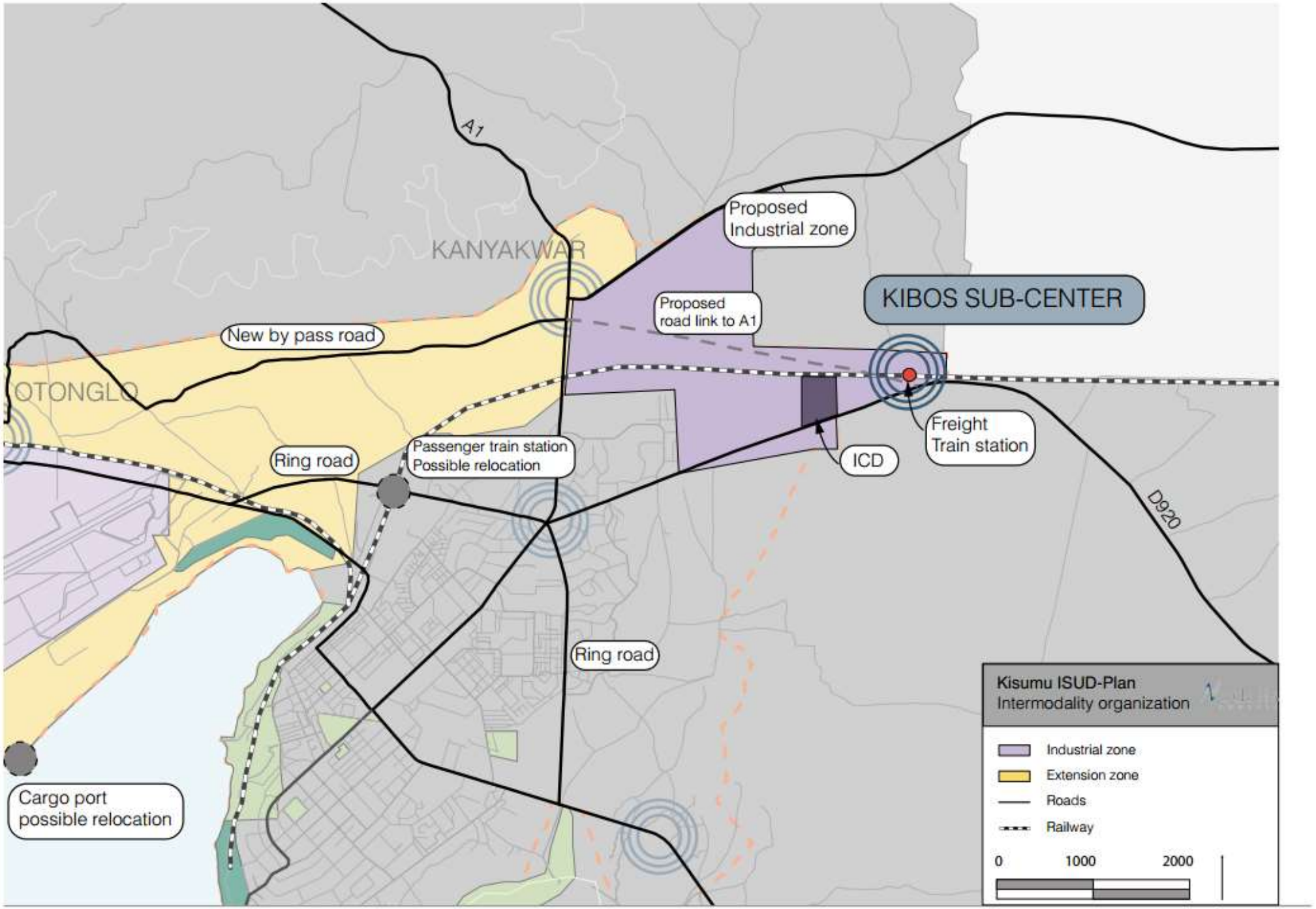
CAR PARK POLICY

Increased car ridership calls for an increased supply of car park areas adapted to land uses. Vehicular parking provision and typologies (street parking, off street parking for residential areas, surface, above and below ground for non-residential) must also be taken into account when locating and planning for heavy traffic generators, such as malls, markets, churches, schools, hospitals, stadiums as well as train/tram stations and piers.

BLACK SPOTS AND DECONGESTION

Roads are under the authority of the Kenya Urban Road Authority (KURA) for urban roads and under that of the Kenya Highways Authority (KENHA) for highways. On-going and planned road works have been planned without consultation with the ISUD-Plan planning team.
The road network is being upgraded and a bypass road being built linking the Milimani-Nyalenda areas to Busia road through Kibos with flyovers in Kibos and Bandani. Once completed this "ring road" will ease congestion on Jomo Kenyatta highway, Otieno Oyoo Street, Oginga Odinga Road, Obote Road and Kisumu - Busia Road as it should capture most thru traffic. As part of Nyalenda restructuring, a new dual carriageway connecting Nairobi road with Kiboko and Dunga is proposed.

As mentioned above, improving public transportation offer will contribute to reducing the use of car in Kisumu. Even though car ownership is up and rising there is still ample scope to invest in public transportation in order to encourage its use.

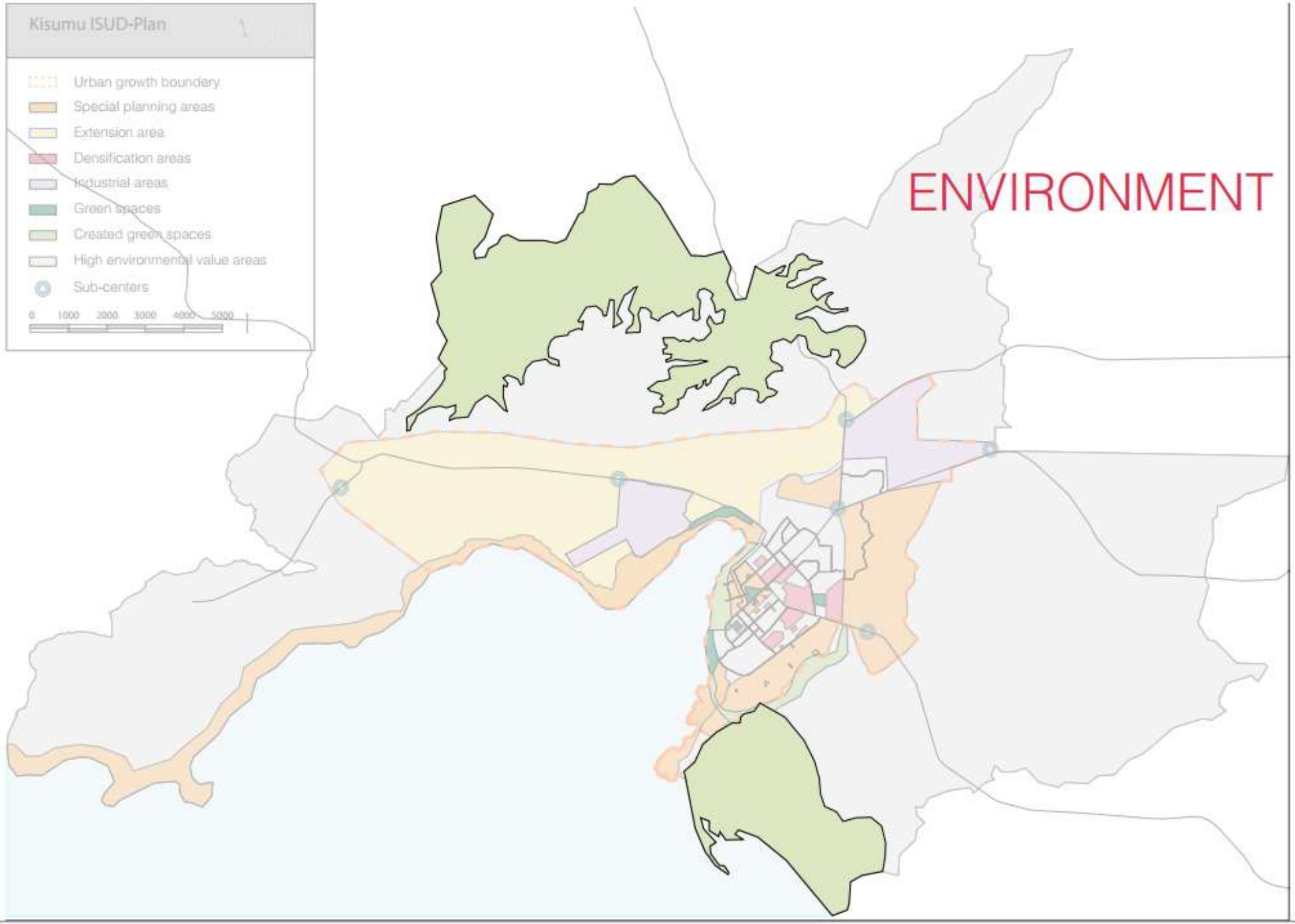

A1
KANYAKWAR
OTONGLO
Proposed
Industrial zone
Proposed
road link to A1
KIBOS SUB-CENTER
New by pass road
Ring road
Passenger train station
Possible relocation
ICD
Freight
Train station
D920
Ring road
Cargo port
possible relocation
Kisumu ISUD-Plan
Intermodality organization
Industrial zone
Extension zone
Roads
Railway
0
1000
2000

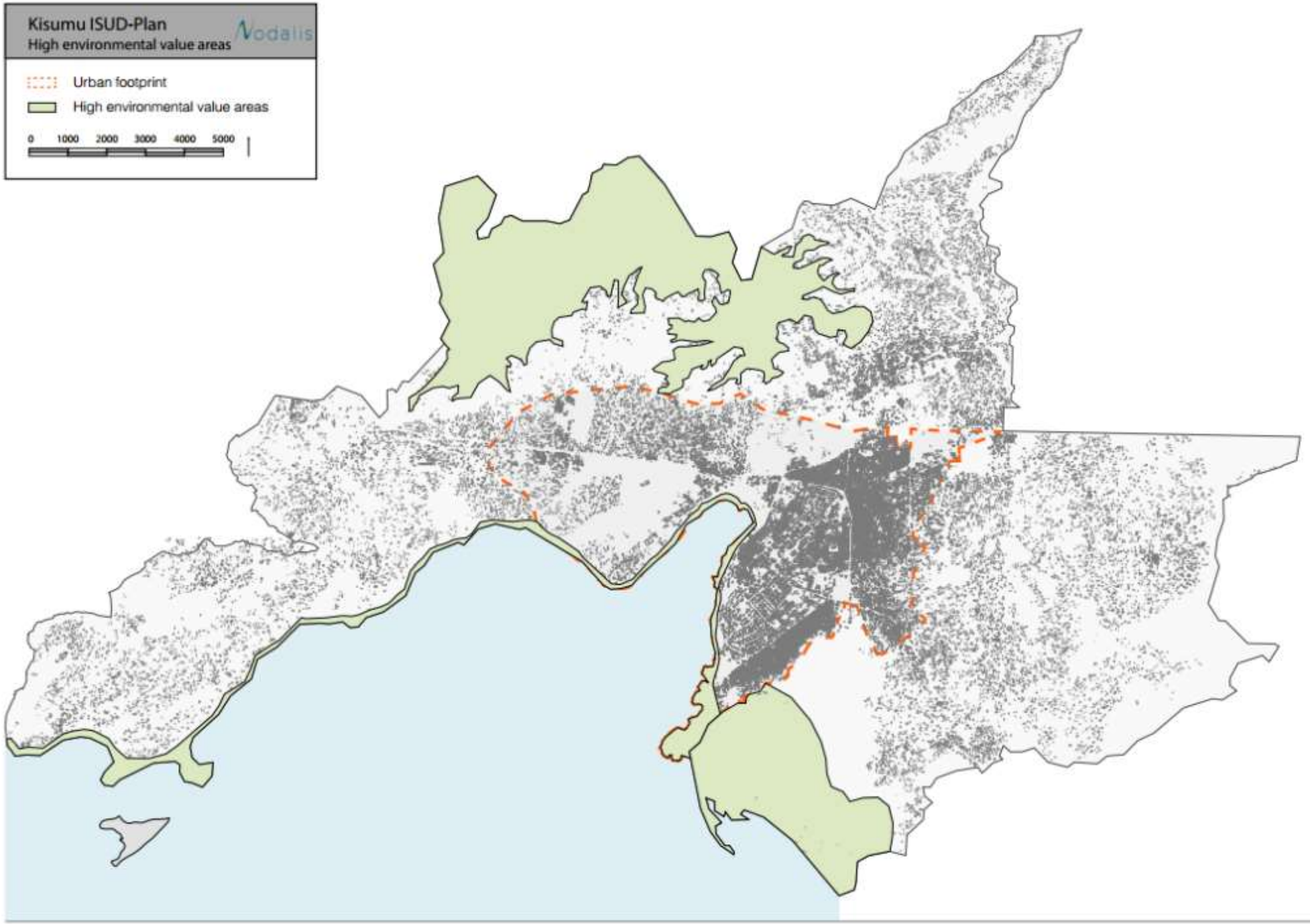
INTERMODALITY

Intermodal connections between transport modes through well planned logistic platform considerably enhances transport efficiency and attractivity. The objective of intermodality is to allow seamless connection between one transport mode to another and to avoid transshipment as much as possible. This planning principle is well adapted to freight/cargo transport as well as to passenger transport especially for connection between individual transportation means and public transport networks, whether bus, tram, metro or train.

Kisumu was planned as a logistic platform allowing excellent rail/boat intermodality and has operated for decades. Planned investments for revamping rail, boat and road transport modes call for particular attention to intermodality in locating and developing new infrastructure. As part of downtown Kisumu development lake front transport infrastructure are bound to be decommissioned and delocalized elsewhere. Kibos has been elected as a location of choice as D920 road (Kibos road), railway tracks, old freight station, and dry port (ICD) offer good opportunities for point – to – point connections, handling and storage. In order to further improve connectivity a road link between Kibos road and A1 is recommended as it would put the airport at less than 10 kilometers from the proposed new intermodal platform and easier connection to Kakamega road. In addition to the node existing there, this location allows for future expansion of both ICD and station as their volume of activities grows which is not possible in present location for the port or the station.

Lake bordering countries, Kenya, Uganda and Tanzania are competing for the roles of hub and gateway to the sub-region. Kenya, hence Kisumu, comparative advantages are high with a unique location allowing to bridge the Indian Ocean (shortest distance from sea to lake in comparison with Tanga or Dar es Salaam distance to Mwanza) with landlocked countries to the West. Intermodality will be a key factor for success in this regard and the County has a key role to play in ensuring coordination between KENHA, KURA, KRC and KPA.


Kisumu ISUD-Plan
Urban growth boundery
Special planning areas
Extension area
Densification areas
Industrial areas
Green spaces
Created green spaces
High environmental value areas
Sub-centers
0 1000 2000 3000 4000 5000
ENVIRONMENT


Kisumu ISUD-Plan
High environmental value areas
Nodalis
Urban footprint
High environmental value areas
0 1000 2000 3000 4000 5000

OFF LIMIT AREA

Areas where settlements are exposed to natural hazards and which should be zoned off limit for human occupation. These areas include foot and slope of Kisian and Riat hills where a risk of landslide exists with the related risk of damage to land cover which would augment landslide and erosion risks, as well as flood prone areas identified on the lake shore, wetlands and rivers banks;

This proposed restriction zoning for Riat and Kisian concerns areas belonging to the Rural area. Restriction to development in this area is intended to contain sprawl, preserve farmland, green and low density areas as well as to reduce risk to residents. Proposed development restrictions in this area include: restriction to land assembly and amalgamation; for new construction, applying an FAR superior to actual settlement pattern (no FAR rule exist for this area, empirical study indicate an average FAR per enclosure of around 0,09, always broken down into three or more buildings, see Part 1, chapter 5) by a factor of 1/3 maximum; height limited to one story or 12 meters; asphalting limited to existing dirt road.

Wetlands are zoned as non-buildable area in their entirety.

River banks are zoned as non-buildable area in their entirety.

Lake shore riparian area is zoned as non-buildable in the rural part of this SPA.

The concept of High environmental value refers to the worth a community or society places on environmental assets in recognition of their livelihood, aesthetic, symbolic or recreational importance.

SENSITIVE AREA

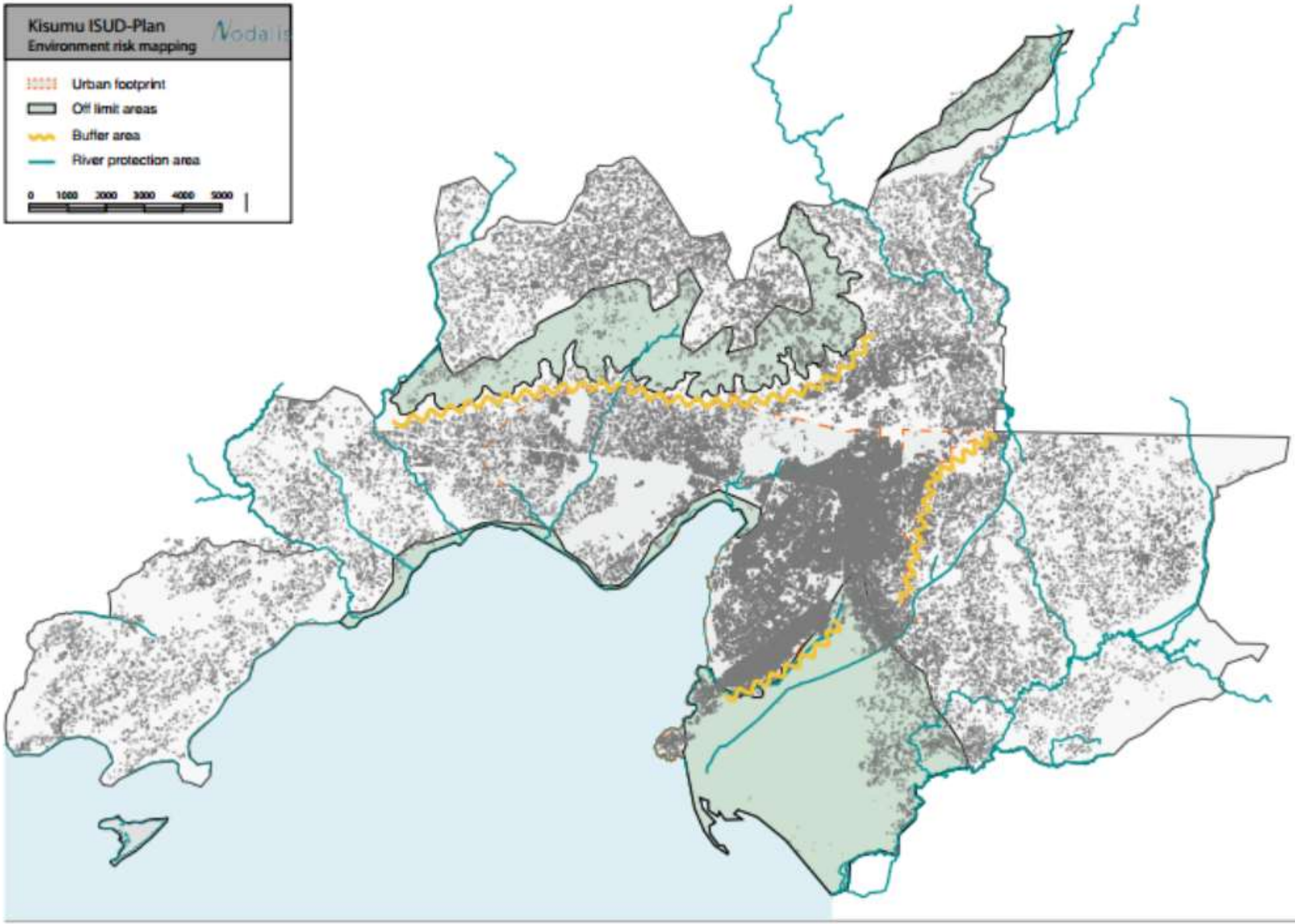
Areas under threat are areas affected by human activities, especially solid waste and grey water. These areas require a specific conservation status and mitigation and remediation measures. Ultimately, restoration of water quality in rivers and the lake will require improving waste water treatment and solid waste collection and treatment in under-serviced areas such as, in priority, Nyalenda, Manyatta A and B, Bandani.

HIGH ENVIRONMENTAL VALUE AREA

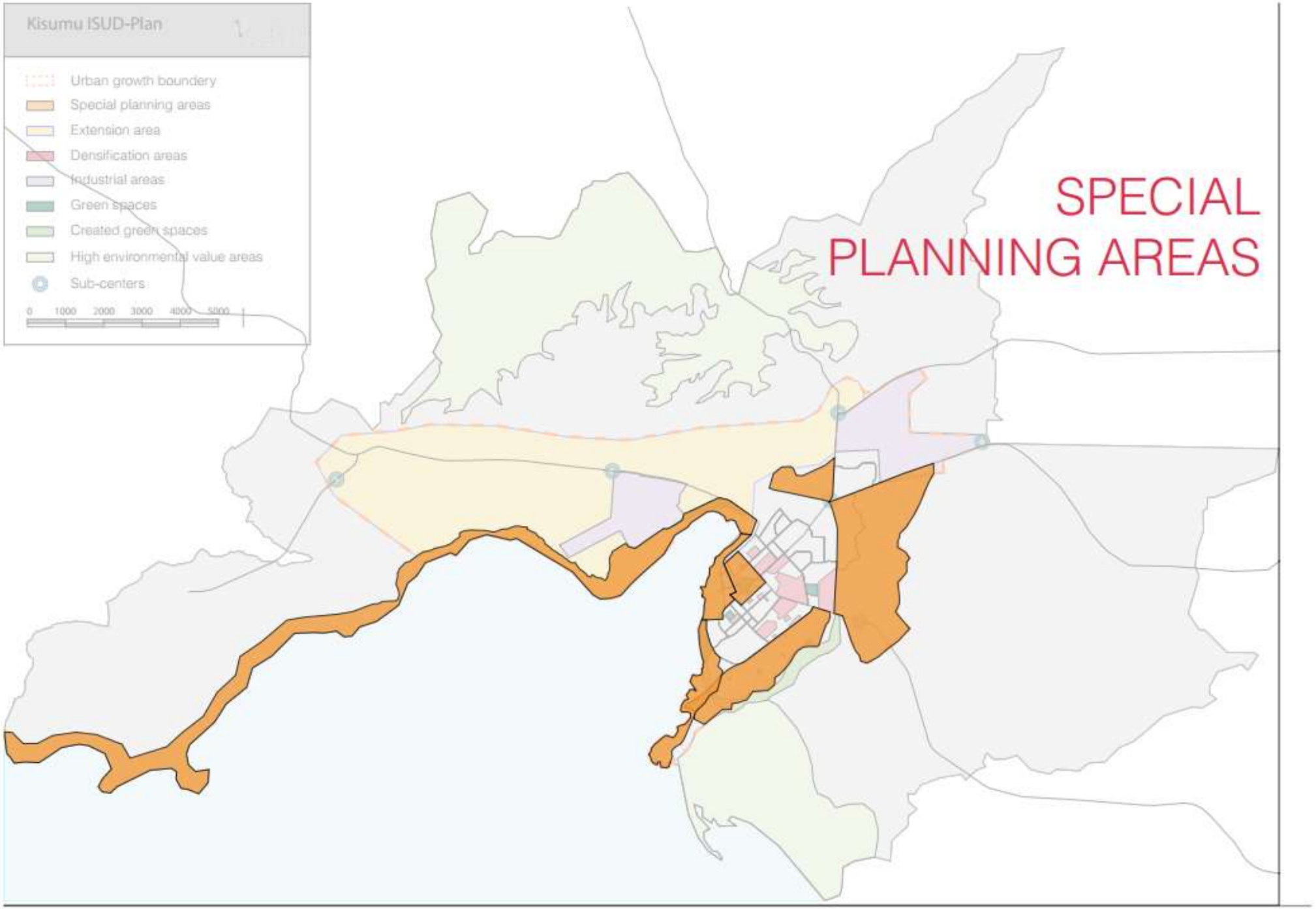
Areas of high environmental value include areas which present a high value in terms of landscape, recreation, leisure and tourism, and, biodiversity. The value and potential of these areas deserves to be protected and leveraged through specific zoning and development guidance.

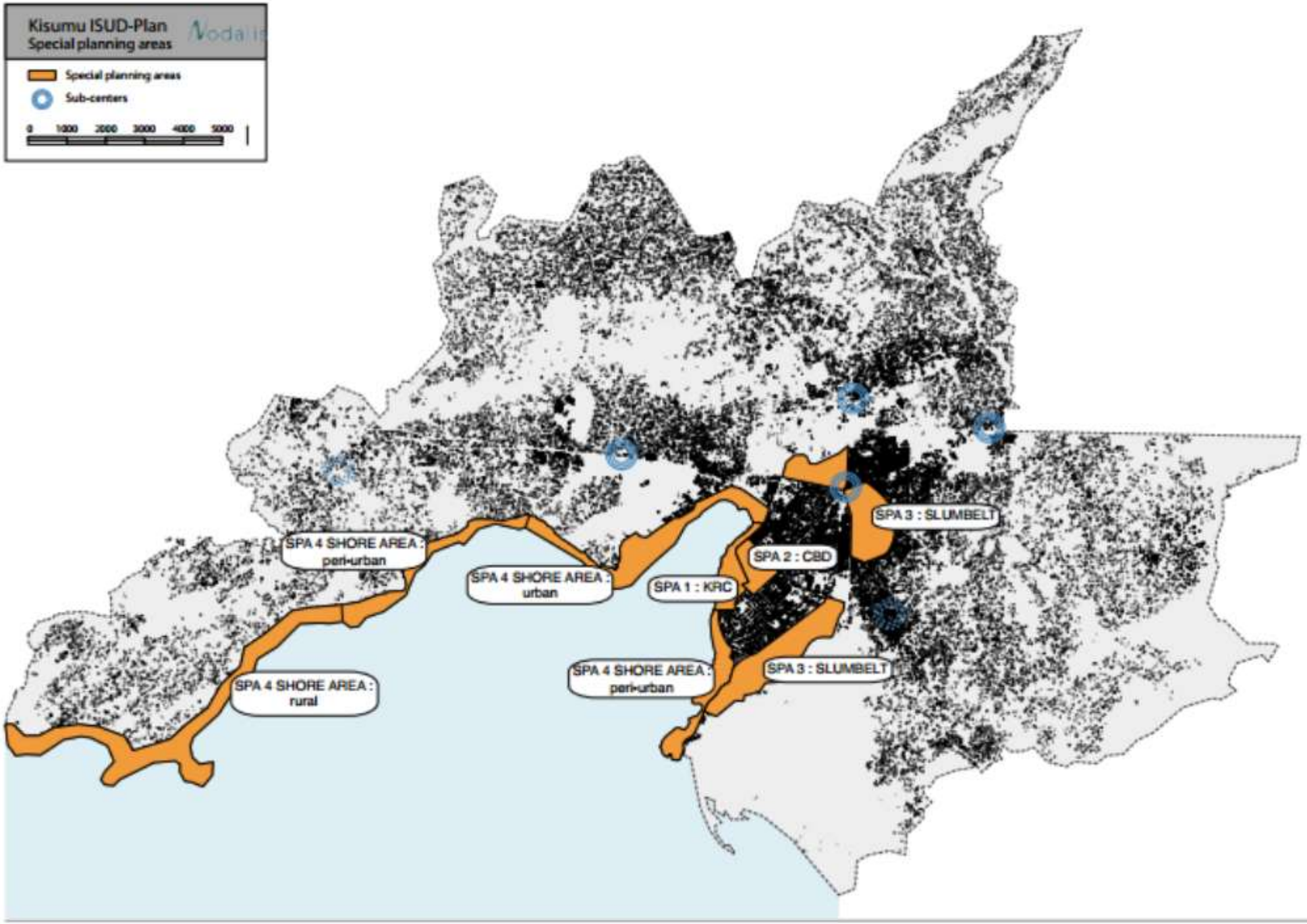
They include the shore line, where different levels of protection will apply depending on location and future vocation (see SPA 4, The Shore), as well as areas neighbouring the wetlands and river banks.

Hilltops are also subject to some development restriction in order to protect the hills' skyline and view sheds to city and lake. Proposed development restriction include similar disposition as for Riat and Kisian : restriction to land assembly and amalgamation; for new construction, applying an FAR superior to actual settlement pattern (no FAR rule exist for this area, empirical study indicate an average FAR per enclosure of around 0,09, always broken down into three or more buildings, see Part 1, chapter 5) by a factor of 1/3 maximum; height limited to one story or 12 meters; asphalting limited to existing dirt road.


Kisumu ISUD-Plan
Environment risk mapping
Urban footprint
Off limit areas
Buffer area
River protection area
0 1000 2000 3000 4000 5000

SPECIAL PLANNING AREAS



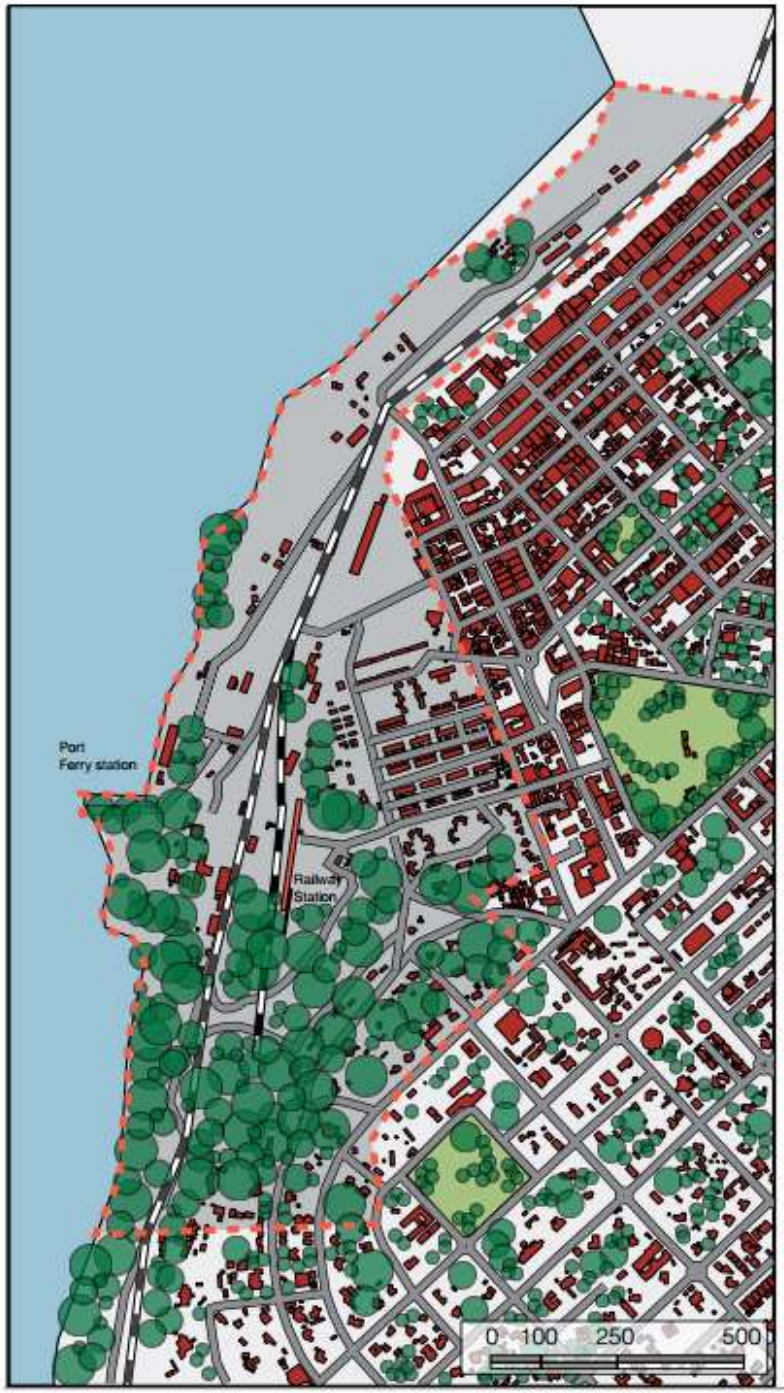

Kisumu ISUD-Plan
Special planning areas
Special planning areas
Sub-centers
0 1000 2000 3000 4000 5000
SPA 4 SHORE AREA : peri-urban
SPA 4 SHORE AREA : urban
SPA 4 SHORE AREA : rural
SPA 1 : KRC
SPA 2 : CBD
SPA 3 : SLUMBELT
SPA 4 SHORE AREA : peri-urban
SPA 3 : SLUMBELT

The Kisumu ISUD-Plan is a forward looking plan, intended to plan for future growth so that today's development does not preempt forthcoming needs. In this view, the plan provides for land re-allocation and allocation to accommodate present and predictable requirements for the city; it also identifies strategic areas selected for their high intrinsic value and the unique influence they can have on Kisumu's development.

Zoned as Special Planning Areas, these four areas include the CBD for its heritage value, the KRC lakeside holding for its strategic location and multiple development potential, the slum belt (Nyalenda, Manyatta A and B) for its strategic location and great intervention requirements, the lake shore for the decisive role it is called to play in the city development.

The SPA zoning is first and foremost a protection zoning, it implies development restrictions and exclusions as well as planning guidance intended to make the most of each area. The SPA zoning is also a prioritization: due to their value as well as to the impact and the visibility their development would have SPAs should benefit from priority investments for which private sector participation should be sought.

SPA 1 : LAKE FRONT



The development planned by KRC on its 30 ha (75 acres) lakefront site is part of the initiatives launched through Kenya Vision 2030; it is the most important project to-date able to influence the future of Kisumu. As such it is being reviewed below based on:

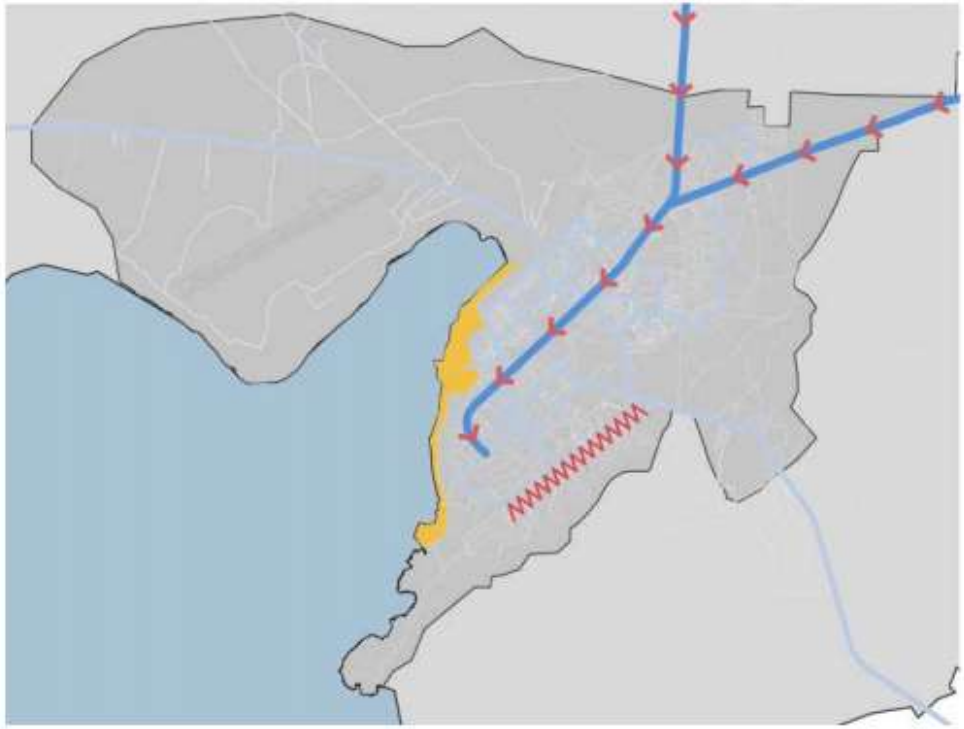
- Coherence with city development objectives
- Viability

In addition, some comments are provided on possible implementation routes for this important project as well as on planning considerations.

CONTEXT AND PROJECT DESCRIPTION

The KRCD project is a requalification project of the railway yards of Kisumu. The station and yards were built on the lakeshore adjacent to the industrial zone of the city on the one hand and to the port on the other hand; existing facilities allowed rail freight to be ferried across the lake onto Uganda and Tanzania. The presence of this important transport infrastructure has influenced the planning and the evolution of the city in several ways:

- It has acted as a buffer between the city and the lake virtually forbidding access to it and severing downtown Kisumu from the shore;
- It has dictated the design of the road network making it abutting on the boundary of the sites with Nairobi road, Obote road and Oginga Odinga road, Kendu Lane and Achieng drive between New Station Road and Lolwe drive acting as city limit and edge;
- It has dictated the location of the industrial and warehouse areas which, although well planned and still active, also constrain the central part of the city.
- It has mobilized several other large sites in the city to house railway personnel and ancillary services.



Both rail and port activities have steadily declined over the years, their fenced site remaining out of bound and mostly unused.

Both port and railway, once the main economic actors of Kisumu, do not provide nowadays the activity and employment they used to.

The intention to develop this site is commendable. The project planned by KRCD is, as we understand it, at an early stage of its development. According to information available to us it should include commercial activities with retail (malls, shopping arcades, restaurants), hotels and conference facilities; offices; a business park for light manufacturing and another one for outsourcing; a new "ultra-modern" railway station, a rail link to the airport and facilities for cruise tourism and water sports are also planned.

As a matter of fact, numerous cities have used the unique opportunity to reclaim underutilized industrial sites (rail yards, ports, factory and warehouse areas) to re-invent themselves through the development of such sites into high quality mixed-use developments.

COHERENCE WITH CITY DEVELOPMENT OBJECTIVES

A consensus exists among all involved in urban development in Kisumu that Lake Victoria is at the same time a unique asset for the third Kenyan city and an undervalued opportunity. The same consensus exists on two strategic planning aspects for the city, one being to reconnect the city with the lake physically, visually and functionally, the second being to revitalize the transport hub function Kisumu once had.

The city-lake reconnection implies to reclaim the railway and port sites. Giving back this site to the city is an essential contribution in meeting several essential strategic objectives, all converging towards controlling urban growth and rationalizing land release:

- Downtown Kisumu is undersized and constrained;
- The city is expanding away from the lake, from downtown Kisumu and from the existing road grid. Its present centre of gravity is both becoming remote from the edges whilst growth is not sustained by adequate service provision outside of the formal area;
- The urban growth dynamic threatens of obsolescence the city centre in its present shape;
- The expansion/sprawl pattern, mostly north-east and informal, is creating imbalance and generating heavy traffic.

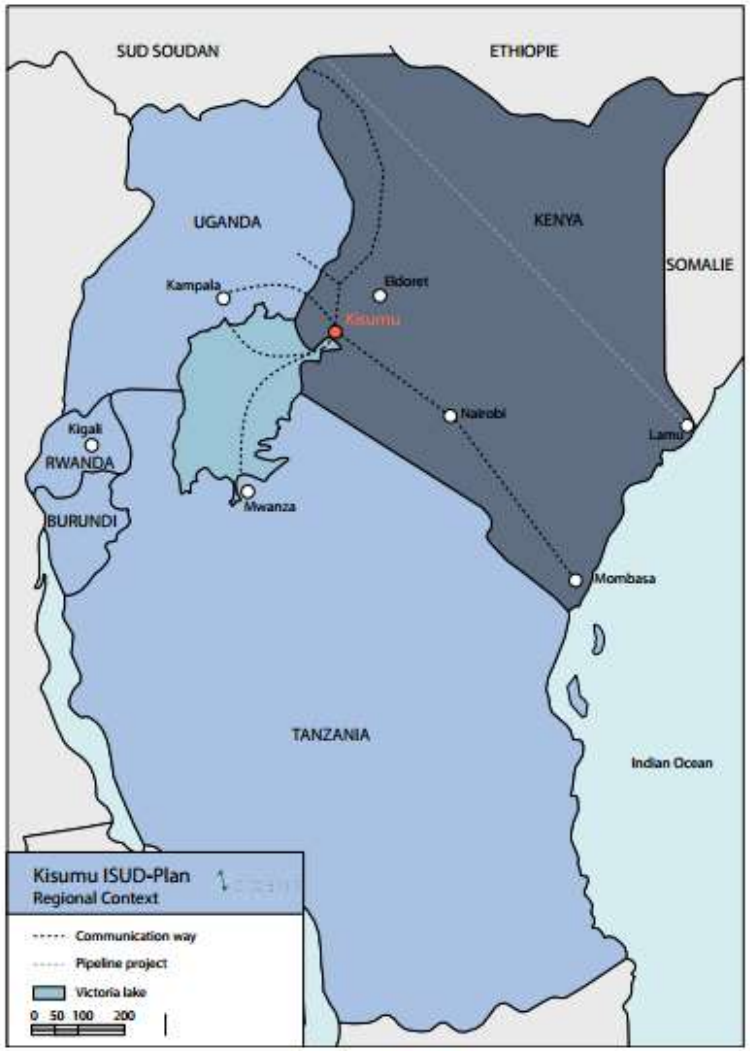
Opening up the lake side part of the city will allow to develop and expand the city centre, to improve north-south connection, to partly redirect expansion around the lake along the north shore.

The re-creation of Kisumu as a major regional hub connecting the great lakes region with the Indian Ocean via an intermodal link associating rail and ship requires high level policy decision, a number of feasibility and technical studies as well as heavy investments from a pool of public and private investors.
Furthermore tourism and leisure activities in relation with the lake might be thought of as de-linked from port, cargo and rail freight activities – which, if developing at the expected scale will need to be relocated.

Finally, existing facility might need to be partly or completely decommissioned; some depollution might also be needed, which is a lengthy and costly process.

Hence the development of the KRC site should not be conditioned to freight traffic from Mombasa and Nairobi or to the establishment of cargo lines from Kisumu to Uganda and Tanzania. Other conditionality, such as water condition and the invasive presence of the water hyacinth should not hold back this development either.

Thus priority should be given to the ultimate objective of this project which is to open up the city to the lake and to use its development opportunity. This can be achieved by starting by building up a few roads and opening public spaces with a focus on creating a landscaped area on parts of the shore. A first conceptual master plan can be designed, which would allow immediate use of the site whilst preparing for its development without precluding future land uses.



COMMENTS ON THE PROGRAMME

The tentative programme for this prime site would certainly be amended further down the road once market and feasibility studies will have been conducted. Preliminary comments can be made however.

As it stands the programme seems mostly geared towards commercial land use with hospitality, retail and offices, plus two activities heavily contingent on externalities: "ultra-modern" railway station and cruise tourism, and some light industrial. It seems to us this programme lacks diversity both in terms of the activities it proposes and people it targets. It is also extremely dependent upon activities which would need to be developed from scratch (except for light industry/manufacturing possibly) and for which demand may not have been assessed thoroughly enough, such as tourism and hospitality whereas local activities and needs such as markets, small scale/artisan fishing, restaurants, low-cost and middle class housing would contribute to de-segregate the project area and the rest of the city and would rapidly flourish.

Malls, which are already numerous in the city and of which several are planned, including in disputable locations, raise several issues : based on average purchasing power in Kisumu they may not be viable and the specific business model of commercial centres might not be adapted to the local context, they might also have a detrimental effect on the business of street vendors when the correct approach might be to support these economic actors through the provision of adequate trading space; in planning and architecture terms they are not adapted to the context of either the existing CBD or the KRC development site.

COMMENTS ON PROPOSED LAYOUT AND SITE DESIGN

The proposed site layout does not provide continuity or linkage between the city and the lake.
It is treated in isolation from the city, and as a green field development, whereas the development of this site should be approached as a reclamation and requalification of an industrial site in an urban area with the objective of both integrating it within the city and providing room for extension for the CBD. Space use does not seem optimal both in terms of density and layout, organization and coherence. A number of buildings look out of scale and, no specific care seems to have been given to the design and use of the shore, the axis extending beyond the main pier works like a dead-end whereas it should act as a connection with the city.

PLANNING RECOMMENDATIONS

The Kenya Railways site should be developed so that it serves the development objectives of the city at large and contributes to addressing key issues. The KRCD project should also be a profitable venture, attracting investments and showing Kisumu is a conducive environment for businesses.
Development of the KRC site should be an integral part of the ISUD-Plan which is being prepared. Whilst the detailed development of the site itself is out of the scope of the ISUD-Plan, it is being considered into it as being part of the planning study area and will be designated as one of the Special Development Areas (SDA) the plan will identify. As other SDAs, conceptual guidelines will be produced for this site which will concern both planning and land use. These guidelines should be adhered to.

First and foremost, any development on the site should allow reconnecting the city and the lake which will enhance its attractivity. In this view the KRC project concept should be: an extension of downtown Kisumu retrofitting the port and railway area into a new part of town able to address a number of key land use gaps.

In accordance with this concept: the new road network serving the site should be connected to the existing road network and contribute to capture part of the North-South traffic from the ring road to Obote road, possibly through Marine drive. The use of space could be optimized and lent a more urban character with a denser, hierarchized street network, a higher built density, a better organized layout with open spaces, lake shore, built up areas better organized and articulated.

In terms of the project area, it might be extended to include Kenya Railway housing and up to Bank Street.

The successful implementation of such a mega project usually requires that a dedicated body be created with necessary legal and regulatory powers delegated to it from the relevant authorities. The legal status, mandate, role, prerogatives, governance of this "planning authority" need to be carefully designed.

The immense advantage of such an authority is that it is able to act as a one-stop-shop for investors and developers, the decision-taking process is fast-tracked and clear, commissioning of needed studies is made easier. Typically, such an authority should be endowed with its own budget; according to the implementation route chosen, it can also be a stock owner in part or whole of the development, finally, title deed for the development site(s) can be transferred to it. These aspects, together with the authority's rules of engagement should be defined as part of the decree enacting its establishment.

Development options chosen for this site should meet several objectives: KRC should benefit from this project with an acceptable return based on the value of the land it will contribute to the project – possibly as equity into a special project vehicle; the land needs to be valued. Private sector participation should be encouraged through setting up a conducive scheme allowing a good and sustainable return.

Enabling investments such as servicing the land, trunk infrastructure and other heavy work will probably require mainly public funding. The implementation scheme should allow flexibility: different model will have to be used for different land uses and asset classes.

GUIDELINES

The development of the KRC site as described by its champion is guided by an "enclave approach".

We would like to recommend an urban approach to be privileged and the design of the site revisited so as to conform with the needs and best interest of the city of Kisumu, i.e.:

1. The site layout should allow connections and continuity between the city, downtown Kisumu, and the lake shore and the lake itself. The road network needs redesign with adequate road hierarchy, two axis might be introduced, one connecting the existing network with the one of the site, the other going North-South through the site could act as a spine within the new network, this latter artery should be sufficiently remote from the shore

2. The site layout should allow unhindered access to the shore and open view to the lake. Mega structures and high rise buildings should be discouraged

3. The site layout should show an urban character which implies: smaller lots, a road layout serving the whole site and allowing consistent streetscapes, architectural coherence throughout the site

4. The shore area needs a special treatment, it should remain mostly un-built, allow through North-South circulation for pedestrian and bikes and be developed as a high quality public space; the location and construction of new piers should be part of the design and landscaping approach for the shore

5. An optimal land use mix should be sought and programming should be wary of oversupply whilst taking into account identified needs and gaps especially with regard to housing and productive activities

6. An anchor development/feature should be identified to support the project start up

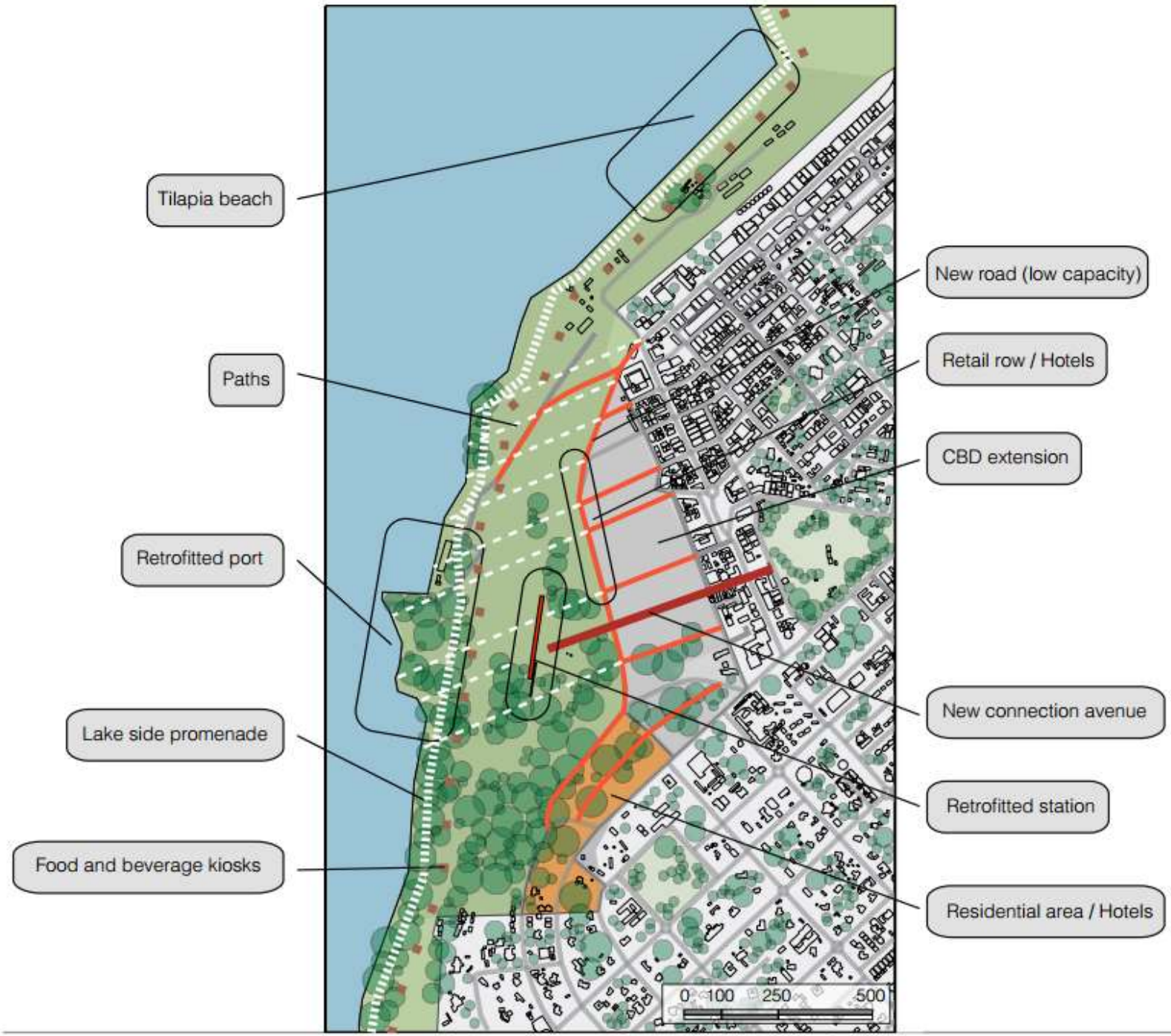
7. The interaction, complementarity and compatibility among land uses and various users of the site should be carefully thought of.
8. The development of a rail link with the airport requires a thorough feasibility study

9. The development of an "ultra-modern railway" station is conditioned by a general overhaul of the rail sector, both freight and passenger; it will require a feasibility study for the whole sector

10. The development of infrastructure for cruise tourism requires a full fledge feasibility study. The study should not be limited to tourism but should concern all maritime traffic on, and uses of, the lake and related infrastructure (cargo, ferries, fishing, tourism)

11. A key conditionality to the success of this development is the lake conditions, quality and aspect of the water, presence of the water hyacinth. Mitigation/remediation studies should be commissioned as a matter of priority

12. A specific ordinance should be drafted for the development of this site; it should include planning and design guidelines as well as the establishment of a planning authority with detailed description of its scope and preferred implementation routes.


Tilapia beach
Paths
Retrofitted port
Lake side promenade
Food and beverage kiosks
New road (low capacity)
Retail row / Hotels
CBD extension
New connection avenue
Retrofitted station
Residential area / Hotels
0
100
250
500

LAYOUT AND LAND USE PROPOSAL

The proposed layout shows a possible application of planning guidelines for this site :

- Extension of the CBD by 15 hectares for a total additional buildable area of 390 400 square meters zoned as mixed use with lake-facing retail row and 8 hectares of residential area (detached houses)
- Creation of a vast lake-side park
- Creation of a new signature urban feature with a grand avenue linking Jomo Kenyatta Sports Ground and the Park
- Creation of strong linkage with extension of the existing grid to the lake side of Bank Street prolonged up to Obote Road
- Creation of a North South axis from Impala Way to Obote Road
- Further extension into paths connecting the urban extension to the coast
- Creation of a lake side promenade from Impala Park to Tilapia Beach, with food and beverage kiosks
- Retrofitting of the station into a culture and leisure center
- Retrofitting of the port into and artisan fishing and boating center with lake side restaurants.

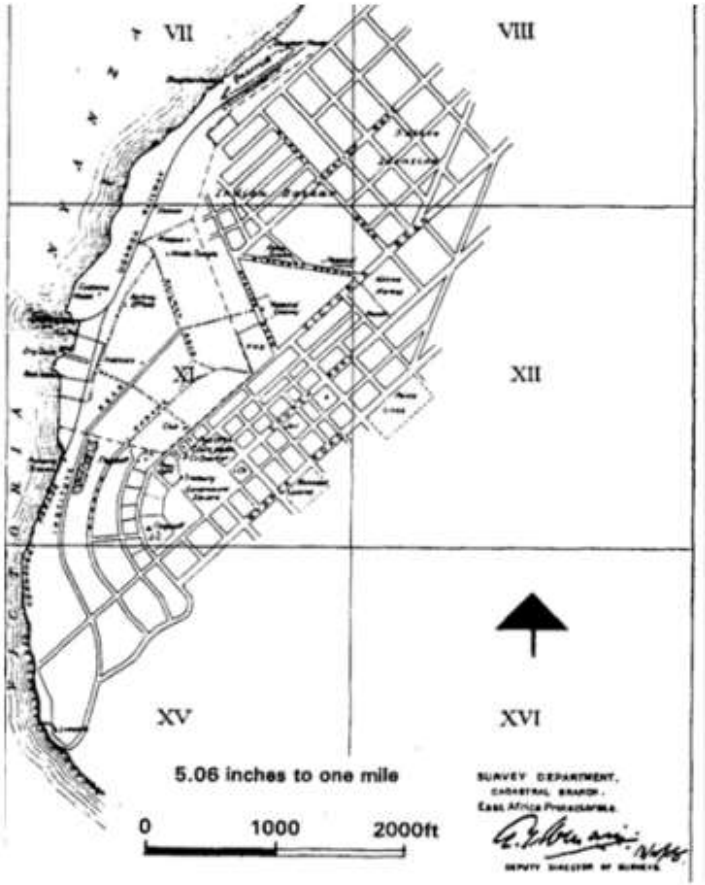
SPA 2 : THE CBD

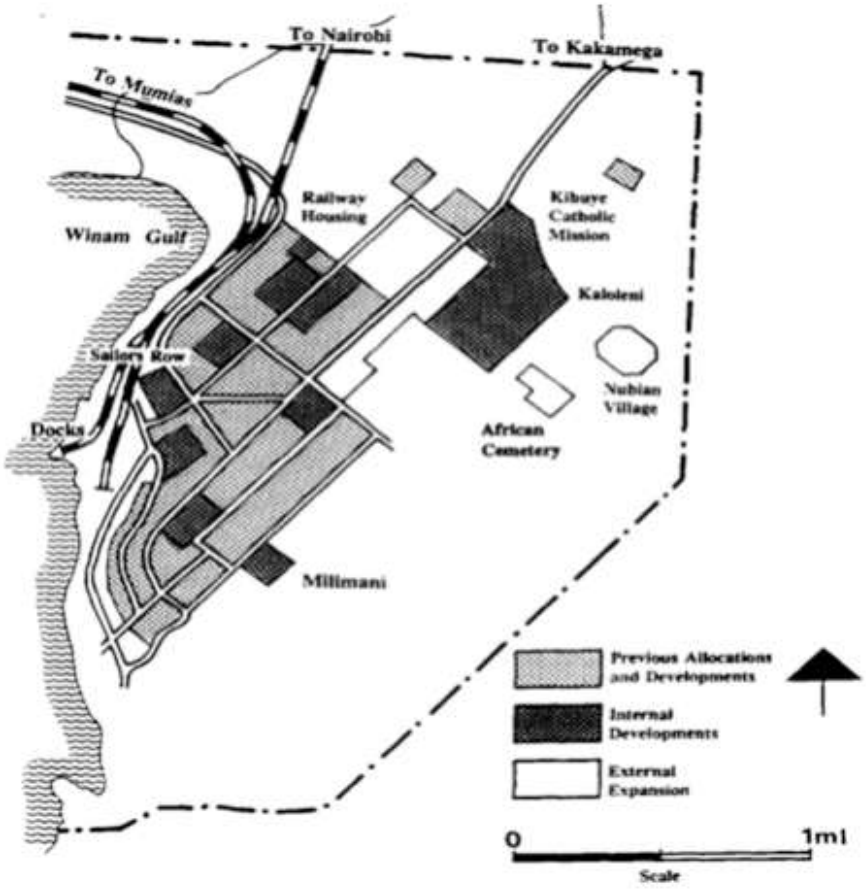
Heritage has grown in recognition of the powerful role it can play in enhancing a place attractivity for tourism, as said in the joint World Tourism Organisation-UNESCO Muscat Declaration http://www.rtd4.om/rtd/Muscat.html.

Modern Kisumu dates back to the beginning of the 20th century. Over the years the city has retained part of its early days especially in the city center. The conservation of this area is expected to enhance Kisumu identity and sense of place.

WORLD TOURISM ORGANIZATION
ORGANISATION MONDIALE DU TOURISME
ORGANIZACIÓN MUNDIAL DEL TURISMO
ВСЕМИРНАЯ ТУРИСТСКАЯ ОРГАНИЗАЦИЯ
منظمة السياحة العالمية

KISUMU URBAN STRUCTURE 1908-1962





Source : Anyumba 1995

Figure 7.2 Kisumu Town Structure 1930 - 1939

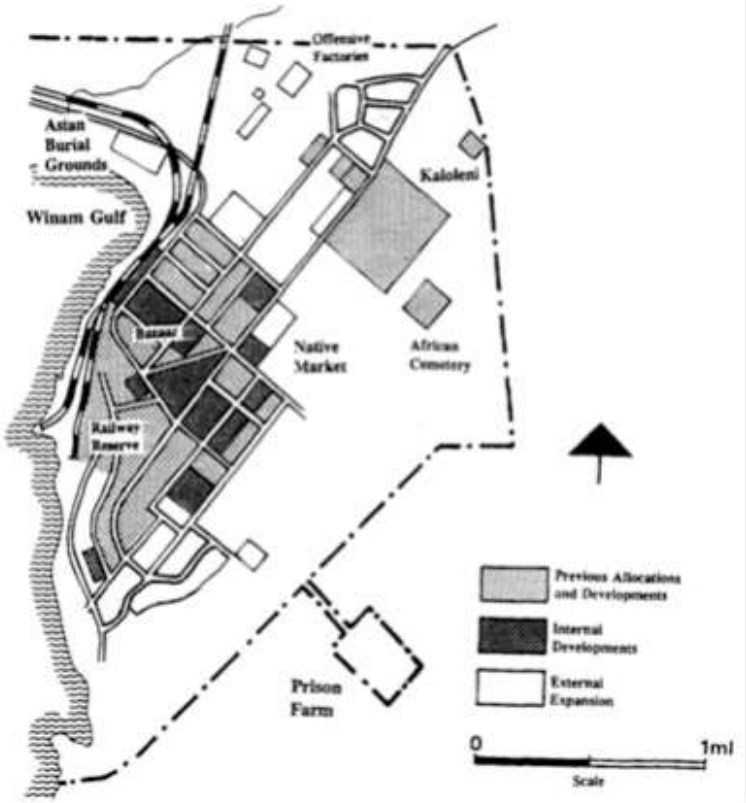
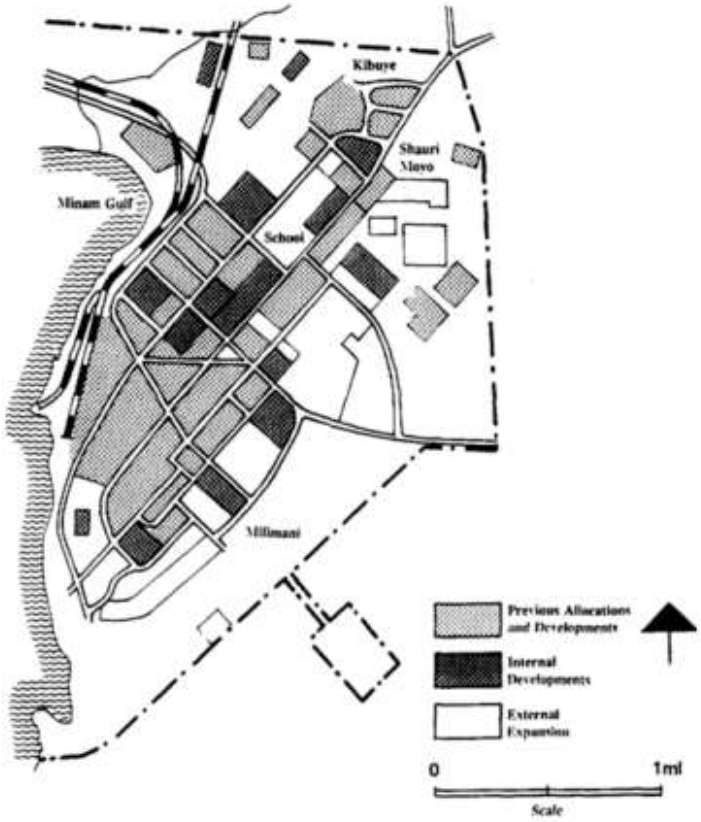


Figure 8.4 Kisumu Urban Structure 1940-1962



The proposed preservation area is a quadrangle delineated by Obote road, Bank street extended to Obote road, Uhuru road and Kisumu to Busia road for the portion from Omolo Agar road to Obote road, it includes the "Indian bazaar", the City Square, Town Hall and Law Courts area. This part of the city mostly built between 1900 and early 1930s with a few major buildings erected in the 1950s is remarkable for several reasons besides having retained its unity and urban cohesiveness:

Layout: the gridiron layout is typical of African urban settlements of this era with a double row of mixed-use rectangular plots (45.7 by 15.2 meters) creating a high built up density still well adapted today to retail.

Massing : most buildings planned according to the shop cum residence model are two to three storey-high and attached. The continuous street frontage with covered walkway in some parts thus created is unique in the city.

Conservation zoning for this area is intended to preserve the existing block layout, massing, height, continuous street frontage. It forbids land assembly, detached buildings, front setback which would disrupt present alignment, height exceeding three stories or 15 meters at roof edge.

Proposed retrofitting of the port and railway station area in adjacent SPA 1 includes the extension of the CBD over Bank street by XX ha, with an estimated gross buildable area of XX square meters. The designation of these two SPAs is intended to open downtown Kisumu and to connect it to the lake shore. The propose CBD extension has a layout coherent with the existing one as it is guided by the westward extension of all streets perpendicular to Oginga Odinga.

1. Encourage residents' participation, including local businesses, as they most often have a vested interest in the rehabilitation of their neighborhood.

2. Ensure regeneration creates opportunities that are equally balanced between city-wide needs, needs of the areas' residents, financial requirements of private partners, if any. Ensure the programme provides for a conducive physical environment adapted to planned commercial activities. Assist potential investors, especially small and local businesses, to carry out feasibility studies in order to support their participation in regeneration programmes.

3. When residents' displacement is required ensure adequate (in terms of capacity and willingness to pay, typology, location, financing) rehousing is provided for all, preferably on-site; ensure, in case of off-site relocation that it is as little disruptive as possible in terms of residents' livelihood; same applies to local businesses. Integrate fully rehousing and relocation in the programme including its budget.

4. When relevant, endeavor to retain elements of an area's specific or traditional activities.

5. Use regeneration as an opportunity to provide major missing cultural, educational, health, and sport facility that will act as a catalyst for area development.

6. Use regeneration as an opportunity to address undersupply or gaps for housing, social services, public spaces at neighborhoods level.

7. Use regeneration as an opportunity to launch major infrastructure projects, especially public transportation, as well as enhanced environmental management.

8. Use regeneration as an opportunity to create 'model neighbourhoods' or 'Model Street', using best design guidelines and standards.

9. Retain, as much as possible and when relevant, urban features of the targeted area, such as street patterns or significant buildings or open spaces.

SPA 3 :

NYALENDA EXAMPLE

THE NYALENDA EXAMPLE

As part of the planning process for SPA 3, an approach has been developed based on housing and plot typologies.

The objective of the exercise is to :

- test various typologies in order to reach a desired higher population and built up density,
- improve housing standards,
- improve mobility within the neighbourhood and reintegration into the formal city,
- improve public realm,open space and social service provision, wetland biodiversity conservation and valorisation.

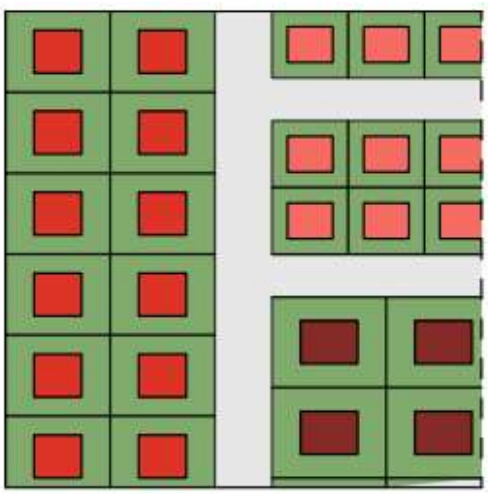
In order to achieve this, two tasks have been undertaken:

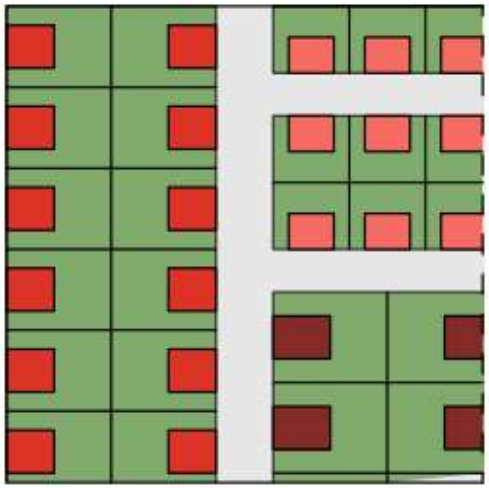
First, a tentative road network has been designed intending to allow through North-South connection, to provide good internal mobility with a secondary road network, to connect the area with Milimani and other parts of the city.

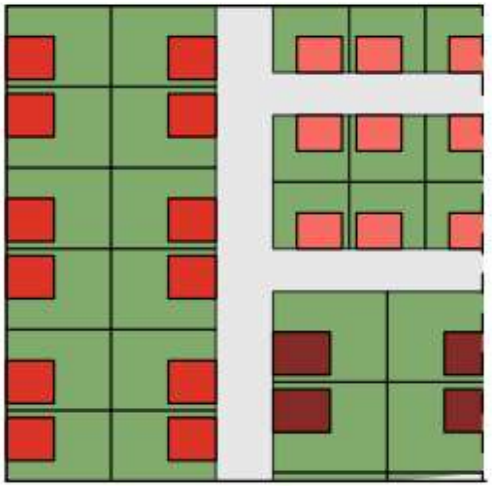
The proposed road network has been design with concerns for the number of buildings needing to be demolished and existing desire paths.

The main road proposed through the neighborhood would allow to connect the Kisumu-Nairobi road to the coast, serving the Kisumu Yacht Club, Kiboko, Dunga and further South, it would also relieve some traffic from the existing Ring road; junctions, such at the Awour Otieno and Ring road intersection will need to be designed with care in order for the Ring road to be crossed safely from and to Nyalenda.

Second, housing typologies have been studied with the intention of offering a varied supply with several sizes of detached houses, semi-detached and row houses, as well as multi-story apartment blocks with retail or office at ground level. Together with housing typologies, plots and blocks typologies are proposed showing possible typologies mix and proposed plot ratio. This typology proposal is theoretical as it mainly intends to demonstrate attainable yields (population and built-up density).



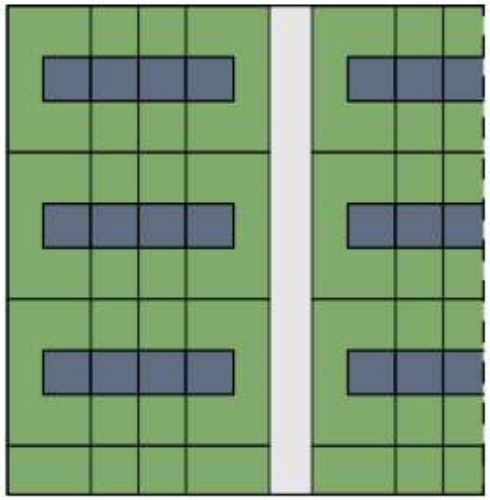


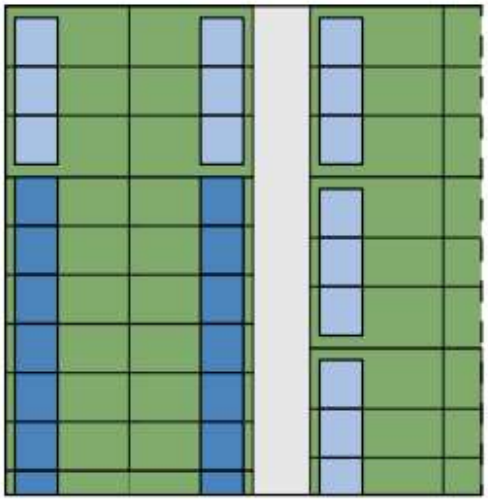


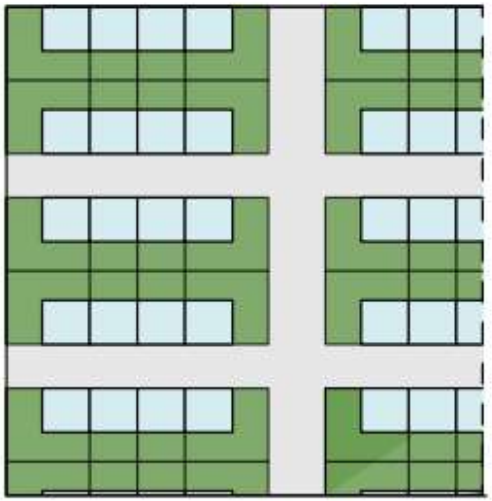
Housing typology :

Detached house 1 : 108m², recommended plot size : 456m², recommended plot ratio : 0,23
Detached house 2 : 90m², recommended plot size : 374m², recommended plot ratio : 0,24
Detached house 3 : 71m², recommended plot size : 224m², recommended plot ratio : 0,32

Typology	Plot area	Built up area (per plot)	Plot ratio	Plot per hectare	Pop density per hectare	Built up area per hectare	Built up area (%)
Detached house 1	456	108	0,23	17	96	1 836	18
Detcahed house 2	374	90	0,24	21	117	1 925	19
Detached house 3	224	71	0,32	35	196	2 535	25



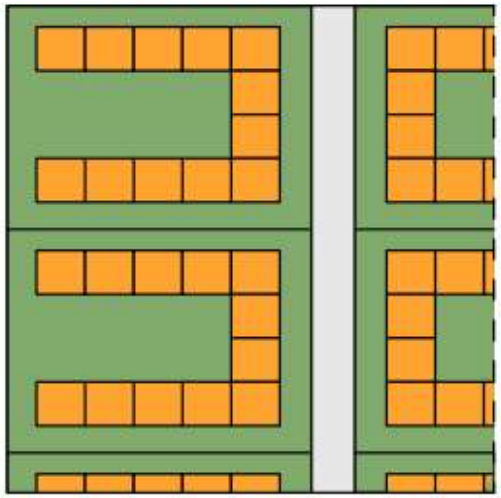


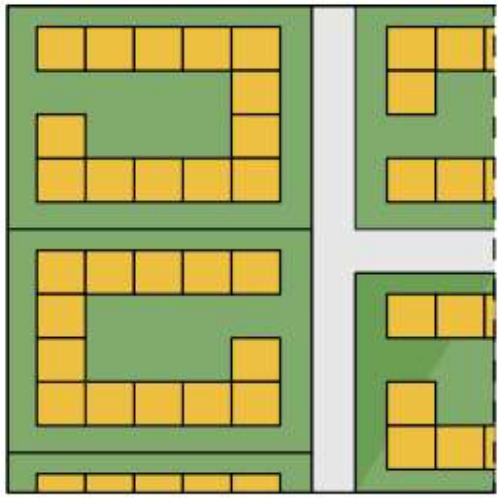


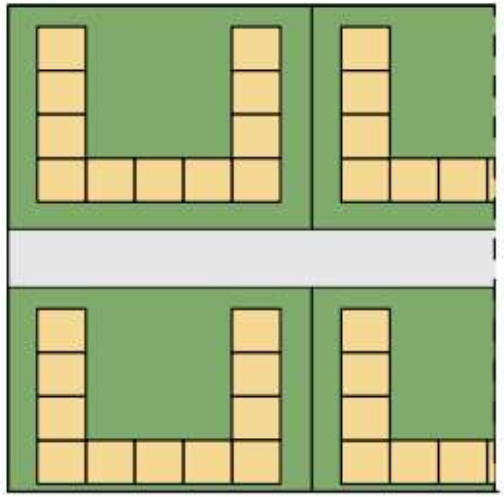
Housing typology :

Semi-detached house 1 : 360m², recommended plot size : 1 625m², recommended plot ratio : 0,22
Semi-detached house 2 : 540m², recommended plot size : 1 650m², recommended plot ratio : 0,32
Semi-detached house 3 : 540m², recommended plot size : 1 820m², recommended plot ratio : 0,30
Semi-detached house 4 : 720m², recommended plot size : 1 650m², recommended plot ratio : 0,43

Typology	Plot area	Built up area (per plot)	Plot ratio	Plot per hectare	Pop density per hectare	Built up area per hectare	Built up area (%)
Semi-detcahed house 1	1 625	360	0,22	19	108	1 77 2	18
Semi-detached house 2	1 650	540	0,32	29	160	2 610	26
Semi-detached house 3	1 820	540	0,30	26	143	2 373	24
Semi-detached house 4	1 650	720	0,43	26	213	3 420	34



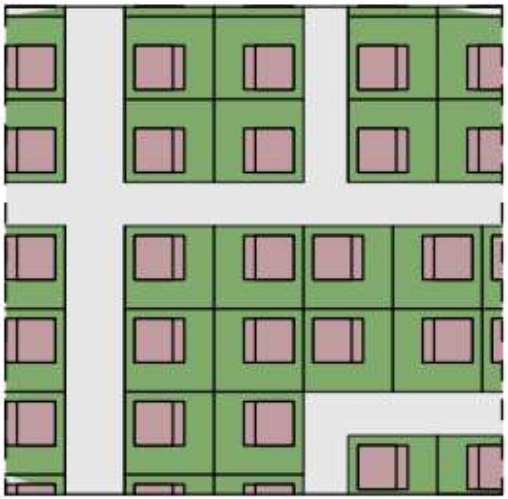


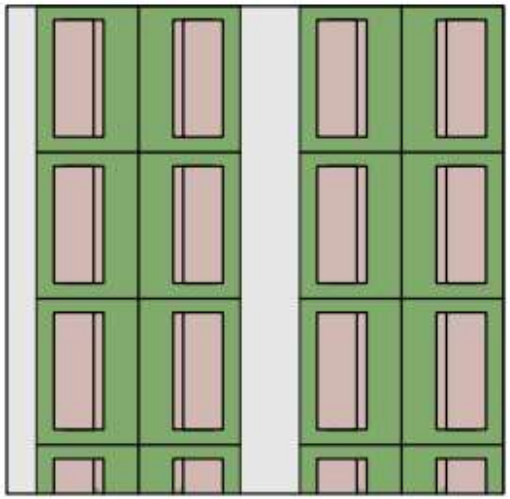


Housing typology :

Row house 1 : 1 080m², recommended plot size : 2 868m², recommended plot ratio : 0,37
Row house 2 : 1 170m², recommended plot size : 2 868m², recommended plot ratio : 0,40
Row house 3 : 990m², recommended plot size : 2 868m², recommended plot ratio : 0,34

Typology	Plot area	Built up area (per plot)	Plot ratio	Plot per hectare	Pop density per hectare	Built up area per hectare	Built up area (%)
Row house 1	2 868	1 080	0,37	3	184	2 970	30
Row house 2	2 868	1 170	0,40	3	199	3 240	32
Row house 3	2 868	990	0,34	3	168	2 700	27





Housing typology :

2-story building : 160m², recommended plot size : 306m², recommended plot ratio : 0,50
3-story building : 624m², recommended plot size : 615m², recommended plot ratio : 0,93

Typology	Plot area	Built up area (per plot)	Plot ratio	Plot per hectare	Pop density per hectare	Built up area per hectare	Built up area (%)
2-story building	306	160	0,50	26	287	2 340	23
3-story building	615	624	1,01	13	858	2 496	25

In comparison with existing settlement patterns, proposed typologies would allow the following gains :

At present, based on a sampling method, gross density in Nyalenda is 84 inhabitants per hectare, with a built up density of 15 housing units per hectare. Proposed typologies would alow a gain ranging from 93 people per hectare and 17 housing units per hectare, to 858 people per hectare and 156 housing units per hectare.

Implementation: this restructuration and densification test for Nyalenda has been carried out with a number of assumptions:

- Residents are considered legit, either resident owner or tenant renting from a legitimate owner
- In order to implement restructuration a land ownership survey must be undertaken and a plot ownership map be drawn up

Restructuration	Large block	Small block	Odd block
Area (ha)	7,06	0,8	1,3
Housing units	165	20	29
Demolished building	37	8	25
Population density	907,5	110	159,5

- Then a tenure survey must inform on residency status for each house and each household and properties located on the alignment of future streets, location of open spaces, should be valued in view of compensation (land and building), as well as plots which will be subject of subdivision or land assembly.

- To ensure maintenance of ownership every land owner contributing land to public use would retain a % of his property. With regard to tenure a policy change by the Land Commission to change it to leasehold would be hepful

Owner	LR	Acreage	%	Acreage Exised
P1	021	250	25	12.5
P2	022	150	15	7.6
P3	023	350	35	17.5
P4	024	250	25	12.5
Total		1 000	100	50

- Adjustment to the proposed road network will be necessary : a road hierachy will be set according to anticipated densities (for instance, trunk 18m, secondary 15m, service 12m, plot access 9m).

- Each typology must be priced and modified according to present and target residents financial capacity and their willingness to enter the scheme

- The typology mix will need to be adjusted after results of surveys listed above

- The possibility to fix or upgrade a number of existing units should also be studied

- The area should be rezoned as mix-use

- Adequate service provision should be ensured

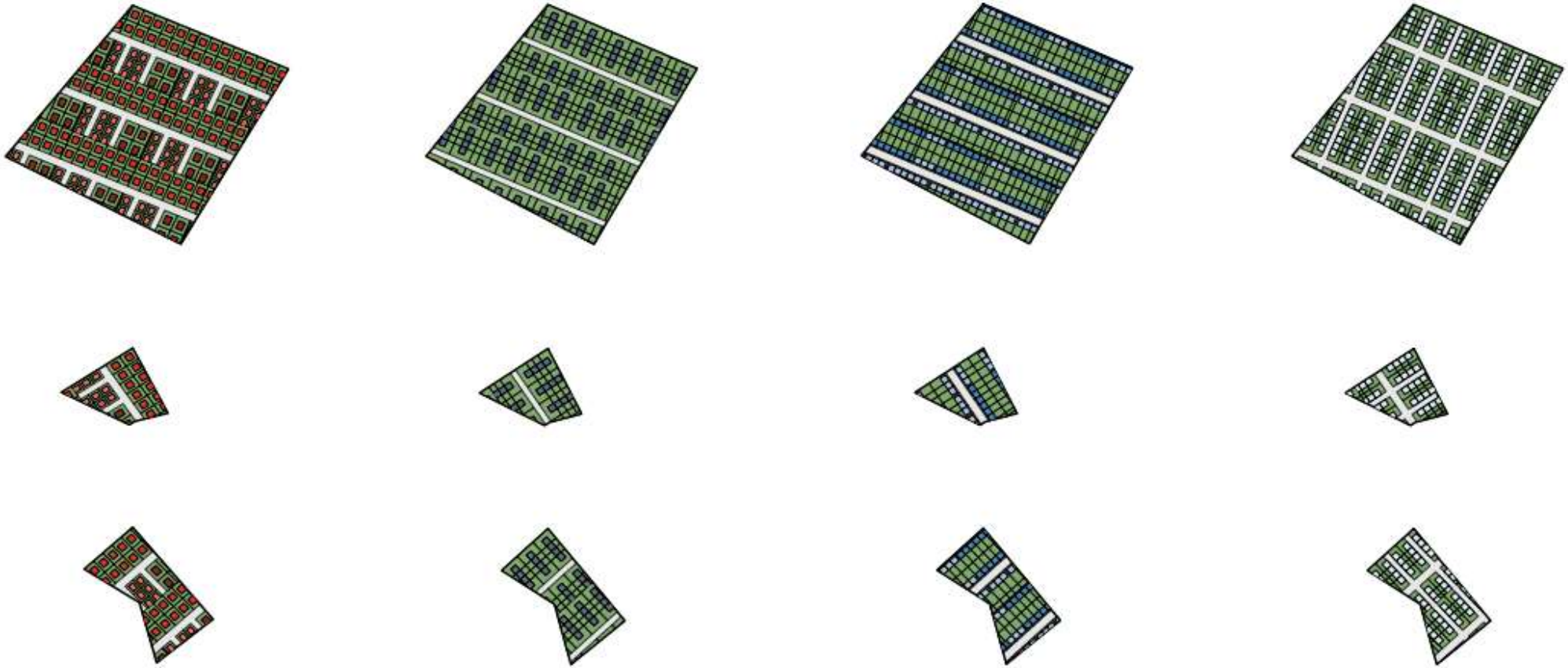
Fit of the various typologies to the various types of blocks is schematic. It is intended to show that with some adjustement housing solutions proposed would be possible throughout the site. Minor adjustements to subdivision layout will also be needed in order to accomodate required services and social amenities.

Also, more combinations are possible among the typologies proposed. For instance, a same block could accomodated detached houses and row houses, or multi-story buildings. At the same time, this shows social diversity and mixed-use can be achieved in this neighbourhood.

Financing this development will most probably require public financing for housing. This capital investment could be partly borne by the County Government budget.

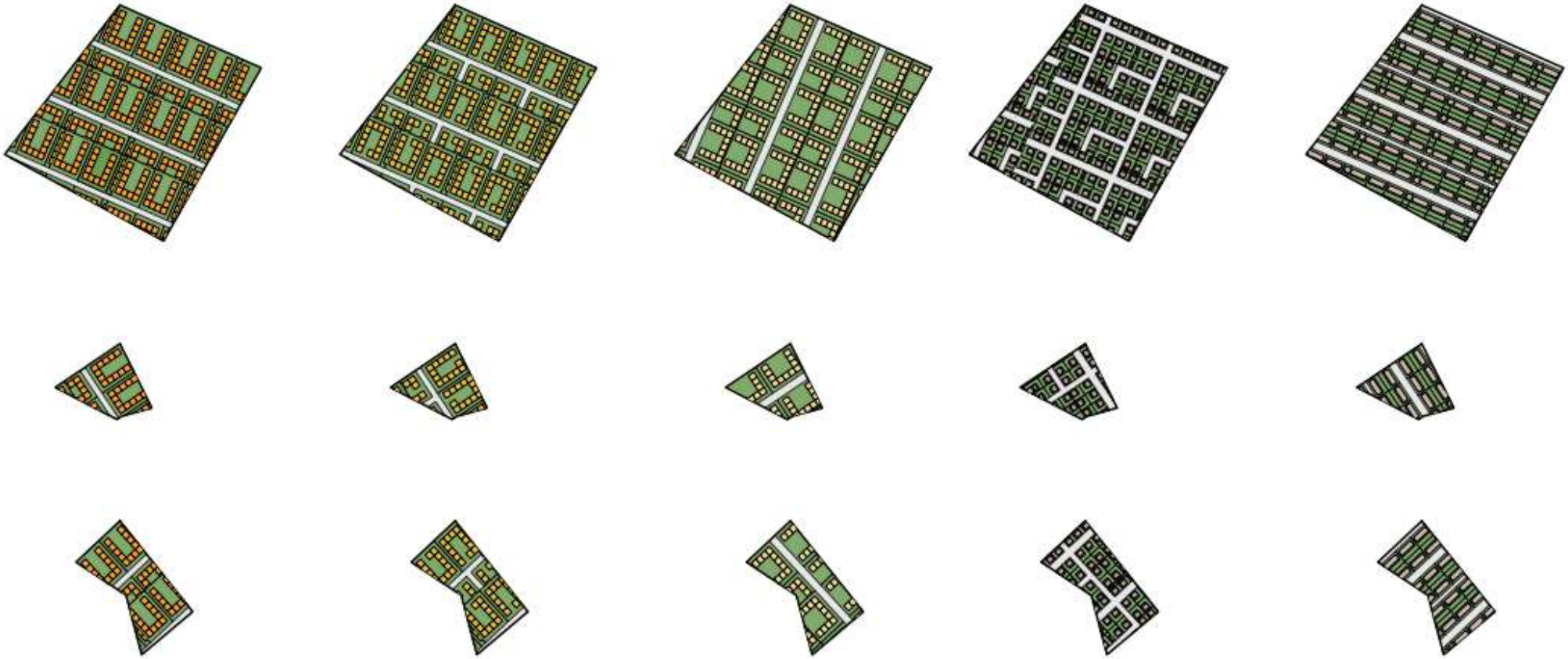
Typology	Large block Housing unit/block	Pop density	Small block Housing unit/block	Pop density	Odd block Housing unit/block	Pop density
Detached house 1	165	906	19	105	31	170
Detached house 2						
Detached house 3						

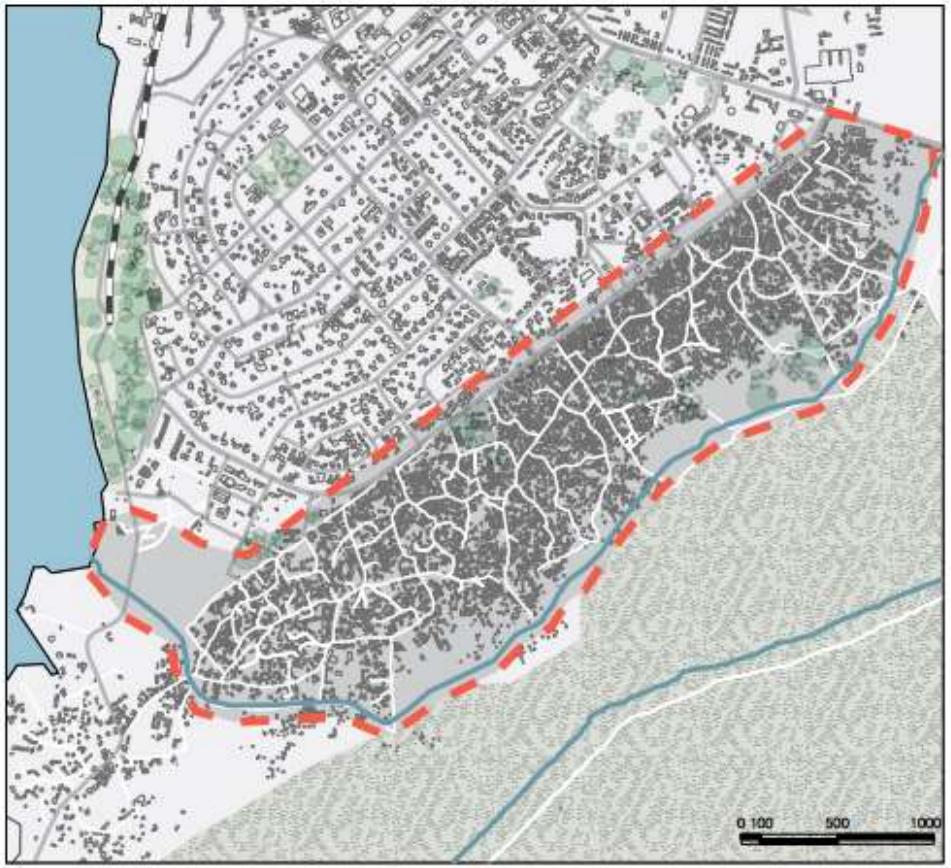
Typology	Large block Housing unit/block	Pop density	Small block Housing unit/block	Pop density	Odd block Housing unit/block	Pop density
Semi-detached house 1	133	732	17	94	29	160
Semi-detached house 2	186	1 023	18	99	37	204
Semi-detached house 3						
Semi-detached house 4	192	1 056	27	149	38	209



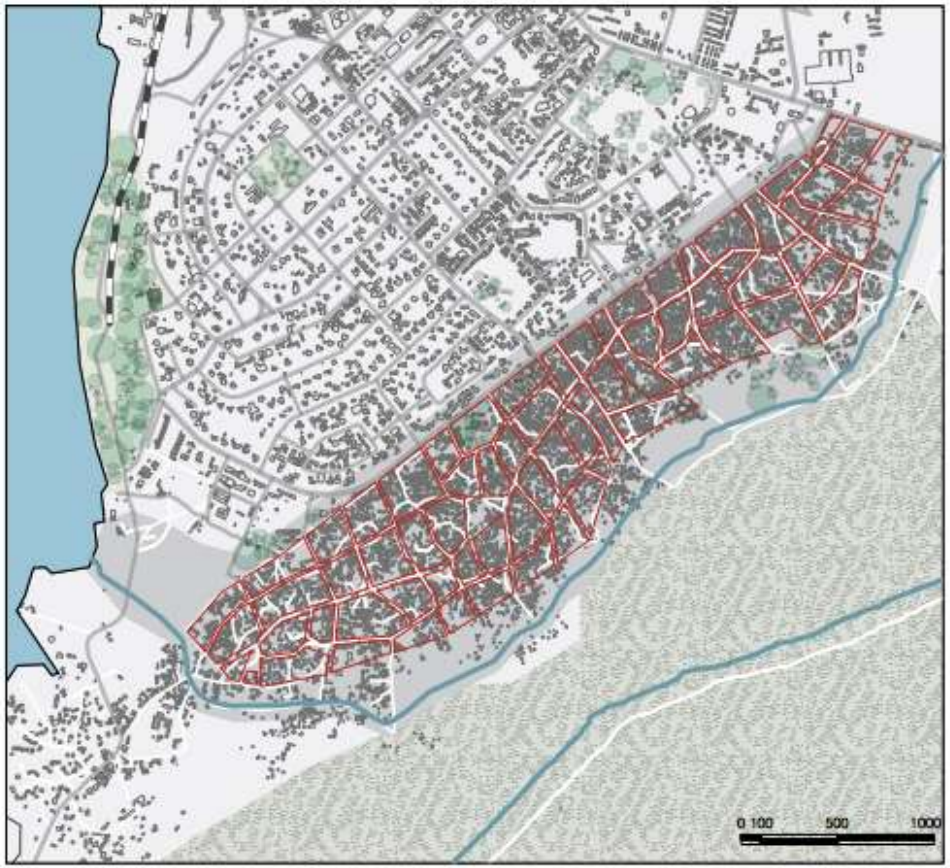
Typology	Large block Housing unit/block	Pop density	Small block Housing unit/block	Pop density	Odd block Housing unit/block	Pop density
Row house 1	237	1 304	29	160	47	259
Row house 2	240	1 320	31	171	48	264
Row house 3	234	1 293	26	143	38	209

Typology	Large block Housing unit/block	Pop density	Small block Housing unit/block	Pop density	Odd block Housing unit/block	Pop density
2-story building	362	1 991	34	187	62	341
3-story building	912	5 016	120	660	156	858

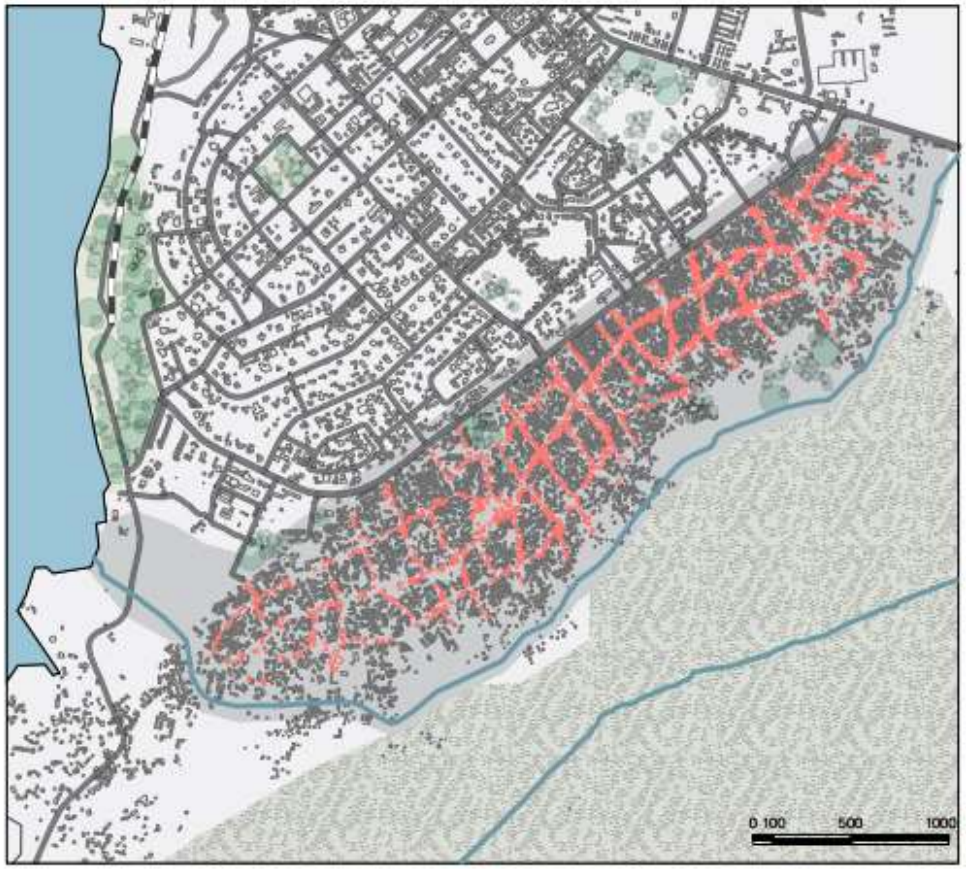




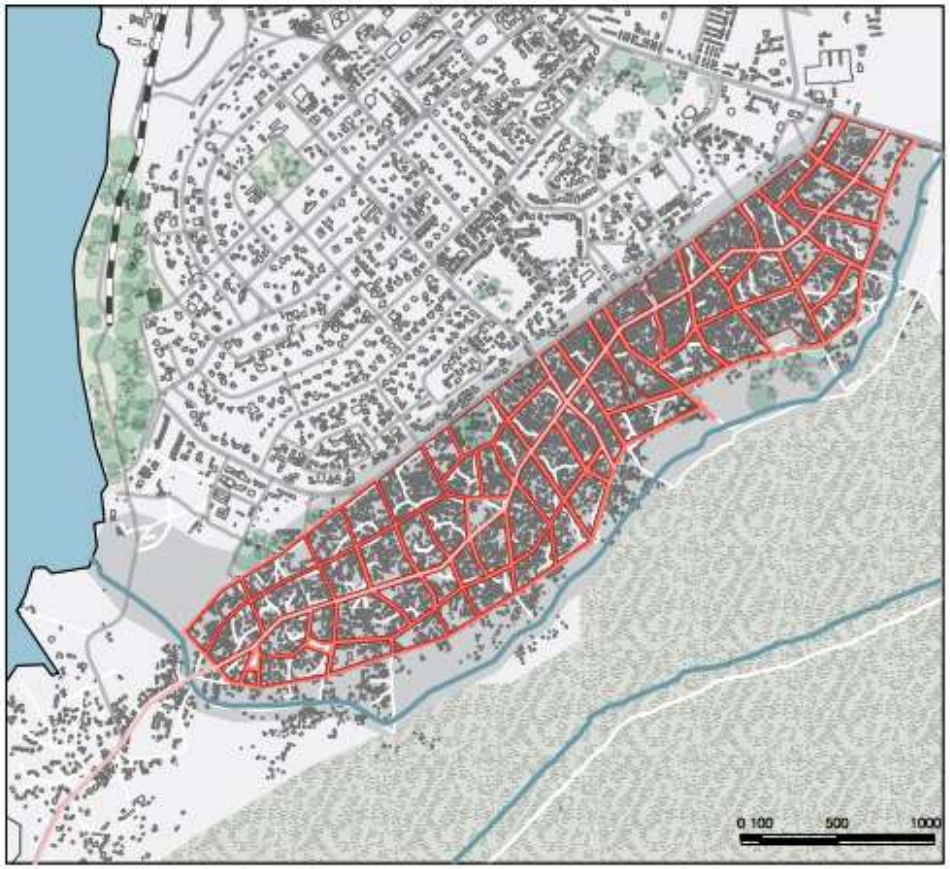
Nyalenda perimeter, existing desire paths



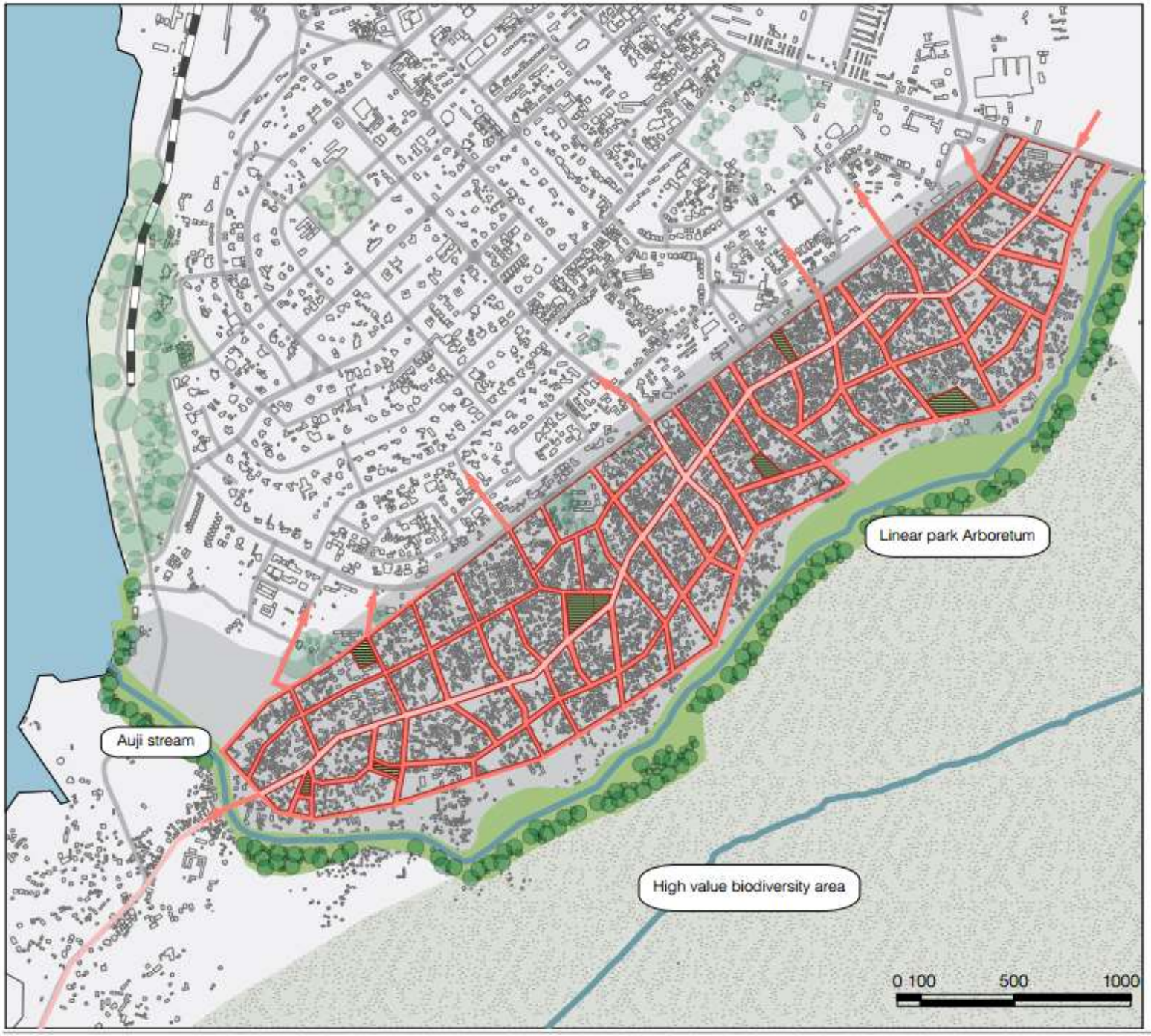
Proposed block layout

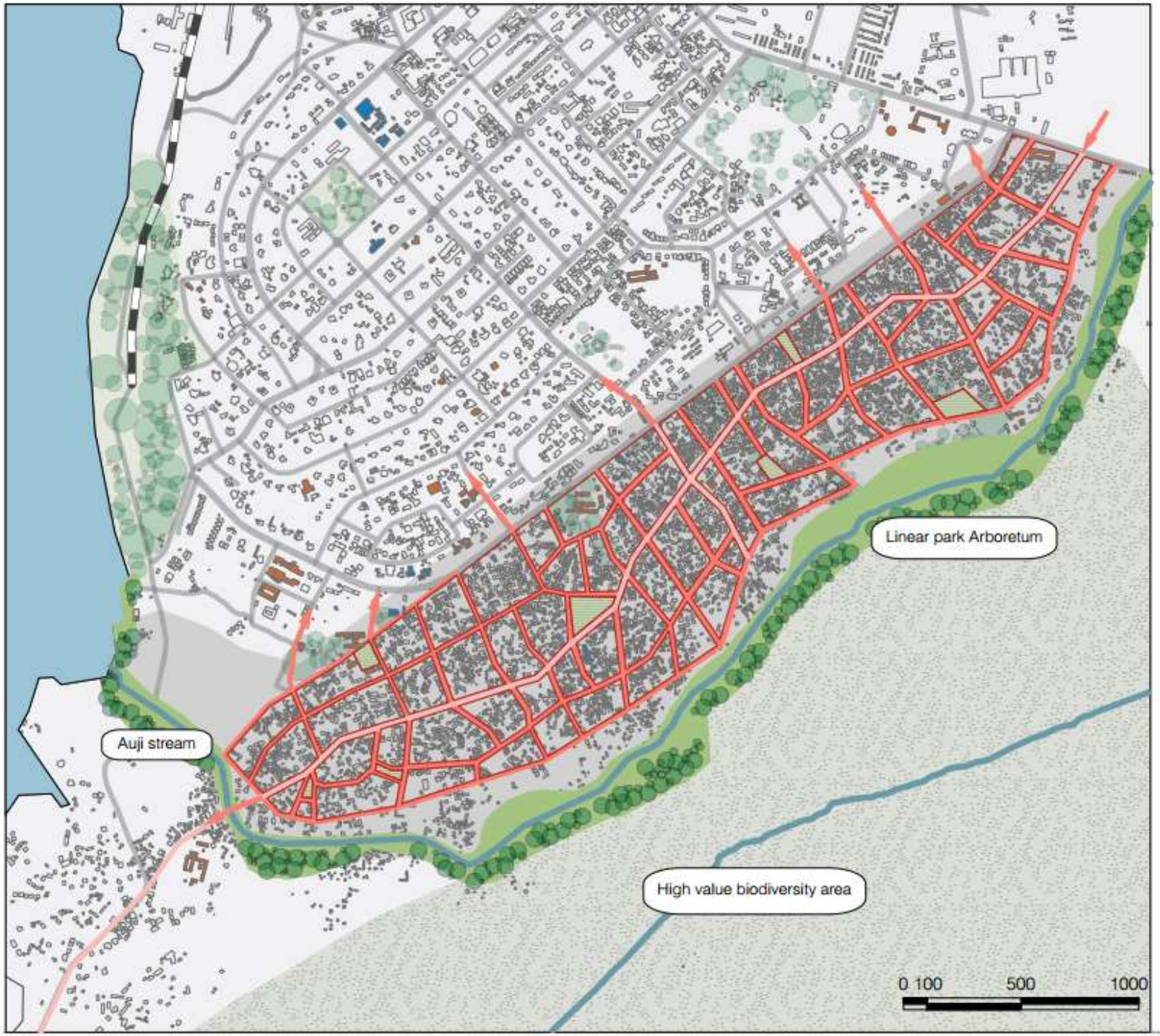


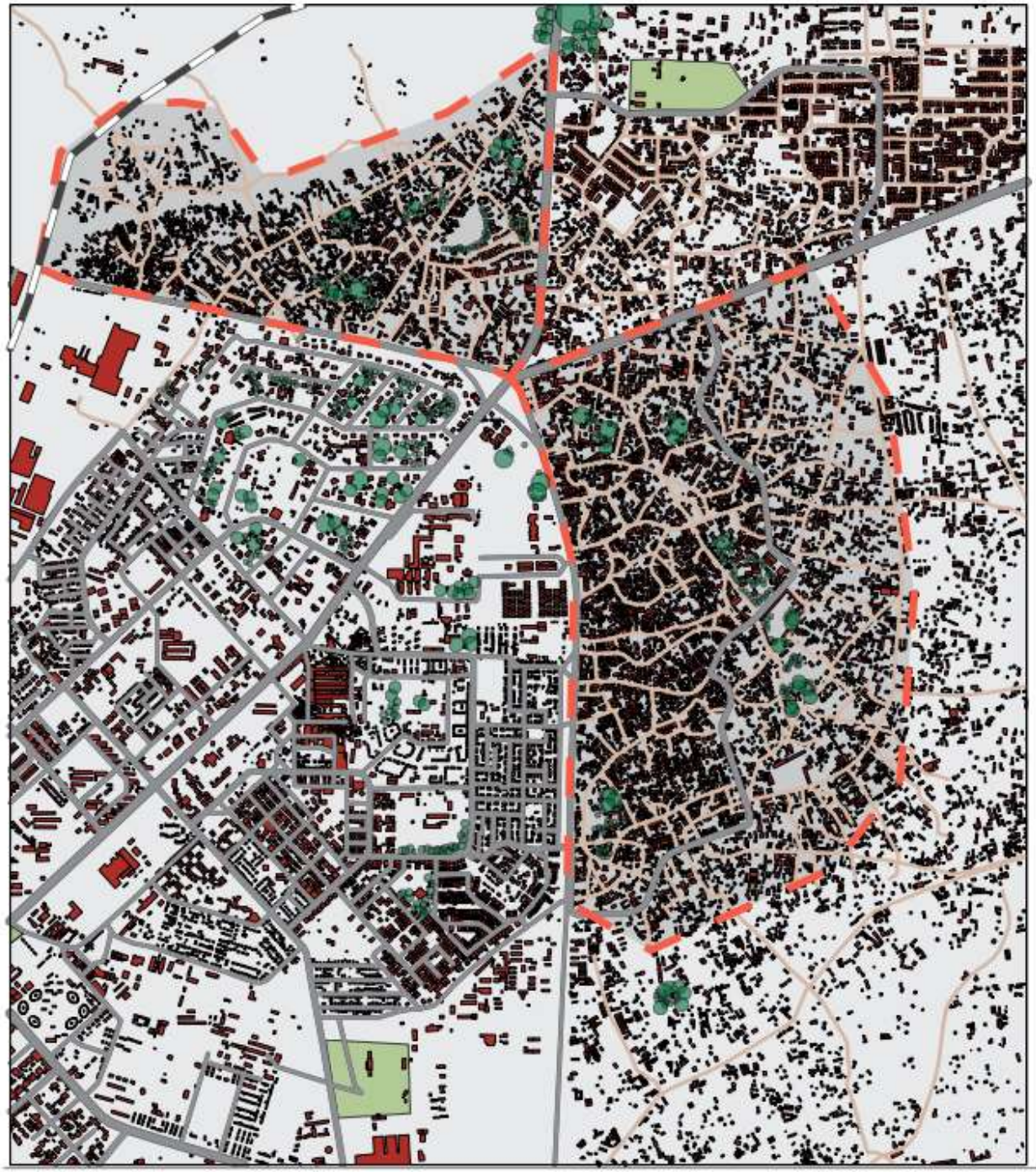
Housing units : 7 305, Housing units to be demolished : 1 429, (19%)



Proposed road network

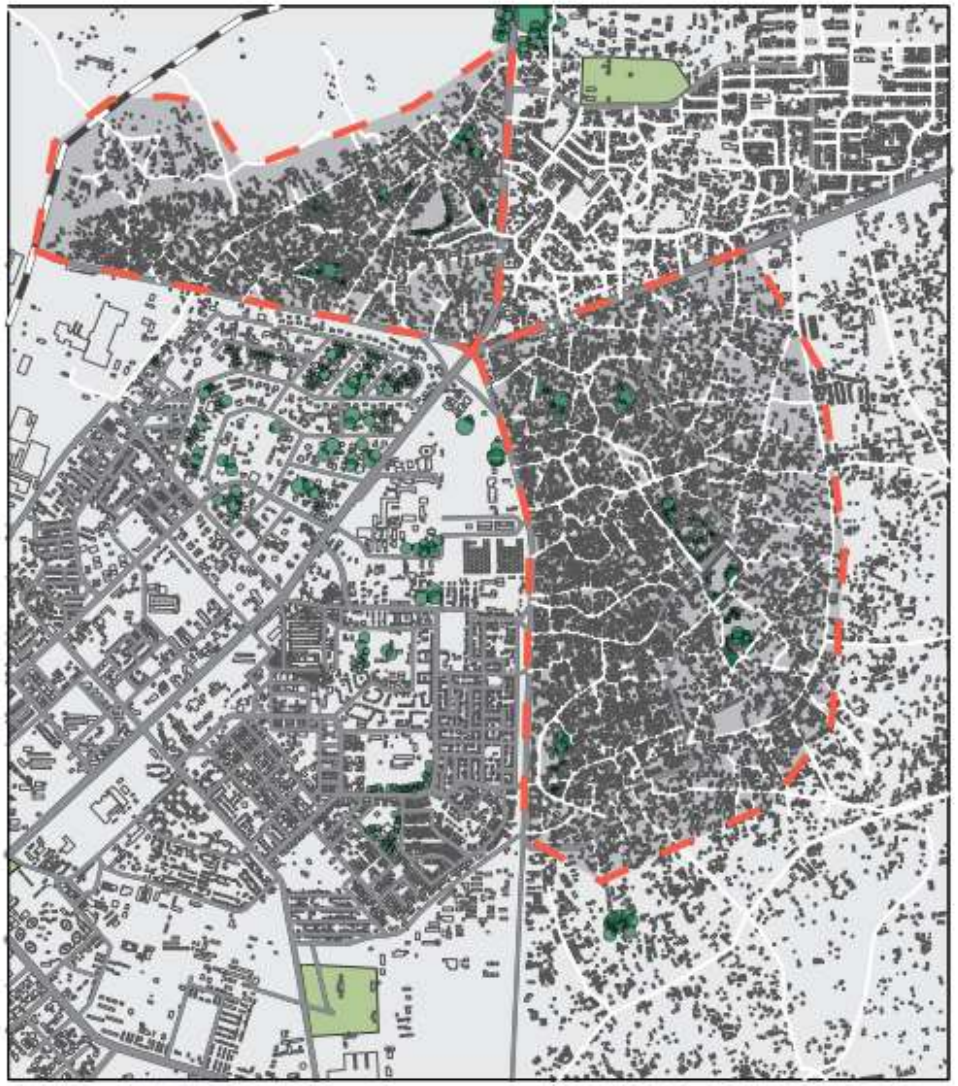

Linear park Arboretum
Auji stream
High value biodiversity area
0 100
500
1000

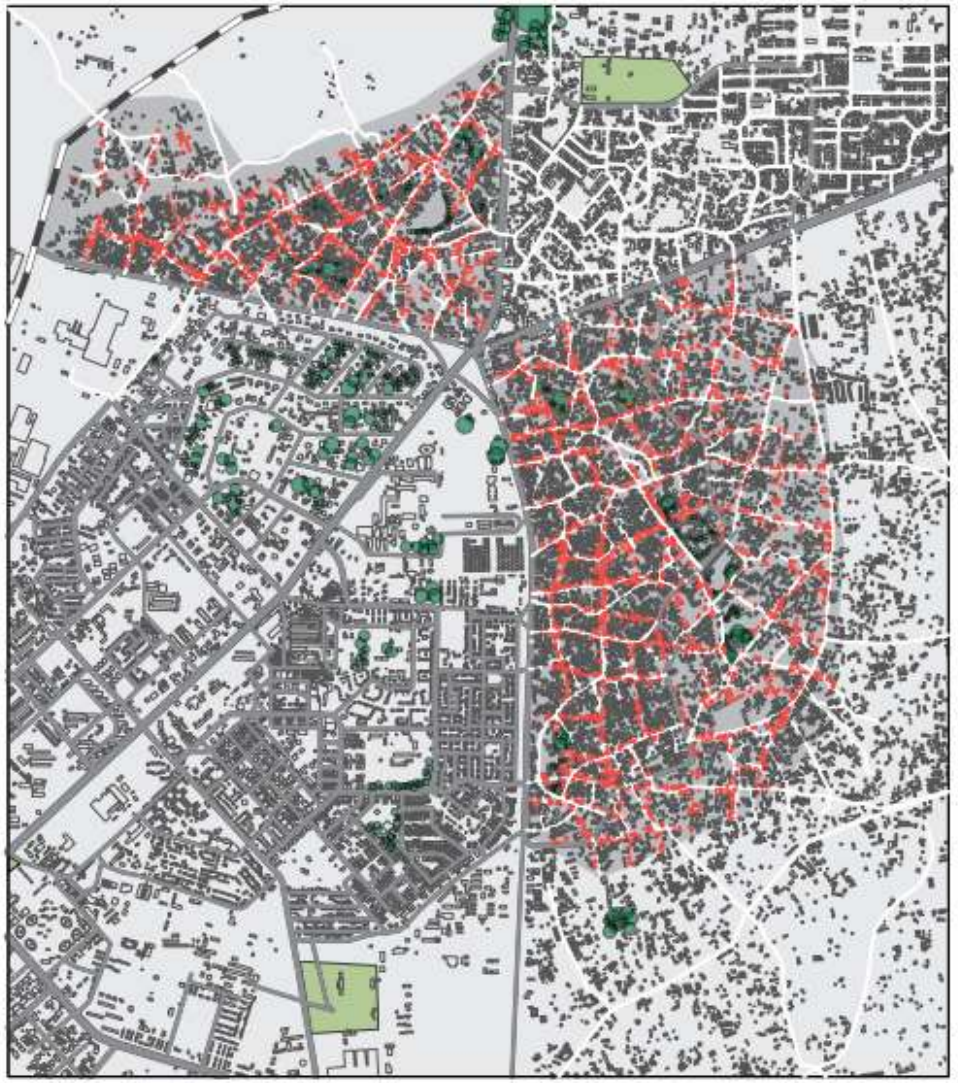

Linear park Arboretum
Auji stream
High value biodiversity area
0 100
500
1000

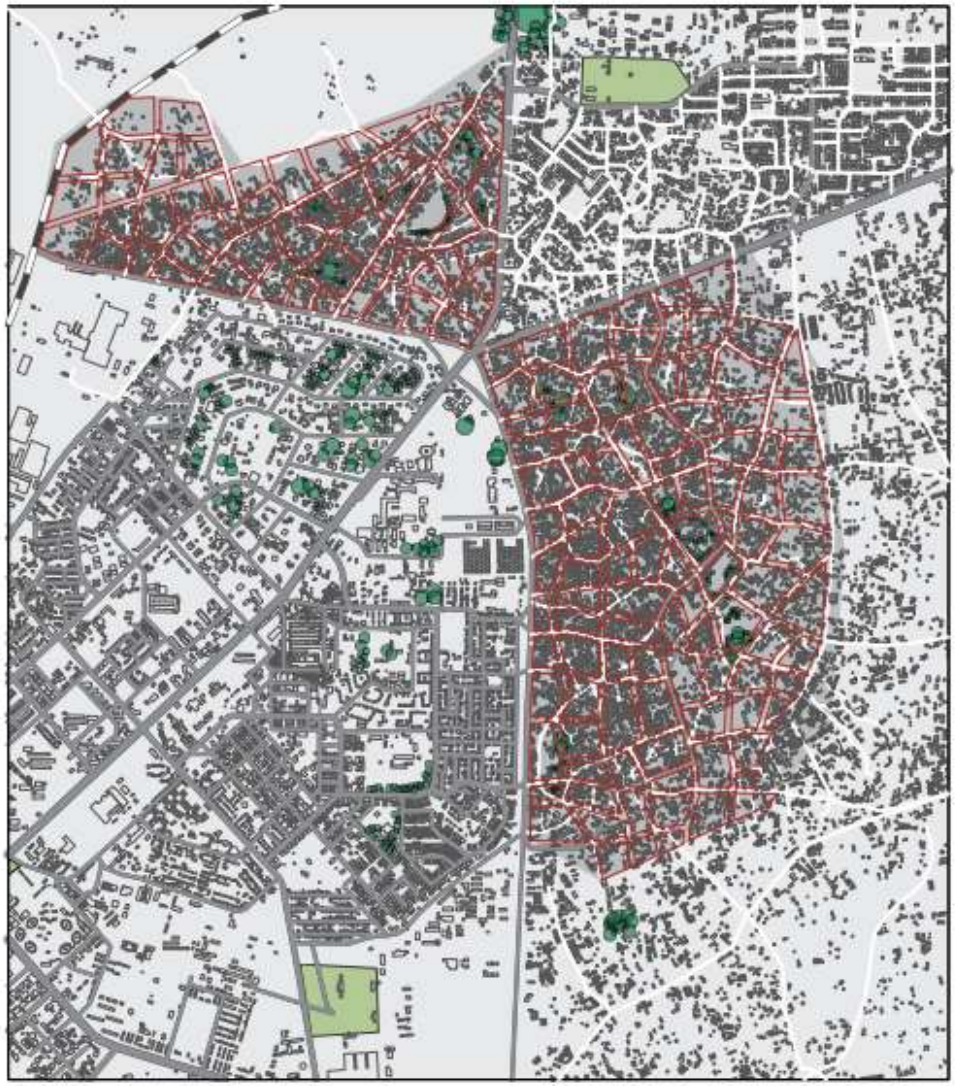


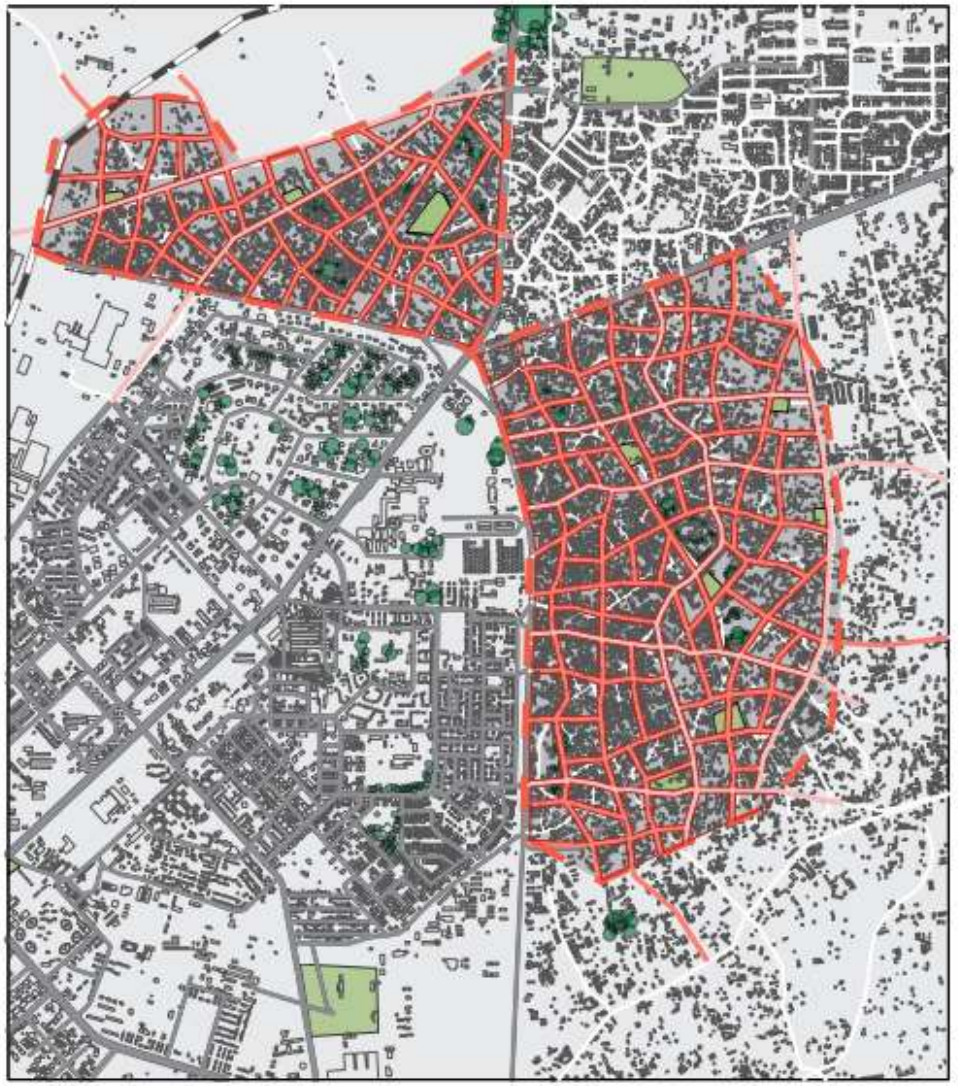
SPA 3 :

MANYATTA EXAMPLE

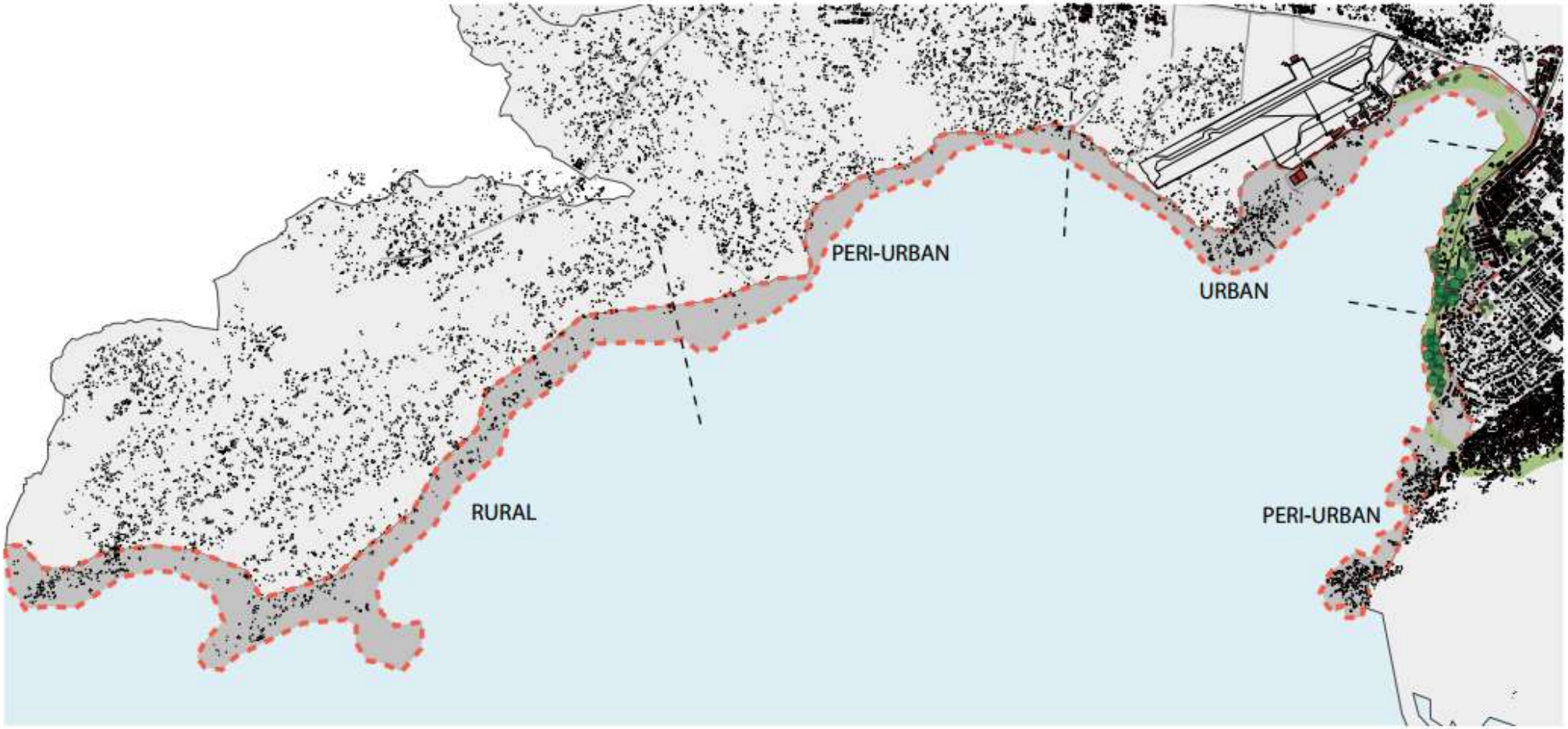








SPA 4 : THE SHORE



Coastal planning, some examples from around the world

China

Vietnam

Lyon, France

Toronto, Canada

Changsha, China

Budapest, Hungary

Bordeaux, France

Argenteuil, France

Annecy, France

Melbourne, Australia

New York, United States

Rotura, New Zelande

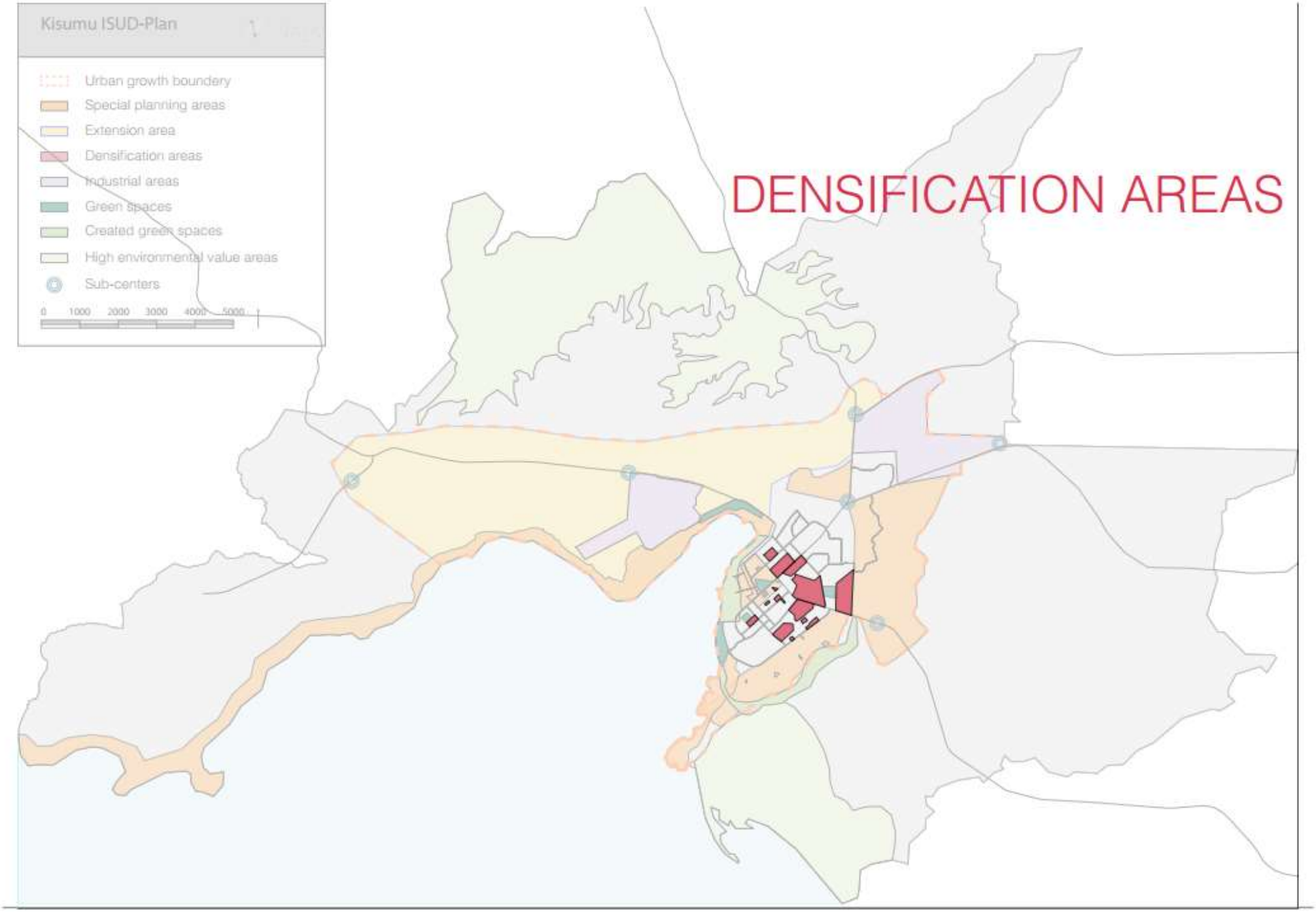
Bengbu, China

Chicago, United States

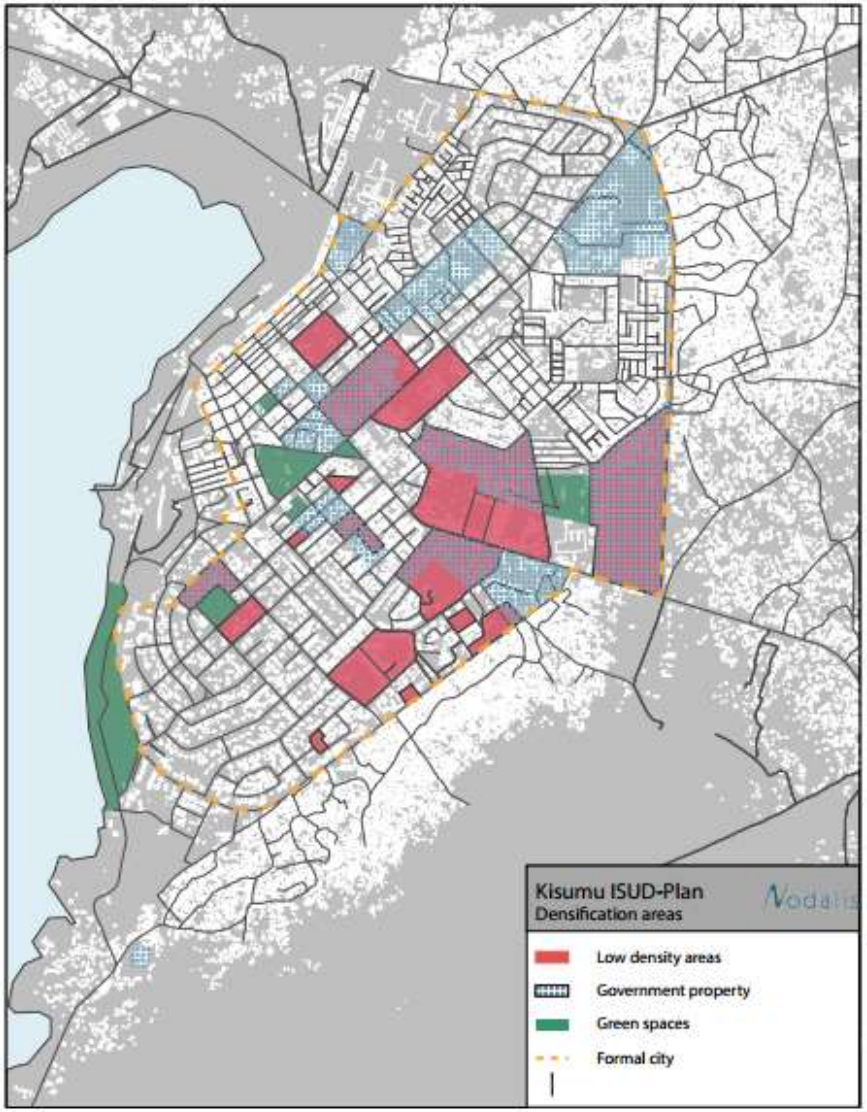
London, England

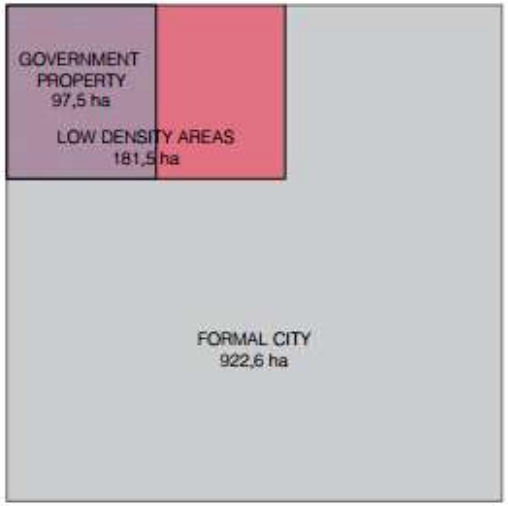
Nigeria

The lake shore is designated as a Special Planning Area where development restrictions will apply. The area has been designated as SPA for two main reasons: protection of Lake Victoria shoreline in its urban part, risk prevention for flood prone areas. The lake shore SPA extends from Dunga to the city administrative border in South West Kisumu (Osiri sub-location) and covers a total area of XX ha. It is divided into a XX meter wide coastal exclusion zone measured from the shore line and in three distinct areas matching land uses inland. These areas are designated as Rural, Peri-urban and Urban. For each of these sub-designations specific planning guidelines will apply, all inspired by the following planning principles: establishment of an exclusion area (set back), unhindered access and view corridors to the lake, continuous frontage limitations, height limitations, paving limitations, minimum green coverage, road width and traffic level limitations.



DENSIFICATION AREAS


Kisumu ISUD-Plan
Densification areas
Low density areas
Government property
Green spaces
Formal city


GOVERNMENT PROPERTY
97,5 ha
LOW DENSITY AREAS
181,5 ha
FORMAL CITY
922,6 ha

DENSIFICATION AREAS

Kisumu's planned area, confined between the lake and the Ring Road half circle, has a rather loose density on average. This is mostly due to the presence of large vacant lots or large pieces of unbuilt land within publicly owned compounds. These low density areas have been identified as opportunity areas for infill development. All government agencies — such as KRC, LBDA, KAA — and institutions — such as schools, universities, churches – located in the planned area tend to be land-rich.

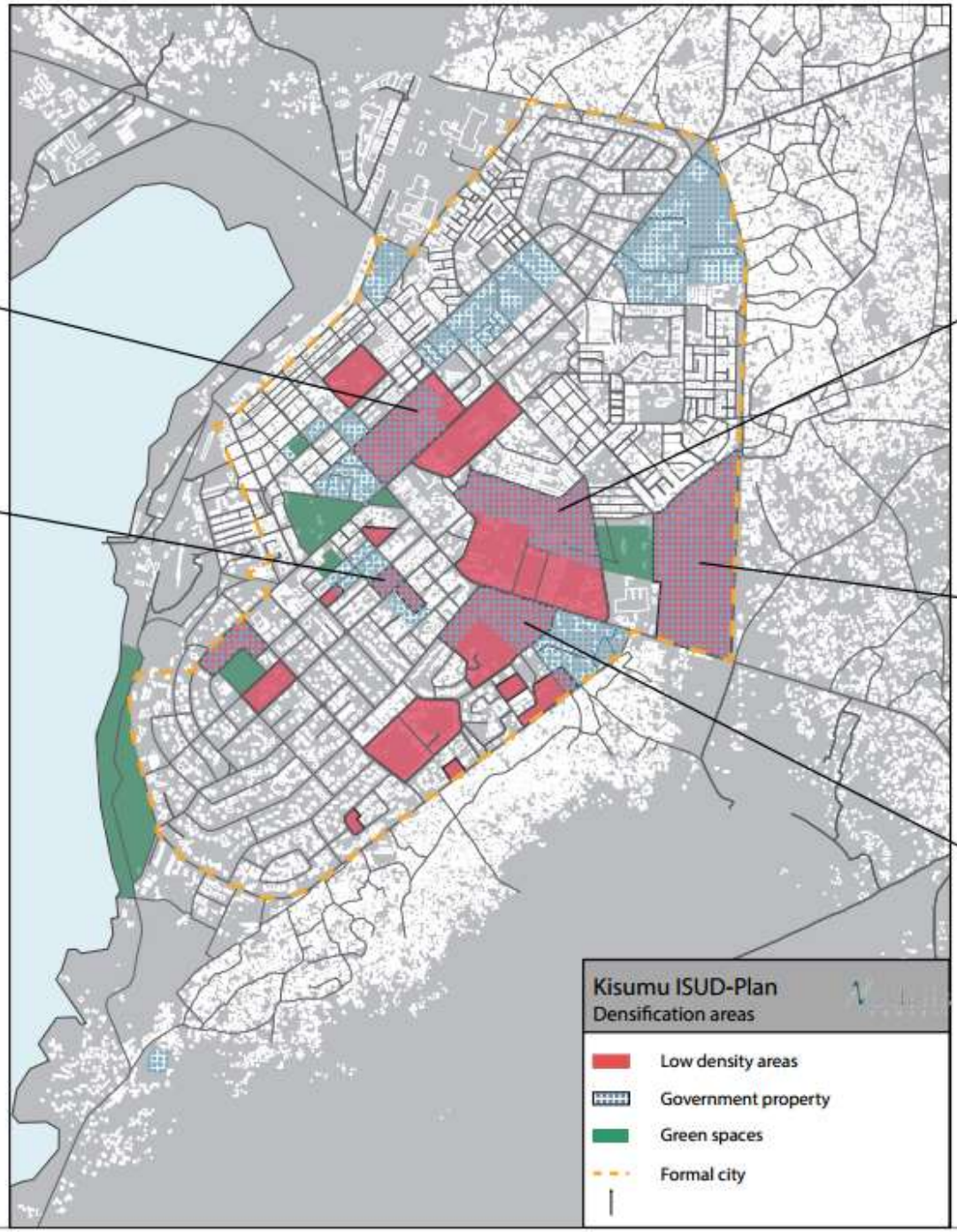
Without giving away their land, these agencies and institutions can be considered as equity partners in a redevelopment public/private partnership project. These land-rich entities are able to commit their land up front at no cost to an infill development deal in exchange for a later financial payoff. In addition, surplus public land could be made available to the County to help implement the ISUD-Plan.

Kisumu High School Teachers Quarters

Mixed-use development, 70% BUA intermediate housing (blocks)

Xaverian Primary School

Mixed-use development, 70% BUA intermediate housing (blocks)



Mixed-use development, 70% BUA intermediate housing (blocks)

Kisumu Polytechnic

Mixed-use development, 70% BUA intermediate housing (blocks)

Mixed-use development, 70% BUA intermediate housing (blocks)

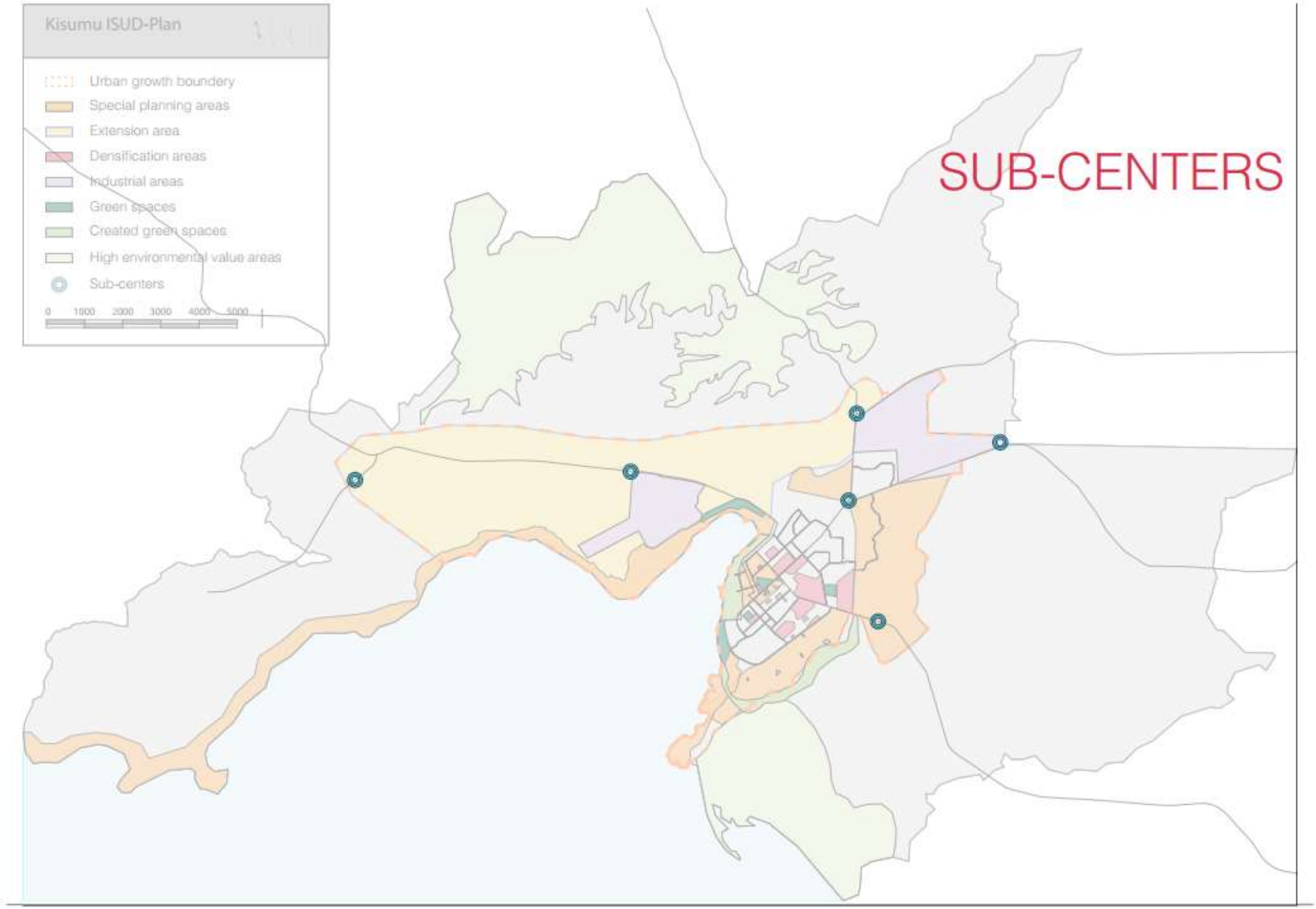
Infill development has several advantages and positive effects: it allows to locate lacking land uses and services within the urban fabric hence limiting expansion, improving service provision and contributing to densification; it often contributes to revitalize neighborhoods by at the same time bringing new activities and sending a trust signal to residents and investors which can permeate into a larger area of influence and trigger development; also, low density areas in Kisumu are all on serviced land which greatly reduces development costs and there should be no tenure issue for these lots.

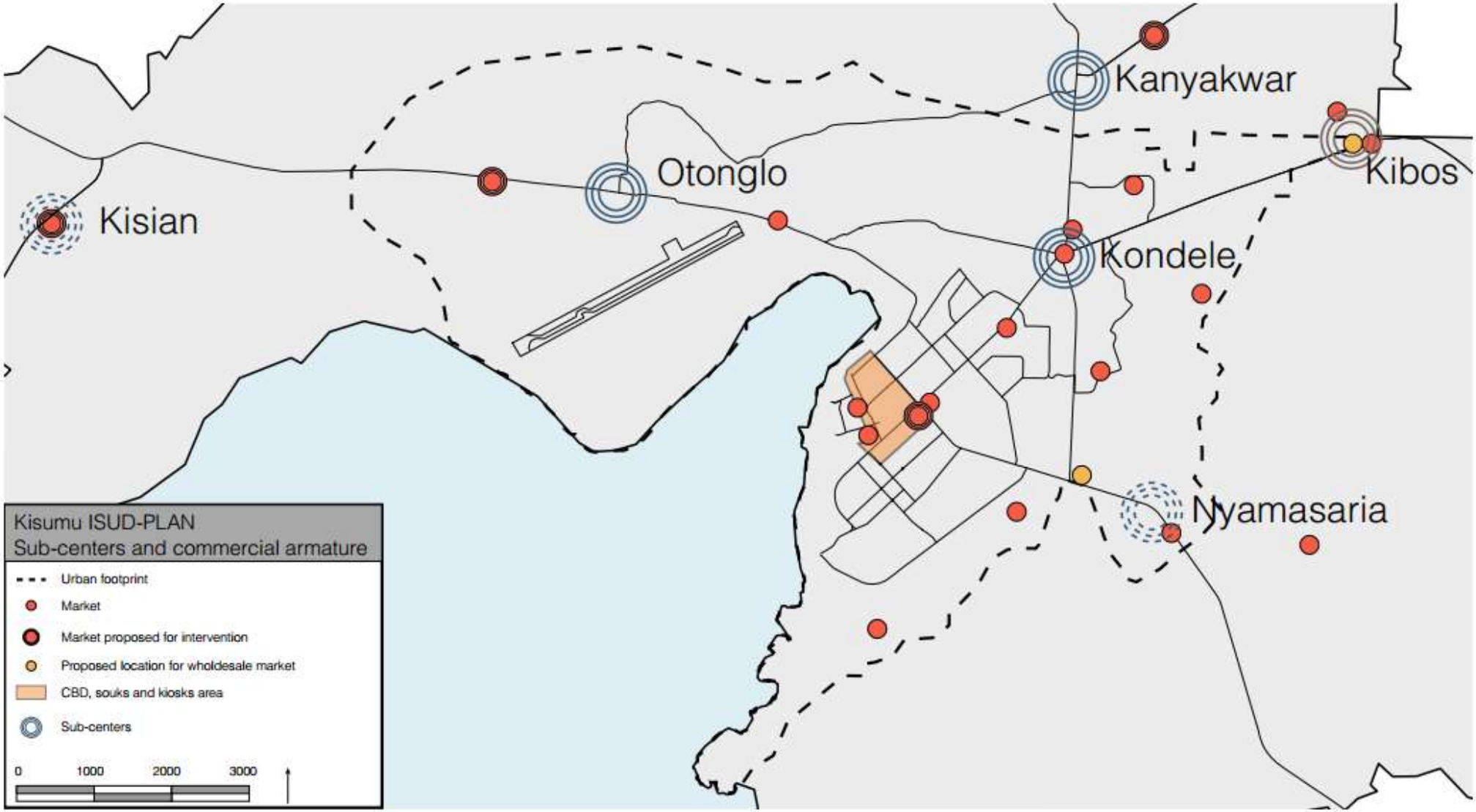
By comparison to long term needs, built up area the densification of these lots would be able to deliver is only marginal but in the process of implementing the Plan, rapid and visible interventions are important to demonstrate public land is contributed to public good and urban renewal.

Total floor area infill development on densification areas will deliver amounts approximately to 2 795 456m².

Tentative land use schedule are proposed for each of the identified areas.

An example of a block infill development


Kisumu ISUD-Plan
Urban growth boundery
Special planning areas
Extension area
Densification areas
Industrial areas
Green spaces
Created green spaces
High environmental value areas
Sub-centers
0 1000 2000 3000 4000 5000
SUB-CENTERS


Kisian
Otonglo
Kanyakwar
Kibos
Kondele
Nyamasaria
Kisumu ISUD-PLAN
Sub-centers and commercial armature
Urban footprint
Market
Market proposed for intervention
Proposed location for wholdesale market
CBD, souks and kiosks area
Sub-centers
0
1000
2000
3000

Kisumu urban growth has several marked characteristics the ISUD-Plan intends to deal with. Chief among them is sprawl and unplanned expansion with a growing divide between a congested "colonial city" and a swelling informal city lacking services and infrastructure. This urbanization is opportunistic, with at the same time, small private community developments creating enclaves of high standards housing, and progressing fringes eating up farmland whenever lots become available in the bordering rural areas to the North, East and West of the city whilst numerous services remain concentrated in the CBD.

Current growth model is not sustainable as it entails the creation of vast single-use underserviced areas mushrooming at the expense of agricultural land and of a fragile environment; it also preempts future development, may it be of roads, large public facilities, or housing in an area where population growth and density is expected to be one of the highest of the continent by 2030.

Stopping this development is neither possible nor desirable, making it less unbalanced, less space and land consuming and reducing its pace is possible however through a number of forward-looking planning interventions. The creation of sub-centers in order to have Kisumu evolving from a mono-centric city with a congested center to a polycentric city with a distribution of services and amenities in line with both population size and spatial expanse is a way to guide and contain growth whilst aiming at higher built-up densities and achieving a better mobility and spatial and social cohesion.

Sub-centers have also a role to play in territorial planning at the scale of the county. They can be considered as urban outposts, which will make the city more accessible, easier to reach for residents from rural areas. Sub-centers will be supported by zoning regulations. Utilities provision will also be required to ensure effective function of these sub-centres.

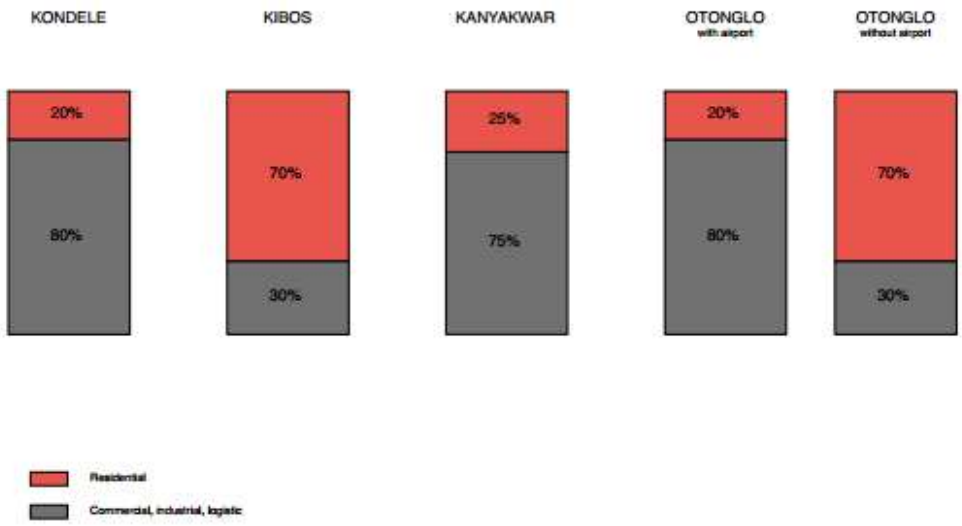
Sub centers should be a concentration of activities catering to population within their catchment area. Typically, activities sub-centers should seek to attract, in addition to specialized land use like industry, functions such as:

- Retail
- Primary health care/pharmacy/dispensary
- Primary education
- Food and beverage
- Delocalized county services (civil register, taxes and licenses)
- Housing (blocks of flats)
- Parks
- Recreation

Proposed sub-centers will support the emergence of a polycentric urban structure, as urban growth precursors they have been chosen according to several criteria:

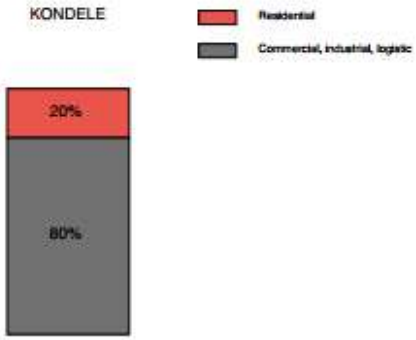
They are all located where activities are informally concentrating already, especially road side trading catering to commuters; they all correspond to an existing, if only limited demand, they are served by the existing road network, essentially main roads;

These sub-centres are intended to attract and anchor urban growth in desired directions and locations, with a specific role within the city for each. The specific guidance on development for each sub-centre is briefly described below:

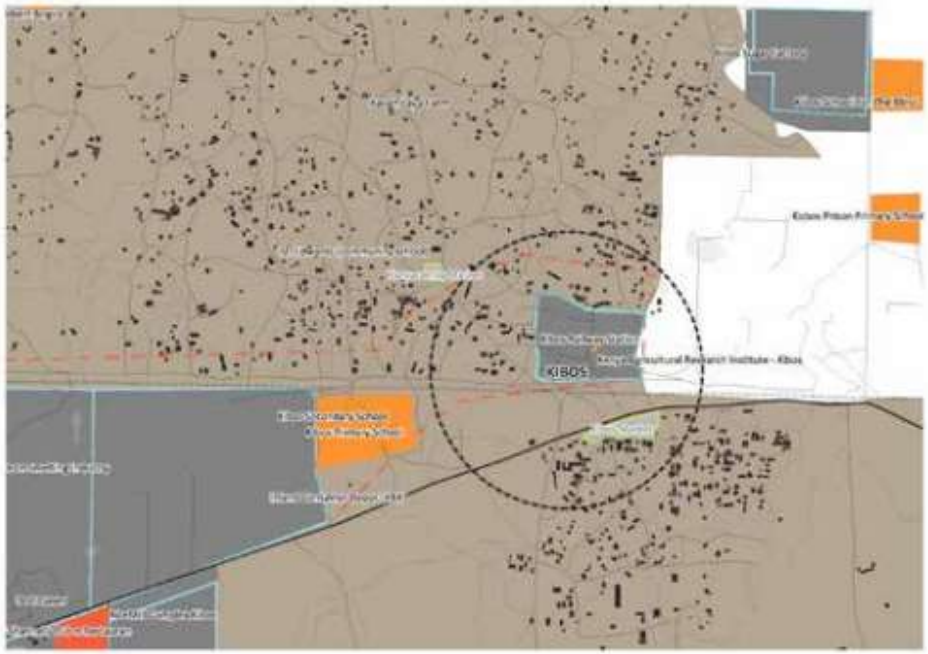


KONDELE

Kondele sub-center is located where important road works are taking place with the construction of a bypass on the upgraded ring road. The whole neighborhood will be transformed by this major piece of infrastructure and "accompanying urban measures" need to be imagined in order to avoid the whole area being sterilized and squattered. Kondele will act as one of the city's main gateways and as such deserves specific planning guidance. Greater building heights should be authorized in this zone so as to be proportionate with the dominating scale of the elevated bypass and ring road. A cluster of high rise buildings should then be authorized in Kondele sub-center with commercial use as the main designation.

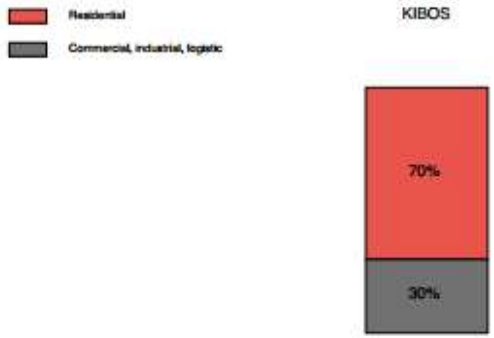


Recommended main landuse distribution



KIBOS

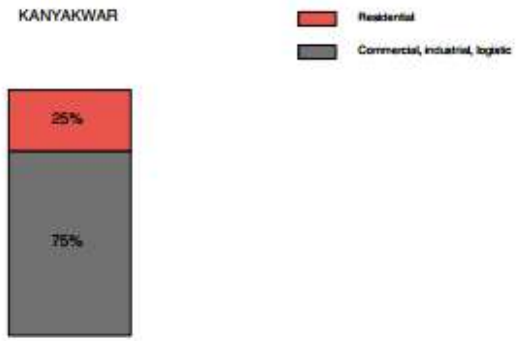
Kibos sub-center is located where two transportation facilities are due for upgrade and revitalization of their activities: dry port and railway station. Both are expected to generate employment hence a need for residential and supporting land uses. Housing and social services will then be key for Kibos sub center which could also cater for the staff in the industries in the area. The area will primarily be an industrial sub-centre with the location of industries to the North of Kibos road and up to the railway tracks.



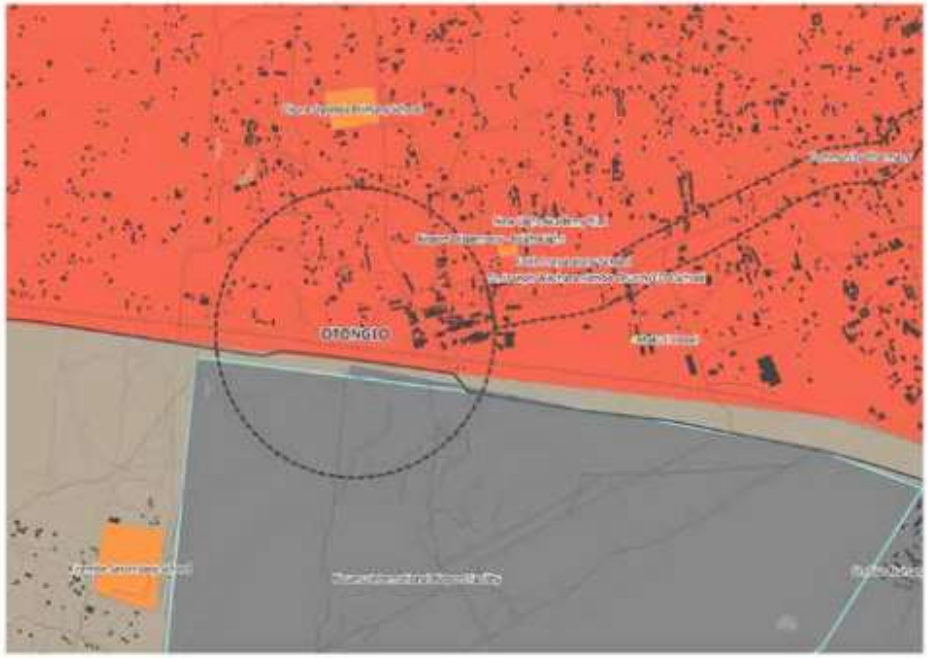
Recommended main landuse distribution

KANYAKWAR

Kanyakwar sub-center is on the northern axis linking Kisumu with Vihiga and Kakamega Counties and further on to the Counties in Western Kenya. The sub-centre to be located in the vicinity of LBDA land holding, with road C34 upgrade and westward extension from the Kakamega road to connect to Busia Road. As the northern gateway to the Rift valley and, closer, to hilltops to the West, this sub center should be predominantly commercial and cater to needs of residents of Kanyakwar and Mamboleo, areas. This sub-center should be developed in coordination with the planned development at the LBDA Headquarters. With a few amendments to the LBDA interventions, this mixed-use project could serve as the Northern sub center.

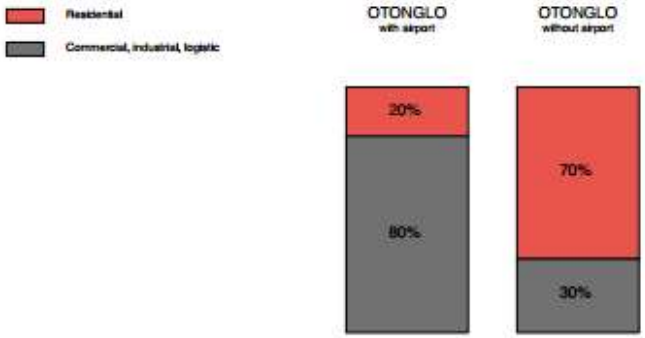


Recommended main landuse distribution



OTONGLO/RIAT

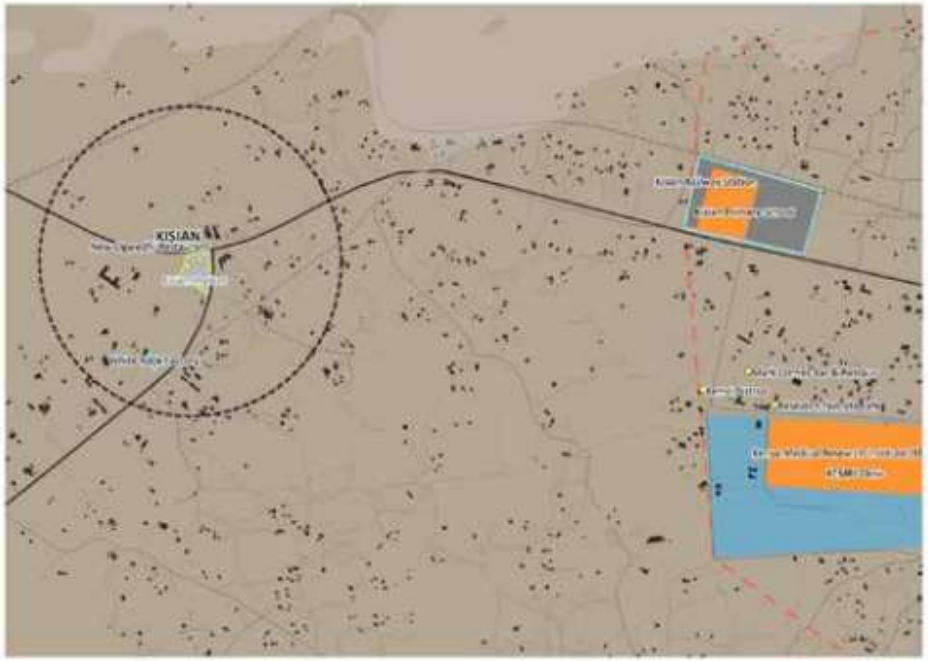
Otonglo/Riat sub-center to the West of the city on the airport road has a key role to play in attracting and agglomerating growth in this part of Kisumu's urban territory; it is the most important of all sub centers but its shape and role will greatly depend on the relocation of the airport (see Airport relocation). However since such relocation would not occur in the near future the planned development should be posited on the growth of the airport in its current location. The sub-centre should grow as a distribution node linked to the airport. This will include warehouses and light industries with a focus on the export market. Ancillary services for the airport could also be located here.

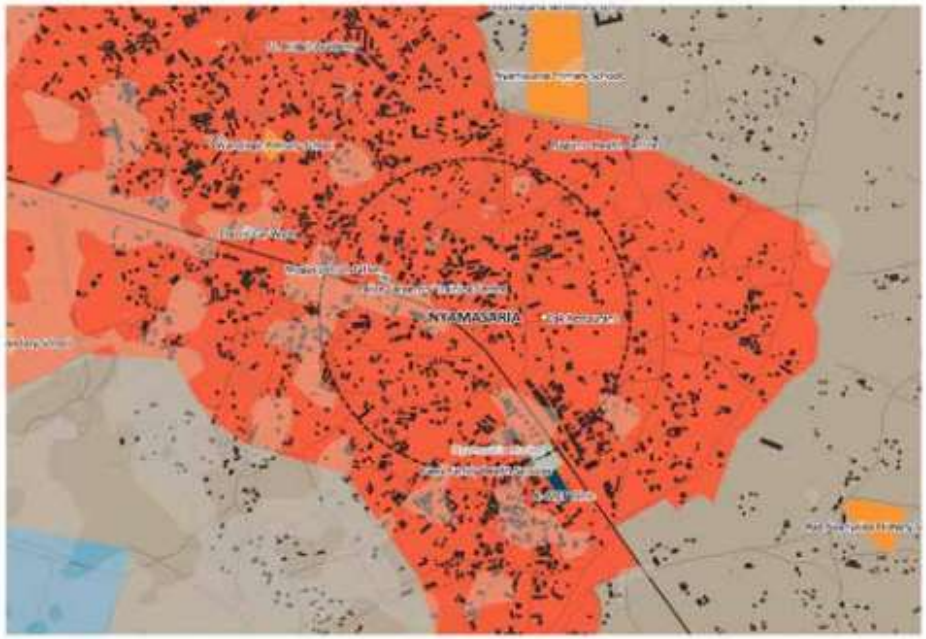


Recommended main landuse distribution

KISIAN

Kisian sub-center is rather remote from the present urban footprint; it will not be developed in the short or medium term but should be planned for in order to shape future growth in the desired direction. The sub-centre can be designed to grow as a commercial centre in the short to medium term for the peri-urban areas of Ojolla, Kisian and Kanyawegi





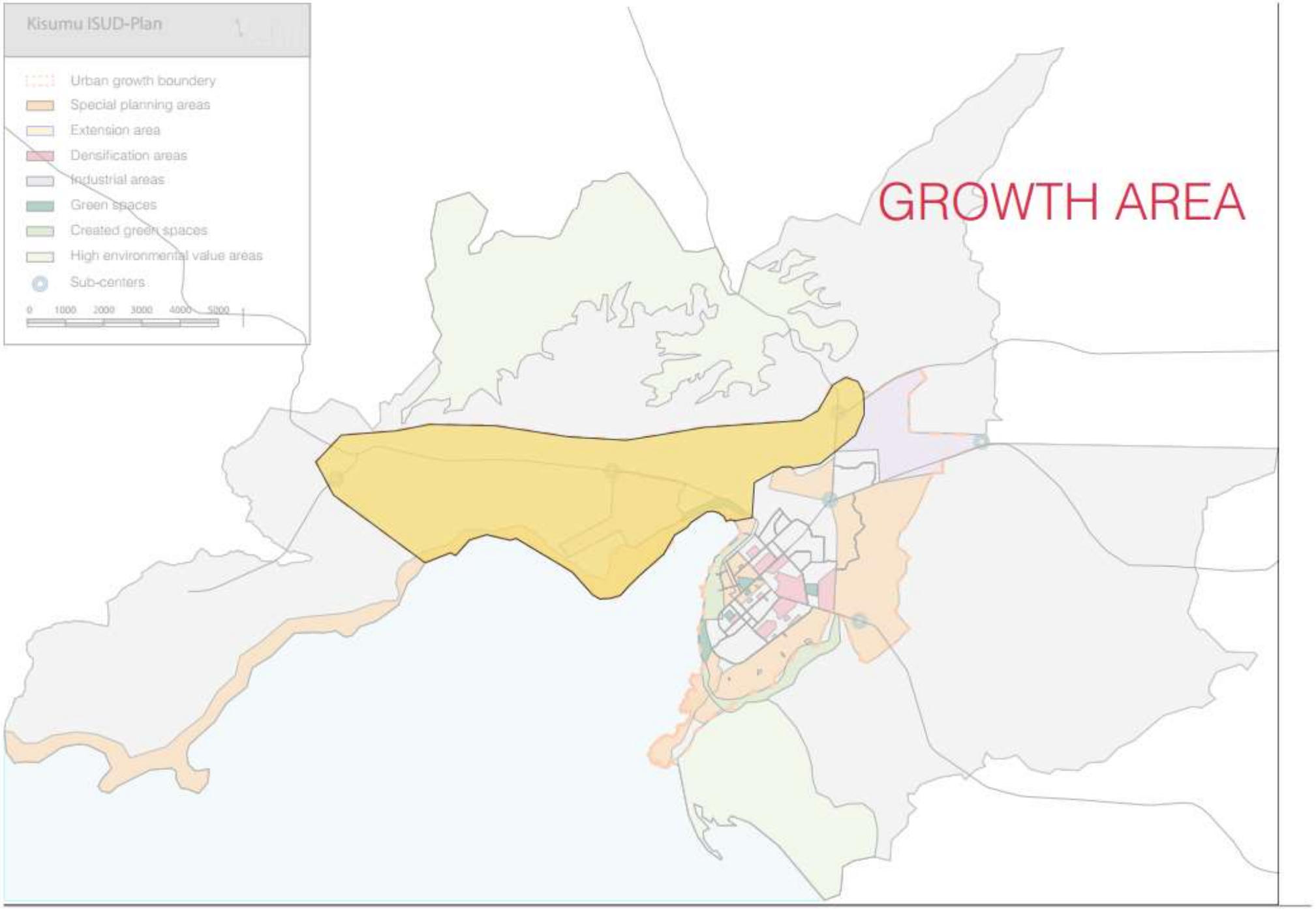
NYAMASARIA

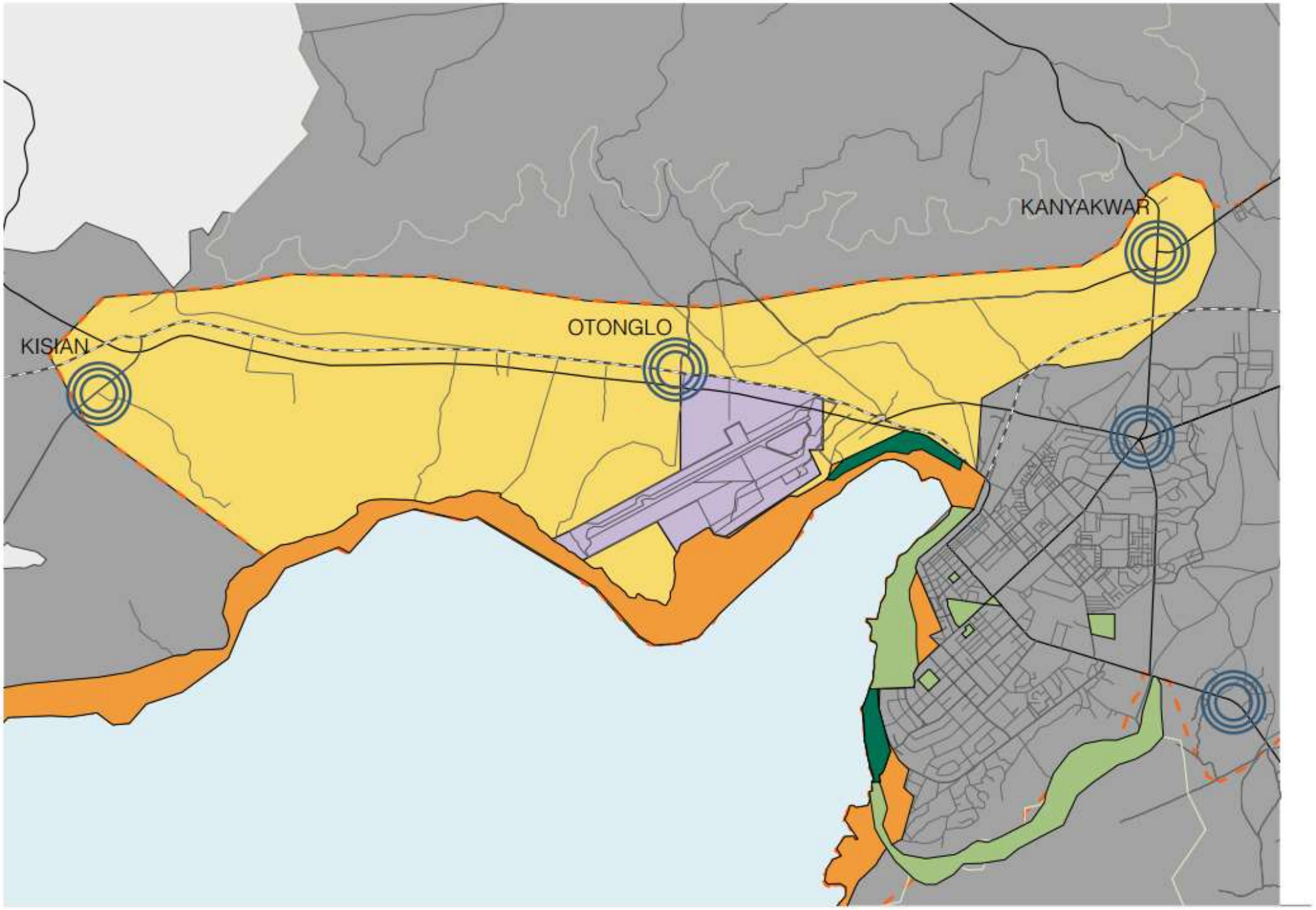
Nyamasaria sub-center to the South of the city is at the junction between Nairobi Road and Nyando River. It would serve residents of Nyamasaria and Kolwa and would be predominantly zoned as retail and services. This sub-center would also act as a remote gateway on South bound routes, to Kendu and Homa Bays.

CORRIDORS

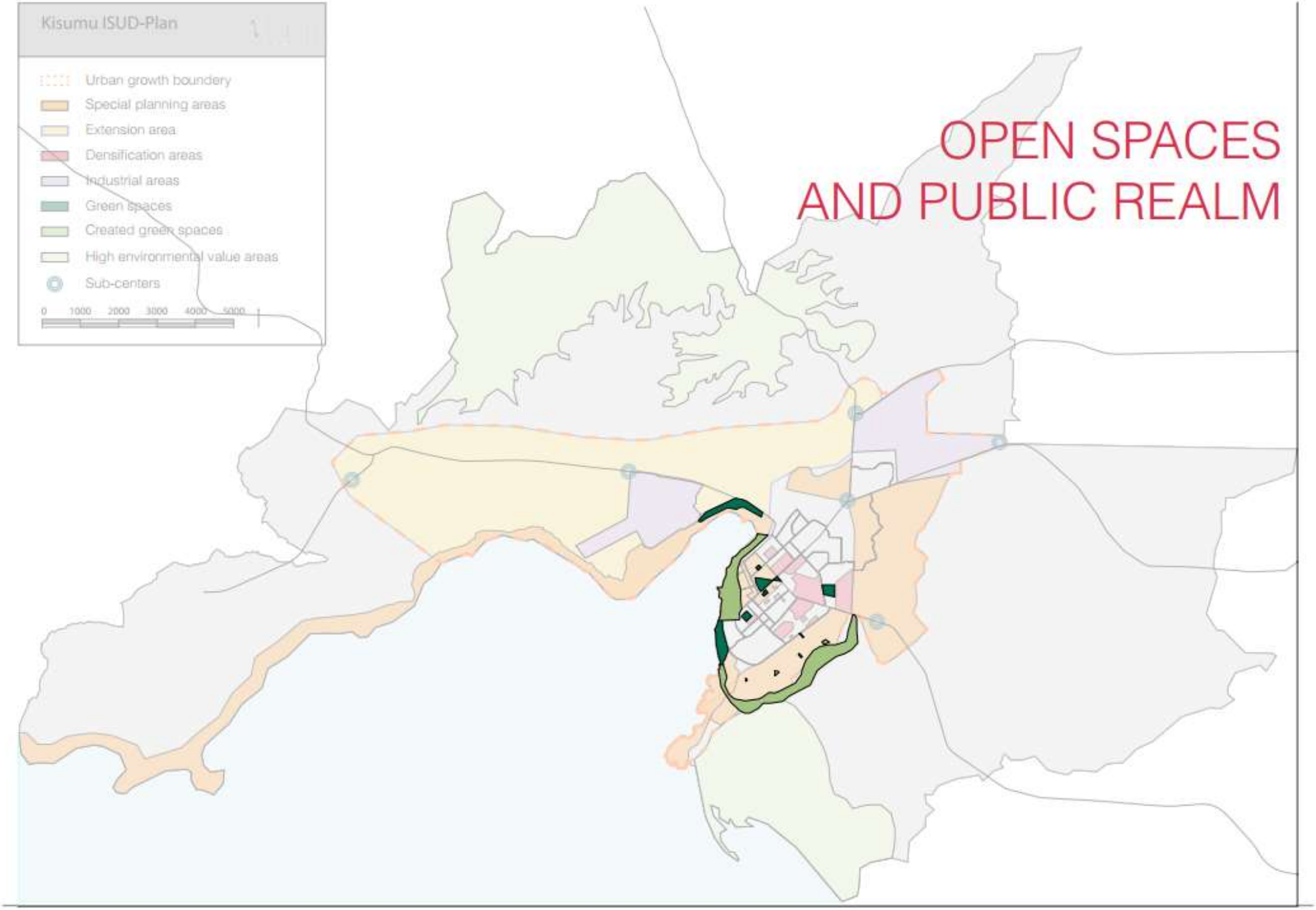
Linkage between the city and sub-centers and among sub-centers themselves will influence how well they will develop. Sub-centers are all located on main roads which are all being upgraded: Kericho-Nyamasaria road, Nyamasaria to Busia Road by-pass through Kondele, Kakamega Road, Kibos–Chiga Road, , which will ease traffic movement and sub centers themselves will add key destinations. These axis have a potential as development corridors requiring planning regulation to turn them into mixed use development corridors.

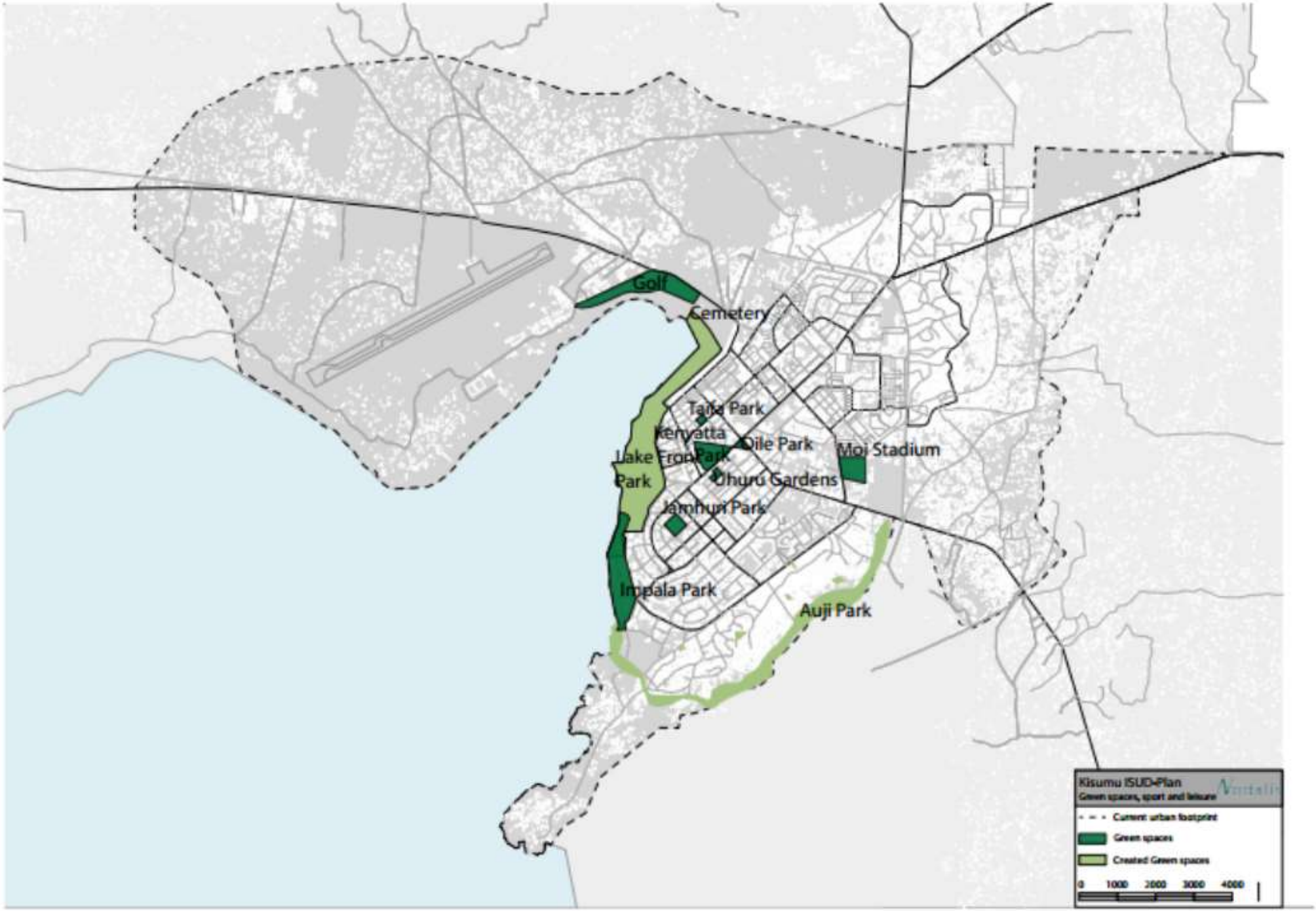
The Kisumu to Kisian portion of B1 Road is a good candidate for a first comprehensive corridor development plan which would allow to leverage funding provided the opportunity is well supported and marketed, including through planning incentives.


Kisumu ISUD-Plan
Urban growth boundery
Special planning areas
Extension area
Densification areas
Industrial areas
Green spaces
Created green spaces
High environmental value areas
Sub-centers
0 1000 2000 3000 4000 5000
GROWTH AREA


KANYAKWAR
OTONGLO
KISIAN

OPEN SPACES AND PUBLIC REALM




Golf
Cemetery
Tarla Park
Kenyatta
Dile Park
Moi Stadium
Lake Front Park
Uhuru Gardens
Jamhuri Park
Impala Park
Auji Park
Kisumu ISUD-Plan
Green spaces, sport and leisure
Current urban footprint
Green spaces
Created Green spaces
0 1000 2000 3000 4000

Open space provision greatly influences quality of life and livability of cities and communities. Kisumu is currently under supplied with quality open spaces which are easily accessible for all and adapted to a variety of uses from sport to leisurely walks and family outings.

The Plan proposes two major new parks:

Lake Front Park

Lake Front Park is created on the mostly green and treed railway and port area on the lakeside. The park is part of the requalification and development of this reclaimed area, of which it will occupy the largest part, remaining space being used for an extension of the CBD with mixed-use development. It will total approximately XX ha and extends from the North of Impala Park to the tip of the Gulf. Lake Front Park is intended as the city's main green and recreation area, it will offer wide access to the shore and lake-related activities, a lakeside promenade, food and beverage kiosks. The park will be centered onto the retrofitted station and port areas. The precise destination of each will be defined through consultations in the course of implementing the plan but should be geared towards leisure, culture and sports. At this stage, it is proposed for the park to be served by: i. a new street extending from Lolwe Drive to Obote Road on the edge of the proposed CBD extension; ii. a new grand avenue extending from Jomo Kenyatta sports ground up to the station, pedestrian walkways extending from CBD perpendicular streets up to the waterside walkway. Exact profile of those two new arteries will be defined once land uses and densities are set.

Auji Creek Park

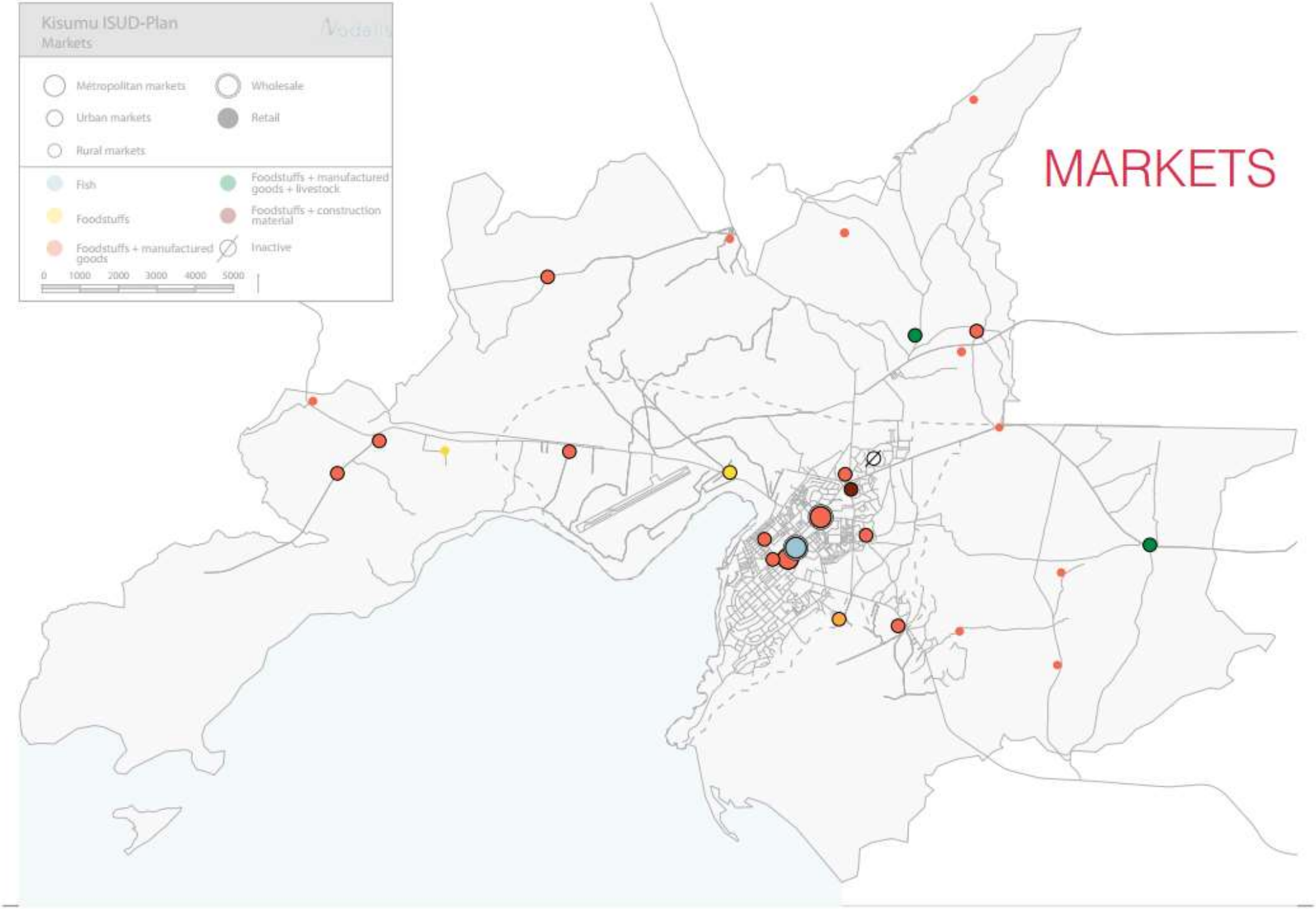
Auji Creek Park is created at the Southern edge of Nyalenda following Auji Creek course, it totals approximately XX ha. It creates a buffer between this area and the protected marsh land and connects Nairobi road with Impala Park. The creation of Auji Creek Park consists in rehabilitating the banks, setting up paths and walkways and tall tree plantations along the creek. The neighboring community can be involved in designing and building up this park. The exact delimitation of the park will require a plot ownership survey; in principle, the park should not encroach on farmland or on protected marsh area. Setting up the park is also an opportunity to

Together these two parks create a public green belt serving the major part of the city. They complement existing parks, Taifa, Kenyatta Sports Ground, Uhuru and Jamhuri, as well as parks to be created as part of restructuring of Nyalenda and other parts of the "slum belt".

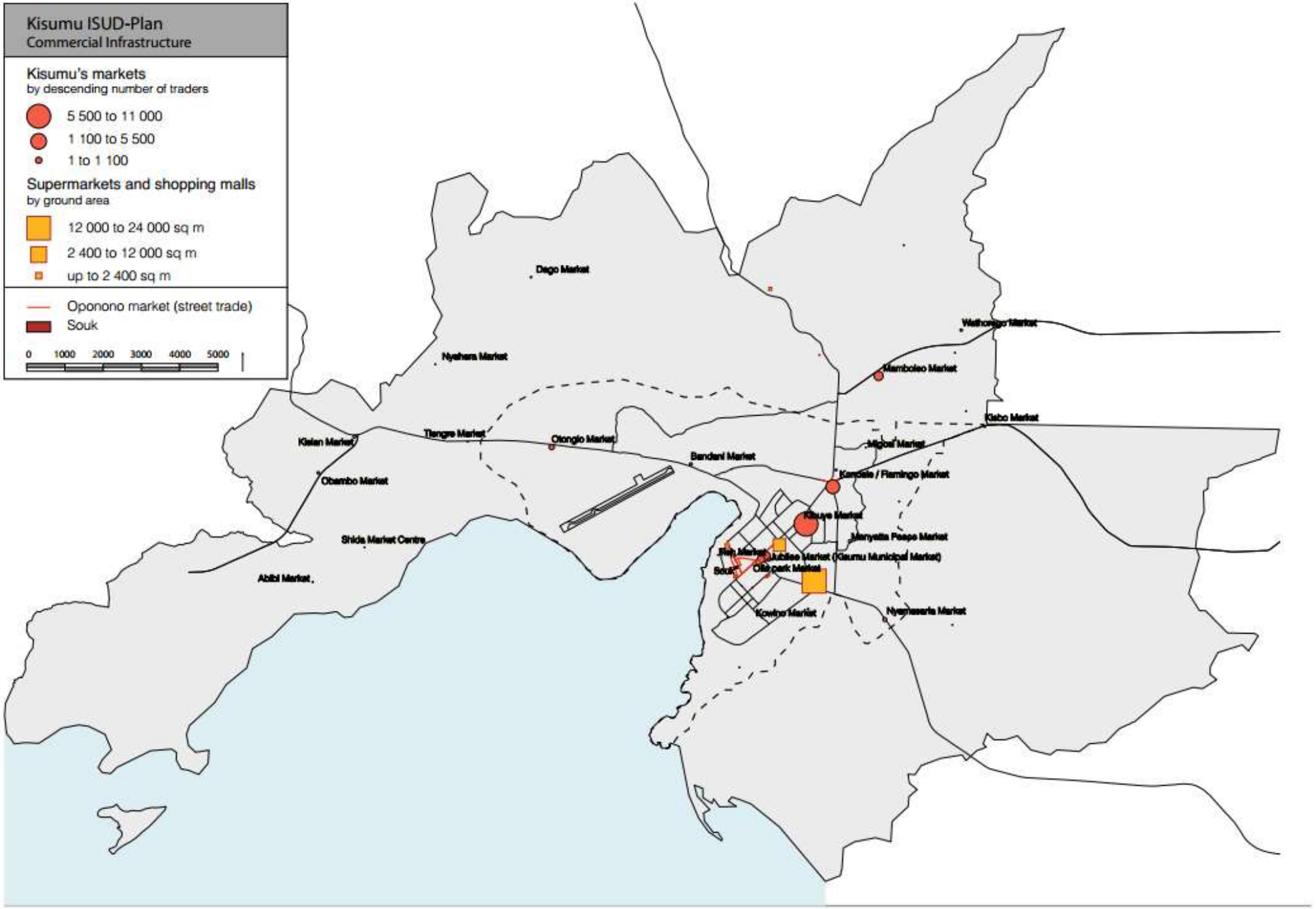
Quality open space provision plays an important role in improving quality of life in a city: it provides quiet, breathing space within the urban fabric, it acts like a clearing allowing for a range of open air activities for urban dwellers and contributes to health conditions, air quality as well as to pleasantness and attractivity of communities and the city at-large. Urban areas should be supplied with open space based on population density at an average ratio of around 11 square meters per resident (international standard), or around 0.4 ha for 1000 for residential neighborhoods. Neighborhoods or community parks need to be well distributed throughout the city to ensure good accessibility.

In a city the size of Kisumu, two categories of parks be recommended: community parks, such as the ones planned for in Nyalenda, and, metropolitan parks, such as the to-be-created Lake Front Park and Auji Creek Park, in large residential communities, smaller neighborhood parks should also be planned for; existing parks, mostly concentrated in downtown Kisumu deserve, for their part, to be better kept.

Quality parks have an iconic character in many cities for which there are part of the their image and reputation, this is true of Paris, London or New York for instance both for public parks such as the Luxembourg Garden, Central Park or Hyde Park and the number, repartition and quality of smaller neighborhood “squares”.


Kisumu ISUD-Plan
Markets
Métropolitan markets
Urban markets
Rural markets
Wholesale
Retail
Fish
Foodstuffs
Foodstuffs + manufactured goods
Foodstuffs + manufactured goods + livestock
Foodstuffs + construction material
Inactive
0 1000 2000 3000 4000 5000

MARKETS


Kisumu ISUD-Plan
Commercial Infrastructure
Kisumu's markets
by descending number of traders
5 500 to 11 000
1 100 to 5 500
1 to 1 100
Supermarkets and shopping malls
by ground area
12 000 to 24 000 sq m
2 400 to 12 000 sq m
up to 2 400 sq m
Oponono market (street trade)
Souk
0 1000 2000 3000 4000 5000
Dago Market
Nyahera Market
Kisian Market
Tengre Market
Otonglo Market
Bandani Market
Obambo Market
Shida Market Centre
Abiti Market
Kibuye Market
Kondele / Flamingo Market
Migosi Market
Kibos Market
Manyatta Peace Market
Jubilee Market (Kisumu Municipal Market)
Kowino Market
Nyamasaria Market

Part I of the ISUD Plan provides detailed information on selected markets, as well as preliminary investments priorities as formulated by the markets stakeholders. Presented here is the implementation proposal of the Plan's market strategy.

Commercial activity is not only part of Kisumu's cultural heritage; it is also the city's biggest economic sector and allegedly the first employer in Kisumu.

An overview of the market sector mapping, drawn from the GIS database, is shown on the map to the left page.

Challenges posed by Kisumu's commercial infrastructure are:

- Existing markets are outdated, ill-equipped and fail to attract customers;
- Existing markets are not sufficiently specialised and lack sector-specific infrastructure. In this respect the city notably lacks a proper wholesale market which should be located at an easily accessible position on the outskirts of the city instead of at its gate as in Kibuye and for the fish market;
- Growing competition of shopping malls and supermarkets which capture more affluent customers;
- The need to properly accommodate a large portion of hawkers and "informal" traders to improve public realm and traffic conditions without depriving them of their source of income. Their number is estimated at 15 000 people;
- The need to accommodate a large number of displaced traders in an adequate location which also need to be approved by the traders themselves. Considering the number of markets due for demolition, the relocation concerns about 1240 traders who are currently working at improper locations such as road reserves.

Based on this analysis, three strategic goals are proposed to guide the restructuring and upgrading of Kisumu's commercial infrastructure in the framework of the ISUD – Plan:

- Implement a sustainable solution for hawkers along major arterial roads (24 hour economy);
- Upgrade and develop major metropolitan markets, improve and favour access of local goods to them;
- Promote the specialisation and diversification of Kisumu's markets network: suburban markets and central market places.

Name	Typology	SCORE 1	average number of traders/day	SCORE 2	Average daily revenue (Kshs)	SCORE 3	Land Tenure Status	SCORE 4	Location	SCORE 5	TOTAL
KIBUYE MARKET (retail)	metropolitan	9	8 000	3	19 405	3	secured	18	existing urban	3	36
KIBUYE MARKET (wholesale)	metropolitan	9	2 800	2	15 835	3	secured	18	existing urban	3	35
JUBILEE MARKET	metropolitan	9	2 000	1	15 703	3	secured	18	existing urban	3	34
MAMBOLEO MARKET	urban	3	2 000	2	1 906	1	secured	18	close to propos	9	33
AYANGA/NYAWITA MARKET	urban	3	120	1	510	1	secured (donat	18	close to propos	9	32
WATHOREGO MARKET	urban	3	200	1	270	1	secured (comm	18	close to propos	9	32
FISH MARKET	metropolitan	9	300	1	660	1	secured + adeq	18	existing urban	3	32
DAGO MARKET	urban	3	85	1	280	1	secured	18	peripheral	6	29
OBAMBO MARKET	urban	3	180	1	613	1	secured	18	peripheral	6	29
KIBOSWA	rural	0	160	1	3 080	1	secured	18	peripheral	6	26
OJOLLA MARKET	rural	0	300	1	100	1	secured	18	peripheral	6	26
K'OWINO/PANDPIERI MARKET	urban	3	100	1	1 725	1	secured	18	existing urban	3	26
MANYATTA MARKET	urban	3	50	1	670	1	secured	18	existing urban	3	26
MIGOSI MARKET	urban	3	8	1	unknown	0	secured	18	existing urban	3	25
CHIGA MARKET	urban	3	300	1	615	1	secured except	12	peripheral	6	23
KONDELE FLAMINGO MARKET	urban	3	4 000	2	4 660	2	not secured (ro	6	close to propos	9	22
NYAMASARIA MARKET	urban	3	500	1	620	1	due for partial	6	close to propos	9	20
OTONGLO MARKET	urban	3	800	1	495	1	due for partial	6	close to propos	9	20
GITA MARKET	rural	0		0	0	0	land needs to b	12	peripheral	6	18
KIBOS MARKET	rural	0	150	1	615	1	not secured (la	6	close to propos	9	17
KISIAN MARKET	urban	3	300	1	998	1	due for demolit	0	close to propos	9	14
OILE PARK MARKET	urban	3	1 500	1	14 000	3	not secured	6	CBD	0	13
OPONONO	oponono	6	15 000	3	2 000	1	not secured	0	CBD	0	10

Forty-four markets have been taken into consideration in the priority ranking exercise, including the informal sector category under the name of "Oponono market". These market places are all due for some form of upgrading or urban renewal. In order to phase interventions and investments, a priority ranking has been applied to eligible market places. The following criteria and scoring process was used:

Criterion 1 Typology

0 rural market
1 urban market
2 Oponono market
3 metropolitan market

Criterion 2 Potential beneficiaries

(based on number of traders)

0 unknown
1 >1 600 persons
2 <1 600 to 3 200
3 <3 200 persons

Criterion 3 Potential income generation

(based on estimated average daily income per market)

0 unknown
1 >3500 Kshs
2 <3 500 to 7 000Kshs
3 <10 000 Kshs

Criterion 4 Land issues

0 due for demolition
1 unsecured occupation
2 partially secured occupation
3 land tenure is not a problem

Criterion 5 Location

(contribution to the emergence of sub-centres)

0 within CBD
1 within existing urban footprint
2 peripheral location
3 proximity to proposed new polarity

Criterion 4 has been given the most important weight (x6) while criteria 1 and 5 have been given an equal weight (x3). The other criteria have not been weighted.

The result of the ranking for the first 23 prioritised markets (total scoring > 10) is presented in Table 1. The priority ranking tool is an .XLS file which has been included in the GIS data base and will be availed to the City's governing authorities for further use and up-dating.

The priority ranking is designed to guide investments towards markets which present interesting economic opportunities (high potential revenue generation, minimised risks associated with land issues) and are of strategic interest for the city's economic and spatial development (potential beneficiaries, strategic location in coherence with the proposed ISUD – Plan).

In addition gender and pro-poor aspects should also be considered, as well as the heritage value of some of the markets, such as Jubilee built in 1935. Stressing the contribution to these aspects would allow additional resource mobilization. Governance of the refurbished markets should be improved as part of the overhauling project and the capacity of their management be supported.

The following developments concern guidelines and proposals for targeted interventions under the three proposed strategic axis. Those guidelines should be used when contracting a firm for the preparation of preliminary designs, detailed designs and bidding documents.

STREET TRADING INTEGRATION

Objectives:

Accommodate informal traders and offer alternatives for traders displaced following major infrastructure works; improve their working conditions, increase their revenue.

Proposed interventions:

A twofold solution to accommodate part of the estimated 15 000 traders is contemplated. On the one-hand it is proposed to set-up a number of high quality design kiosks in the main streets of the city centre; on the other hand souks could be built in locations to be determined both in the periphery and within the city.

Beneficiaries:

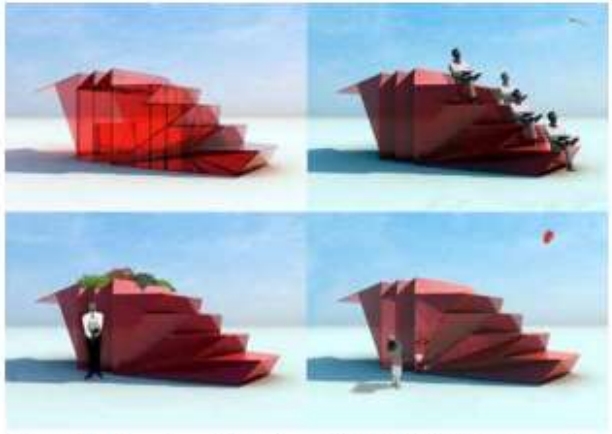
The kiosks proposal only constitutes a partial solution. Building 100 kiosks in a pilot phase would only allow accommodating around 300 traders. The souk proposal needs to be tested with a pilot phase for a number of hawkers and product range to be determined.

Building of 100 urban kiosks

Urban kiosks are a structuring amenity of urban spaces; they mark a city's identity and provide essential proximity services to residents and visitors alike. They provide a selling point for all kind of products (foodstuff, beverages, newspapers, small household goods, artefacts, etc.).

Kiosks should be tailor-made for hawkers in terms of design, location and licensing cost. Design should be simple and the structure robust, easy to maintain and safe, it should allow for advertising space and privilege solar power. Location would be according to patronage areas, street and traffic conditions, safety, and existing retail. Licensing cost should be built based on kiosk construction costs and predictable revenue and profit from trading.

Kiosks should be allocated under a concession regime to members of the hawkers association; they could be auctioned in groups according to neighbourhoods or specialization with best offer evaluated according to financial, management and operation and service criteria. Use of renewable energy and ability to generate additional revenues, through advertising for instance, should be rewarded as should the efficiency of the bidder proposed strategy for the visible and lasting removal of hawkers and their relocation into the kiosks.



Oru Kiosks by Studio SKLIM (2008) Merlion Park, Singapore

Thomas Heatherwick's newpaper kiosk, London

The Office of Experiments Kiosk, Peckham Square, South London

Solar kiosk (Solarkiosk (GmbH), Lake Langano, Ethiopia

The Swiss Army Knife Kiosk, Singapore

Ecokiosk, (R&R Associates using natural heating, Air and Light solution, recyclable material, and reuse of water among other eco-friendly techniques

Proposed location:

In order to ensure the economic viability of the kiosk networks, a first step is to locate those to be set up in the pilot phase in spots currently used by street traders where they would not cause a problem for circulation, for instance along major arterial roads in the CBD. Their density and exact location will need to be the object of a detailed study and in coordination with hawkers associations.

Conceptual design:

A kiosk is basically a booth with openings on one or several sides. Design solutions are numerous but the Kisumu urban kiosk should be designed in accordance with the following principles:

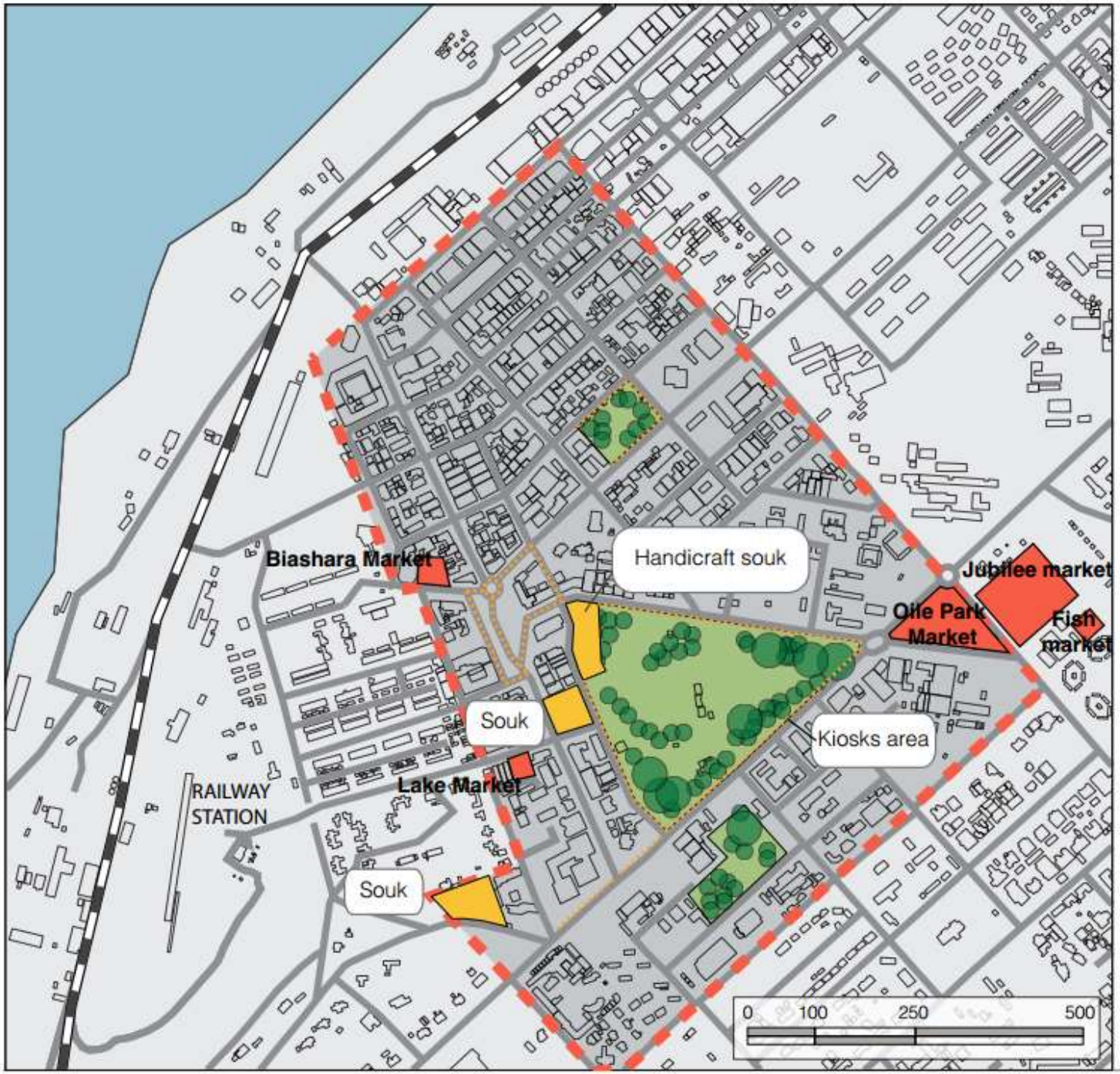
- Dimensions should limit occupation of public space and allow good operation of the kiosk;
- Materials and building solutions should ensure kiosks are easy to build, maintain and dismantle, as well as durability and reasonable inviolability;
- Power and water supply should include self-supply;
- The kiosk shall include : dry and cold storage spaces, , display, basic cooking;
- Advertising space should be planned for;
- Building costs need to be optimized.

Different typologies may be envisaged according to the location, in order to improve the adequacy between the kiosk design and the immediate urban environment.

Next steps:

Physical and management aspects will be prepared in parallel:

- Planning regulation and choice of locations for the urban kiosks;
- Launch a Design and Build competition for 100 urban kiosks;
- Award contract and launch work;
- Prepare concession arrangement and auctioning process
- Prepare detailed management and operations arrangement.


Biashara Market
Handicraft souk
Jubilee market
Oile Park Market
Fish market
Souk
Kiosks area
RAILWAY STATION
Lake Market
Souk
0
100
250
500

Building of 3 souks

Historically, souks were located outside cities in the Middle East and North Africa. Later, due to the importance of the marketplace and the growth of cities, the locations of souks shifted to urban centres and permanent covered structures began to emerge in medinas.
Souks are traditionally divided into specialized sections dealing in specific types of product after which they are named: gold souk, fabric souk, spices souk, leather souk, and copy souk (for books), etc. This promotes competition among traders and helps buyers compare goods and prices. The souk typology allows for density, adaptability to a large range of trades, security (the souk's main gates is closed at night).

Currently, Kisumu has one "souk" located at the junction between New Station and Bank Roads. It is managed by one private owner to whom traders pay an occupancy fee.

Building new souks in selected locations would allow accommodating hawkers in refurbished markets.

Location:

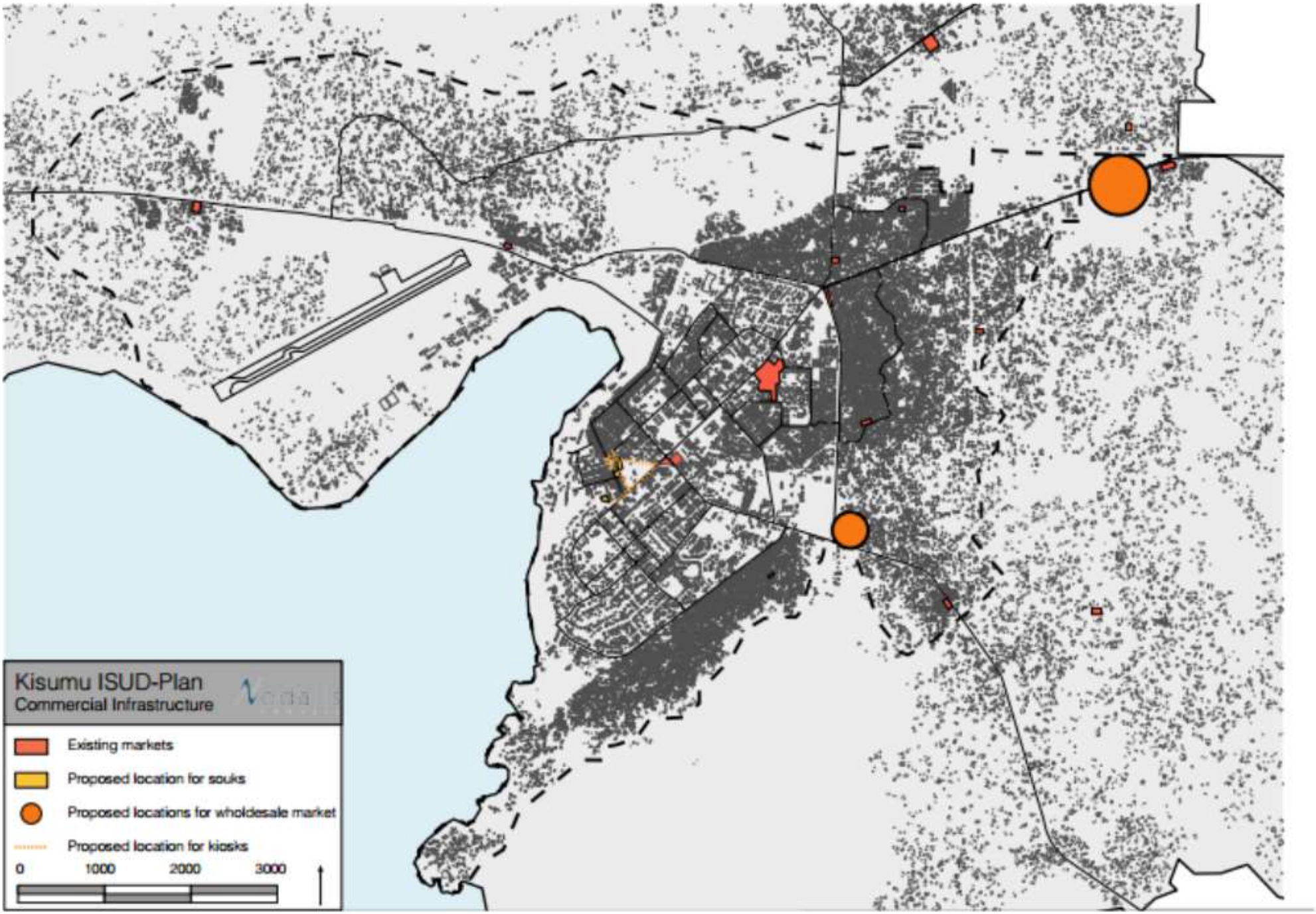
The map on the left shows proposed locations for the pilot souks.

Conceptual design:

The souk is composed of small units (about 4 sq. m per trader) and is based on an orthogonal design around one main street or alley

Next steps:

- Feasibility study, cost estimates, detailed engineering designs and bidding documents for 1 to 3 souks to accommodate about a thousand of traders.


Kisumu ISUD-Plan
Commercial Infrastructure
Existing markets
Proposed location for souks
Proposed locations for wholdesale market
Proposed location for kiosks
0
1000
2000
3000

UPGRADE AND DEVELOP METROPOLITAN MARKETS

Objectives:

Rationalise Kisumu's commercial infrastructure by separating wholesale trade and retail activities, relocate hawkers, improve traffic conditions and quality of public spaces at the city's gates.

Proposed interventions:

- Kisumu wholesale market
- Restructuring of the metropolitan markets - Kibuye and Jubilee Market (long term)

Beneficiaries:

3 100 wholesalers from Kibuye and Fish markets, 10 000 traders from Kibuye and Jubilee market.

Building of Kisumu Wholesale market

Wholesale activity is currently located within Kibuye and Fish markets which occupy strategic pieces of land on the city's main entrance road – Jomo Kenyatta Highway. In view of improving trade and operation wholesale and retail should be separated. The creation of a wholesale market in Kibos, as part of a to-be-created suc-center, will reduce traffic congetion in dowtonwn Kisumu, reorganize supply for retail markets qnd hawker and should help attract an augmented production of local goods ; the wholesale market should also be conceived as a facility for export, nationnally and internationally.
The new wholesale market should be accessible to the estimated 3 100 wholesalers currently working in Kibuye and Fish markets.

As allowed by the Public Private Partnership Act, 2013, this project could be delivered through a PPP arrangement. A specific study should be undertaken should this option be retained.

It is anticipated that the relocation of wholesale trade in this new facility will support the extension and upgrading of the two metropolitan markets of Kibuye and Jubilee.

Location:

The location of the Kibuye Wholesale Market will be identified during the feasibility study. The map on the left shows proposed locations for this new market. It is critical that the identified land be a public asset and that all land issue be clarified before the PPP consultation process is launched.

Conceptual design:

Kisumu Wholesale Market should:

- be well accessible and connected with logistics infrastructure;
- have require equipment (fridges, storage capacity, loading and offloading platforms…);
- be able to process wastes on site in a sustainable way and in conformity NEMA standards;

Next steps:

- Fence Kibuye Market and Jubilee Market in order to physically mark the final extension of both metropolitan market, strengthen security and avoid complications that might arise from the project;
- Feasibility Study for the Wholesale Market. The study will : identify and secure a well located and sized piece of land with the County government; prepare wholesale traders profiling and needs evaluation, assessment of their contributing capacities; analysis of institutional and management framework for the market operations, risk assessments; phased wholesale trader relocation plan, and finally, preparation of bidding documents for the DBO;
- Submission to the Cabinet for approval;
- Launch consultation for Design Build and Operate new wholesale market;

A SPECIALIZED AND DIVERSIFIED MARKETS NETWORK

Objectives:

Promote the new multipolar development strategy for Kisumu by strengthening strategic commercial nodes and supporting the emergence of new ones

Proposed intervention:

The needs for upgrading Kisumu's main markets are important. Most of the market date back from the first half of the twentieth century, they lack basic sanitary infrastructure, lighting, water & sanitation, security (most of the markets are not properly fenced) and are often overcrowded. Deteriorating conditions are affecting business and sending a growing number of customers to malls, several of these are about to be delivered in the coming months

By combining a phased approach, based on the priority ranking and mixing quick win projects with more ambitious interventions, the city shall achieve a general upgrading of its commercial infrastructure by 2030.

As a first step, investment should focus on four markets located at structuring nodes of the city and with a key role to play in achieving the desired growth patterns for Kisumu.

Beneficiaries:

2000 traders in Mamboleo, 500 traders in Obambo, 1500 traders in Otonglo Market;

Four comprehensive upgrading projects are proposed in an initial phase; further to rehabilitation works the investments aim at increasing the capacity of the selected market to encourage concentration of traders in dedicated and well-designed facilities and attract more customers.

Upgrading of Mamboleo Market

Mamboleo market is a daily market operating on Tuesdays. It started in 1988 in Kajulu West, North of the city, off Kisumu-Miwani Road (A1) and is now the second largest income earner after Kibuye. The market accommodate about 2 000 traders offering foodstuff, manufactured goods, artisanal products and livestock from the whole country.

The market management seems to be working well, with a clear vision of what they would like to achieve. However, security constitutes a challenge, especially as many women operators work until 8 pm.

Upgrading priorities identified by the markets stakeholders are as follows:

- Permanent multi storey-stalls all around the market to close it and better control the access;
- The stalls should have provision for storage and improving the market's visibility from the main road;
- Clear division between market sections and adapted stall design;
- Electricity and lighting (onsite production for Jua Kali artisans);
- Permanent water supply (the site is already connected to the KIWASCO network);
- Upgrading and drainage of the access road linking the market with the Kisumu – Miwani road (currently a murram road);
- Paving and drainage of the open ground;
- Meeting hall;

Upgrading of Obambo Market

Obambo market is a typical rural market, it operates daily and market day is on Thursday. It started in the 1960's, west of Kisumu, off the Bondo Road (C 27). The goods exchanged in the market originated from local suppliers mainly and include foodstuff, manufactured goods and artisanal products. There are only 180 traders operating in this market; its strategic location and the upgrading of the city's main roads offer an interesting growth potential.

Although the market benefited from a CDF facility to build sheds and one toilet, several upgrading priorities have been identified by the stakeholders:

- Water stand for traders (it is currently collected from a shallow well one km away from the market),
- Toilets (there is only one door pit latrine located 300 m from the market);
- Lighting;
- Solid Waste disposal;
- Storage facility;

Relocation and upgrading Otonglo Market

Otonglo Market is originally a community market which started in 1945. It operates daily in South West Kisumu Location. It is located immediately off Busia Road (B1) and is affected by the road work. Although there are only 500 stalls approximately, about 800 traders work in this market and sell foodstuff and vegetables in particular, manufactured goods and artisanal products originating from various local and regional providers. The market is close to a Public Transport Terminus and as such has a strong potential to serve as a magnet in the consolidation of a new polarity within the urban structure.

The market is subject to seasonal flooding, critical sanitation problem and the traders face serious security issues; stalls are vandalised for fuel wood and scrap metal. Selected investment priorities include:

- Permanent structure and drainage to protect the market from bad weather and flooding;
- Fences and gates;
- Lighting
- Potable water (the road extension is condemning the shallow well)

Leisure market in Oile Park

Oile Park has never been an official market yet it is a bustling daily market and one of the major revenue generators for the city's authorities. The market is framed by three tarmac roads: Jomo Kenyatta highway to the West, Angawa Avenue to the South and Kisumu – Busia road to the East. The eastern side of the market, facing Jubilee market is a terminus for public transport (including long haul) but all three roads actually serve as drop-off points for public transport.

The market normally accommodates 1 500 traders but their number can rise up to 2000 people. They essentially sell foodstuffs (prepared fish meals) and clothes from Nairobi (mostly second hand import). It is managed autonomously and there is a strong competition with the traders from the nearby Jubilee market.

This market allows hawkers to make a limited profit. Also the disorder and the semi-permanent timber structure hamper the attractiveness of the market which could be a major attractor for tourists because of its location (CBD) and the many surrounding trees.

The Council recently built a six door toilet and water is bought from the nearby YMCA. Other investments would help to enhance the market attractiveness and definitely acknowledge the value and legitimacy of the Oile Park Market:

- Preserved open park, street furniture and green paths;
- Two permanent structures to separate the commercial activities (food court on the one side and clothes on the other side, possibly multi-storeyed);
- Parking;

"Green technologies"
In order to increase sustainability of the investments, calling on innovative technologies such as biogas plants, rain water collection etc should be considered. For instance, public toilets are a common option in many open air markets. Due to lack of sewage treatment systems, effluent passes through drains to end up in water bodies causing severe health and hygiene hazards and damaging the marine environment. Recycling and reuse of human excreta for biogas generation is a possible solution to address this issue. Moreover, biogas can be used for cooking, lighting and electricity generation. Such biogas plants linked with public toilets have been implemented in Nairobi the technology is well documented worldwide. Building of public toilets and biogas plant could be tested in selected markets in Kisumu, although this solution requires a certain of know-how and poses management and maintenance challenges.

Location:

Markets will be up-graded on site.

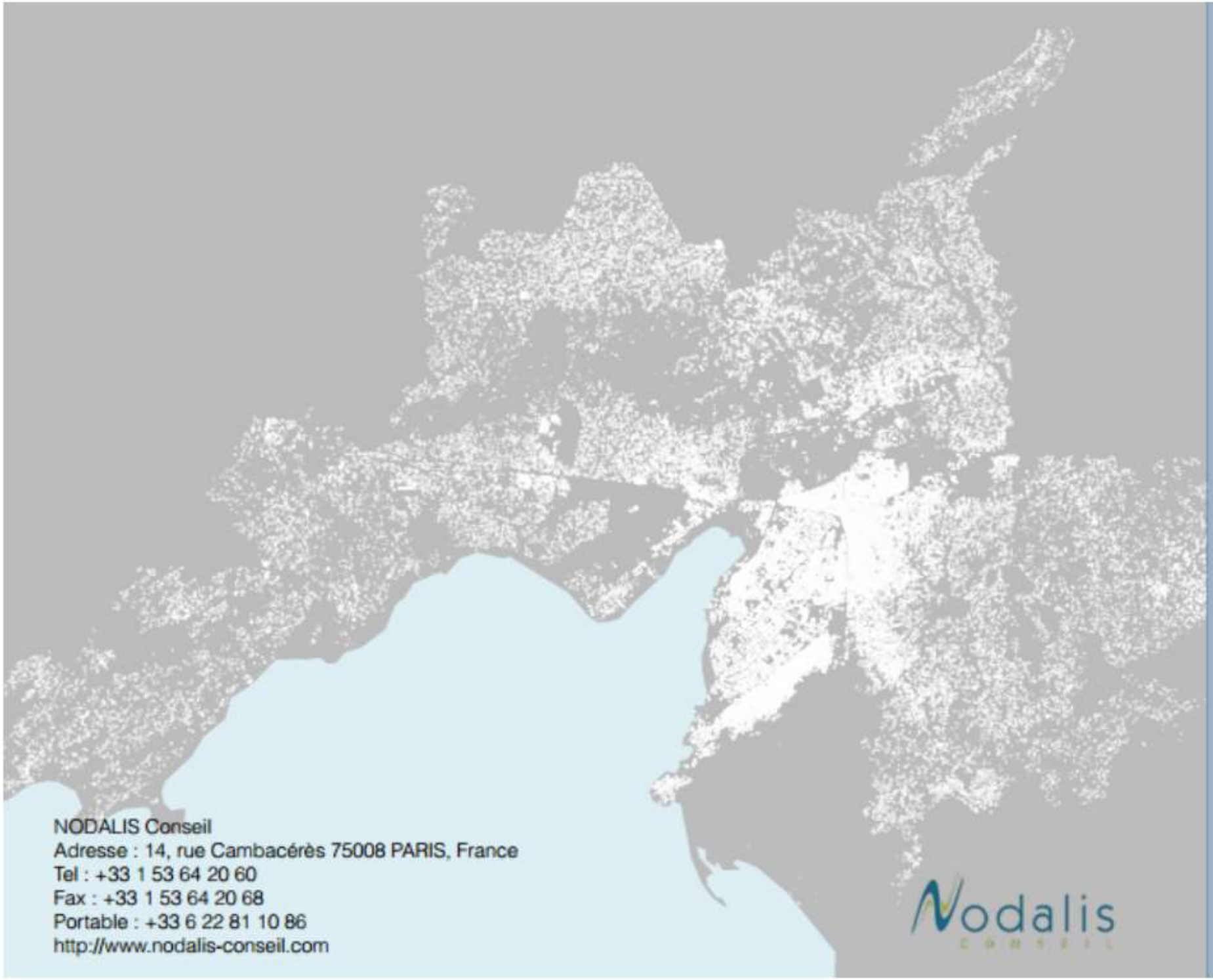
Conceptual design:

As the vocation and the investment priorities vary greatly from one retail market to another, design for upgrading works will also have to be adapted to the particular context of each of those four markets. Nonetheless a few principles may be outlined to guide the preliminary design process:

- Tailored structures to user's expectations;
- Local materials and building techniques;
- Possibility to employ traders for a portion of the work in order to foster ownership and enhance their sense of responsibility;
- Sustainable systems for access to basic services (lighting and water essentially);

Next steps:

- Launch feasibility study, cost estimates, detailed engineering design and bidding documents for upgrading works in the four selected markets.



NODALIS Conseil
Adresse : 14, rue Cambacérès 75008 PARIS, France
Tel : +33 1 53 64 20 60
Fax : +33 1 53 64 20 68
Portable : +33 6 22 81 10 86
http://www.nodalis-conseil.com

Nodalis
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