

UPA in Kigali Master Plan

The number one constraint to sustainable development of UPA is unsecure land occupation

The real constraints:

UPA is facing a difficult context in high competition for land use, pressure for urbanisation, housing and industry



Complexity of land ownership with overlap of traditional land rights and private, public claims for the same plots



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More related constraints:

Lack of urban planning

Weak enforcement of urban planning

The perception of “space” is different according to the environment and urbanization density and its position in the urban-rural continuum

Peri-urban green zones

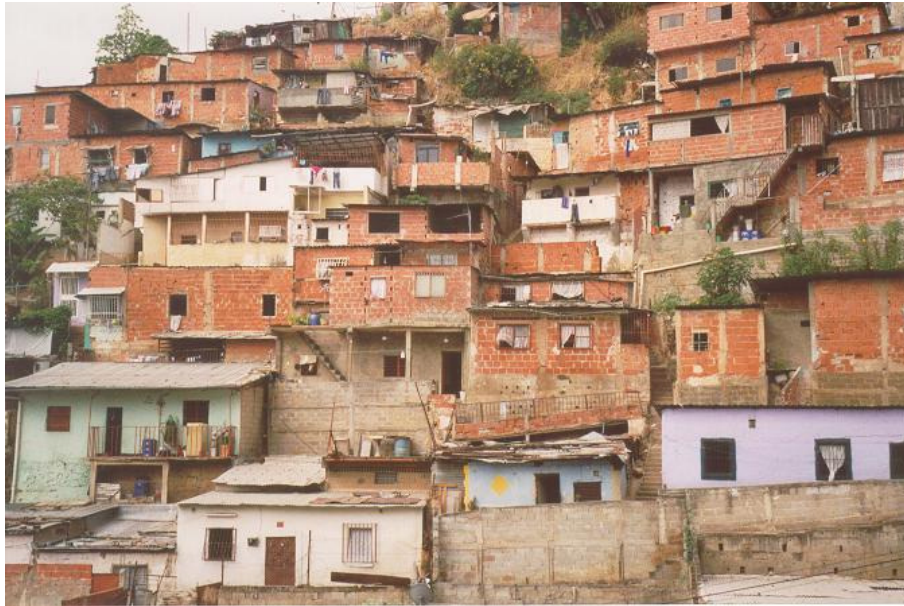




Backyard gardens



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Terraces and balconies





Roofs tops



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KIGALI CITY



As a result of PAPUK with support of FOA projects GDCP/RWA/014/MUL (Kigali-Rome twinning agreement), and TCP/RWA/3101, the Mayor of Kigali has become motivated about integrating UPA in the city Master Plan...

Objective/justification

- To integrate UPA into the urban growth process that will guide the growth and development of Kigali City in a manner that makes the best sustainable use of available land, water and infrastructure to the best interest of it's population and the environment .

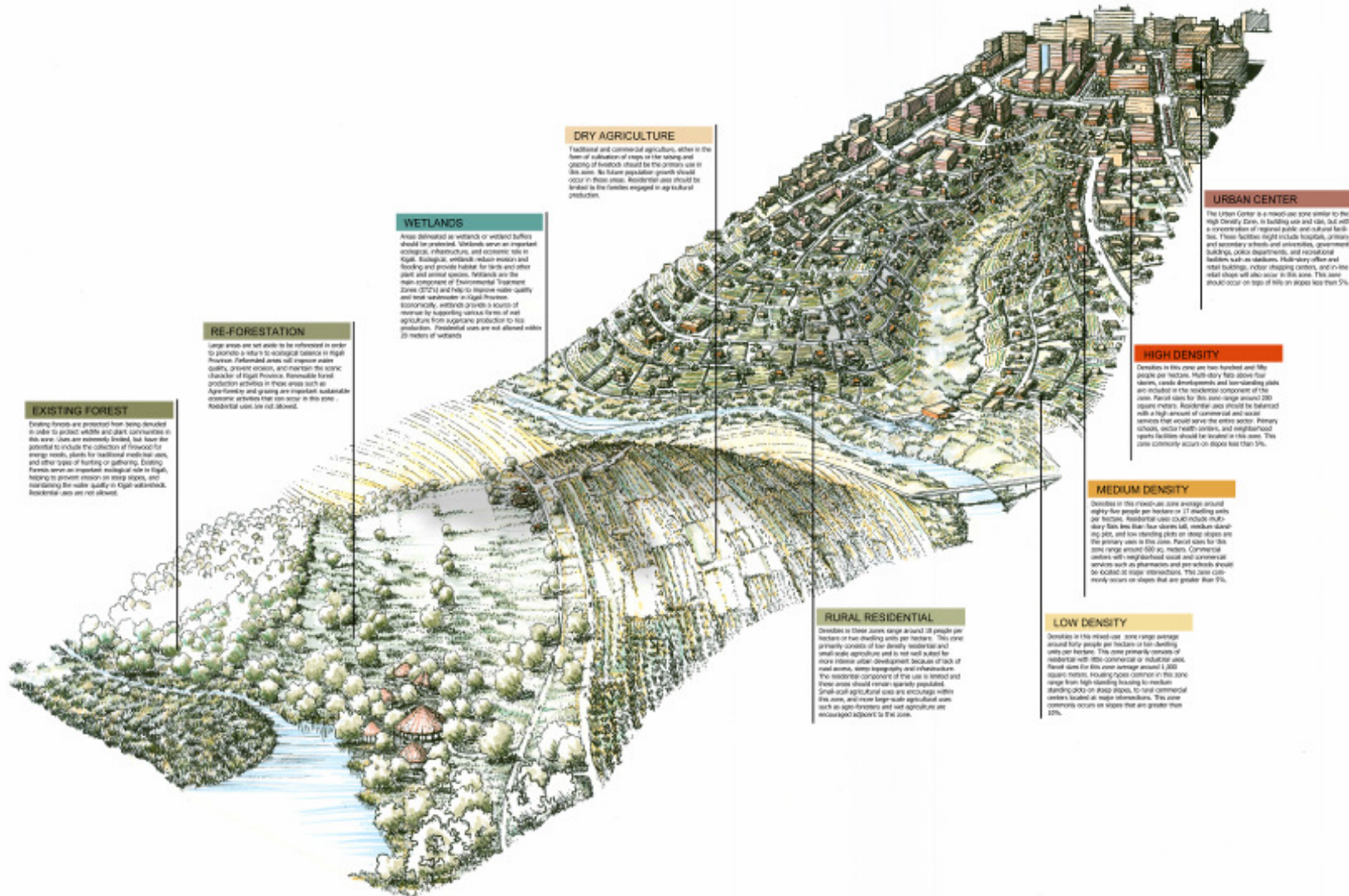
Kigali City Key Statistics

- Area: 730 Km²
- Divided into 3 Districts.
- Population of 1 million
- Growth rate of city is 10.7%
- One of the cities that is growing very fast.

Steps taken ?

- 1. Identify the most suitable areas (soil quality; availability of water for irrigation)**
- 2. Mapping (GIS)**
- 3. Mark out the boundaries and register the areas in the Cadastre**
- 4. Obtain a decree for protection as “non edificandi”.**
- 5. Insert the reserved areas in the city development plan**
- 6. Formulate an UPA strategy and action plan to make best use of the reserved areas (comparative advantages)**
- 7. Organise the UPA growers and traders community**

Land use Transect



EXISTING FOREST
Existing forests are protected from being deviated in order to protect wildlife and plant communities in this zone. Uses are extremely limited, but have the potential to include the collection of firewood for energy needs, plants for traditional medicinal uses, and other types of hunting or gathering. Existing farms serve an important ecological role in light, helping to prevent erosion on steep slopes, and maintaining the water quality in Oglala wetlands. Residential uses are not allowed.

RE-FORESTATION
Large areas are set aside to be reforested in order to promote a return to ecological balance in riparian floodplain. Reforested areas will improve water quality, prevent erosion, and maintain the scenic character of riparian floodplain. Renewable forest production activities in these areas such as paper forestry and grazing are important sustainable economic activities that can occur in this zone. Residential uses are not allowed.

WETLANDS
Areas delineated as wetlands or wetland buffers should be protected. Wetlands serve an important ecological, hydrological, and economic role in riparian floodplain. Wetlands reduce erosion and flooding and provide habitat for birds and other plant and animal species. Wetlands are the main component of Environmental Treatment Zones (ETZ) and help to improve water quality and treat wastewater in riparian floodplain. Economically, wetlands provide a source of revenue by supporting various forms of wet agriculture from sugarcane production to rice production. Residential uses are not allowed within 20 meters of wetlands.

DRY AGRICULTURE
Traditional and commercial agriculture, either in the form of subsistence or crops on the valley and outside of wetlands should be the primary use in this zone. No future population growth should occur in this zone. Residential uses should be limited to the families engaged in agricultural production.

RURAL RESIDENTIAL
Densities in this zone range around 10 people per acre or two dwelling units per hectare. This zone primarily consists of low density residential and small scale agriculture and is not well suited for more intense urban development because of lack of road access, water, sewerage, and infrastructure. The residential component of the use is limited and these areas should remain sparsely populated. Small-scale agricultural uses are encouraged within this zone, and more large-scale agricultural uses such as open forests and wet agriculture are encouraged adjacent to the zone.

LOW DENSITY
Densities in this mixed-use zone range average around fifty people per hectare or ten dwelling units per hectare. This zone primarily consists of residential with light-commercial or industrial uses. Retail uses for this zone average around 1,000 square meters. Housing types common in this zone range from high standing housing to medium standing, 2000 sq ft duplexes, to first commercial centers located at major intersections. The zone commonly occurs on slopes that are greater than 20%.

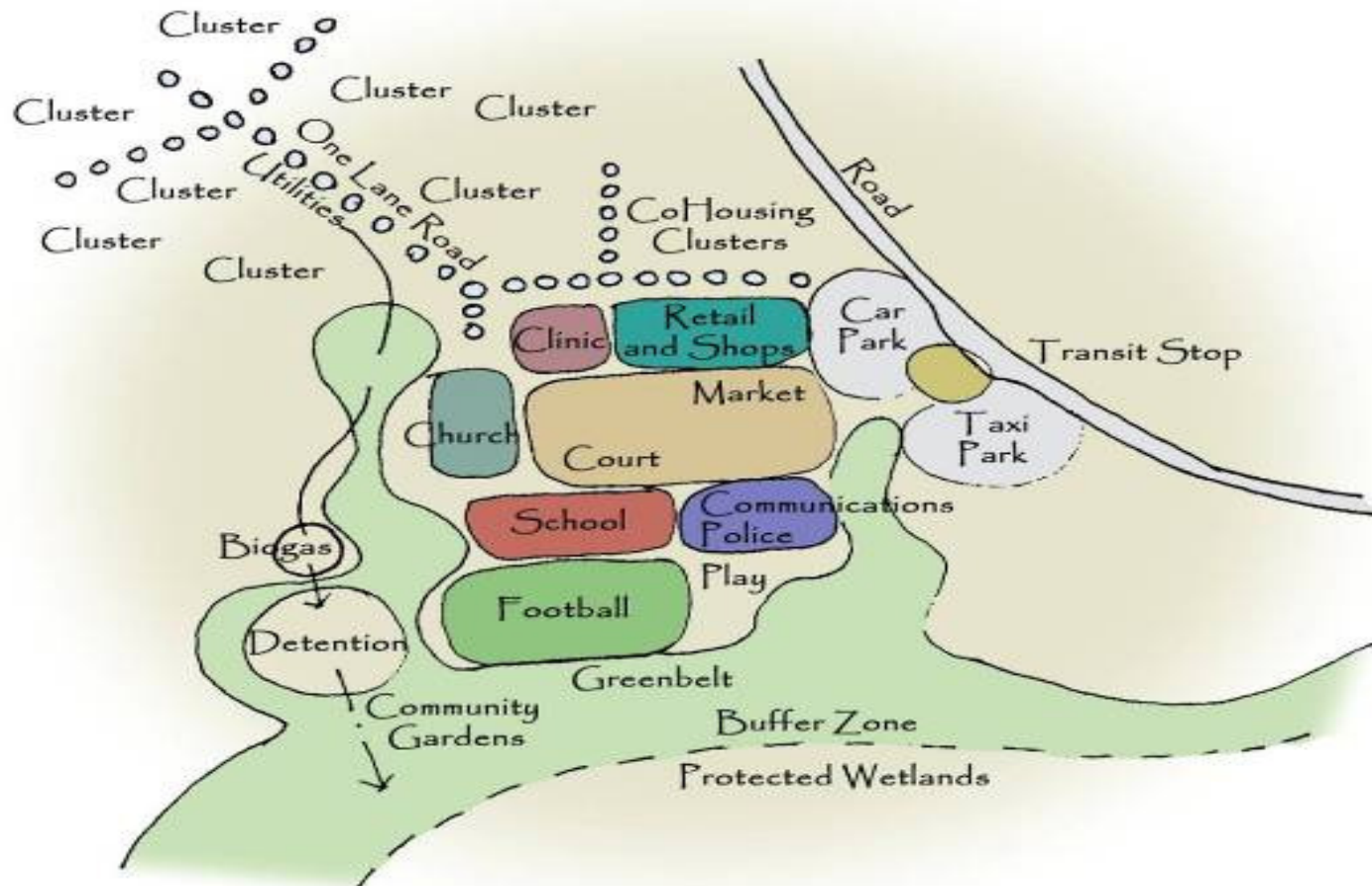
MEDIUM DENSITY
Densities in this mixed-use zone average around eighty-five people per hectare or 17 dwelling units per hectare. Residential uses could include multi-story flats, town houses, and medium standing jobs, and low standing jobs on steep slopes are the primary uses in this zone. Retail uses for this zone range around 500 sq. meters. Commercial centers with neighborhood scale and commercial services such as pharmacies and pet-schops should be located at major intersections. This zone commonly occurs on slopes that are greater than 25%.

HIGH DENSITY
Densities in this zone are low to medium and the people per hectare. Multi-story flats above four stories, town developments and town-standing jobs are included in the residential component of the zone. Retail uses for this zone range around 200 square meters. Residential uses should be balanced with a high amount of commercial and social services that would serve the entire sector. Primary schools, senior health centers, and neighborhood sports facilities should be located in this zone. This zone commonly occurs on slopes less than 5%.

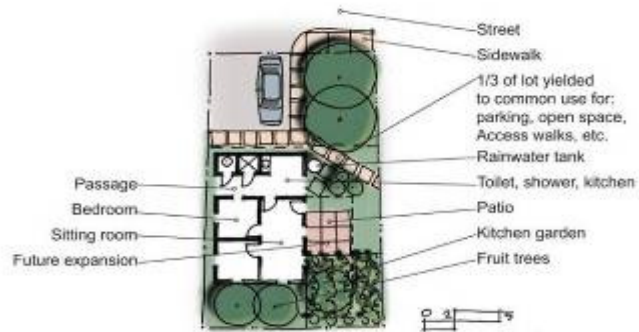
URBAN CENTER
The Urban Center is a mixed-use zone similar to the high density zone, in building use and size, but with a concentration of regional public and cultural facilities. These facilities might include libraries, primary and secondary schools and universities, government buildings, police departments, and recreational facilities such as stadiums. Multi-story office and retail buildings, indoor shopping centers, and in the retail shops will also occur in this zone. This zone would occur on top of hills on slopes less than 5%.

- This transect tries to illustrate how UPA activities become a component of “continuum” a rural-urban food production chain.
- Each level in the transect has it’s own role and vocation in respect to land and water use and management.

Community Center Concept

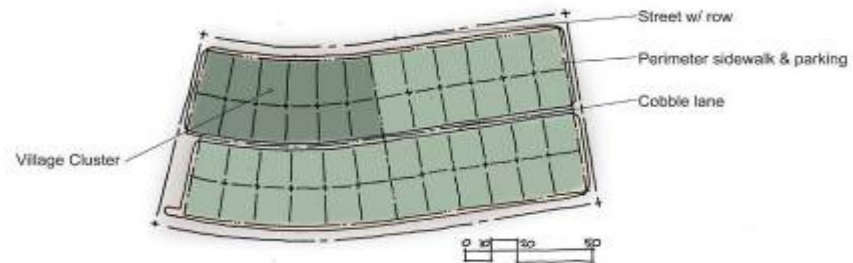


Cluster Housing Prototype



MINIMUM STANDARD SINGLE FAMILY HOUSE LOT

216 SM lot (approximately 12m x 18m / may be irregular to follow natural topography)
 Note: Toilet, shower, kitchen may be shared at Village Commons to economize.



NEIGHBORHOOD BLOCK

(4) 12 unit co-housing clusters
 48 (+/-) residential lots
 Includes street ROWs & 1 block / 9 blocks for schools and community services
 Yields +/- 35 dwelling units per hectare



12 DWELLING UNIT CO-HOUSING VILLAGE CLUSTER

12m ROW / 8m Street / 3m Cobble Lane



*République du Rwanda
Ville de Kigali*



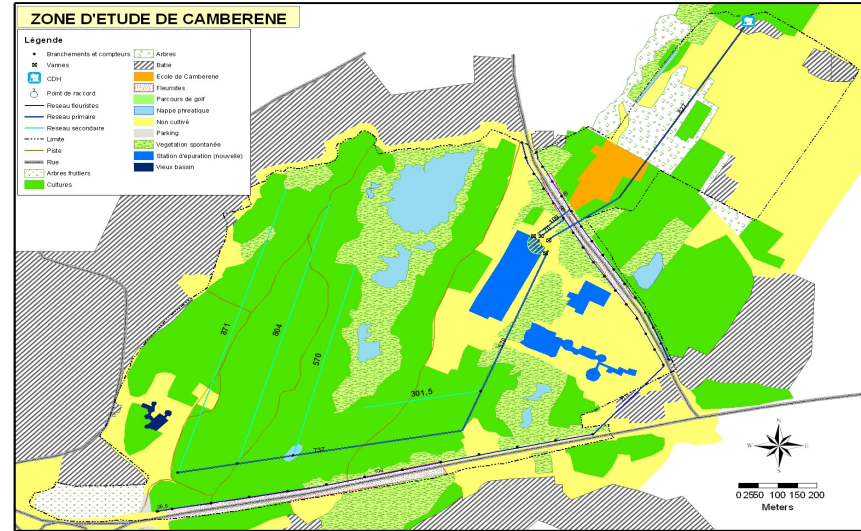
PROPOSITION

**UPA strategy to determine comparative advantages of UPA activities
and their efficiency in terms of land and water use**



5 août 2009-24 Sept 2009

FAO- TCP/RWA/3101



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CONCLUSION

Urban land use planning is essential for shifting UPA areas from a “squatting” status to acknowledged, reserved areas with a “*non-edificandi*” status and duly registered in the cadastre with a title deed and also included in the urban development plan

It is never too early and

It is never too late

Cities will continue to grow ... the earlier we act the better and possibly with the support of HABITAT and create more awareness for policy makers

An air filter for the urban environment

Green spaces Accountable for carbon credit?
(Research?)

CO_2 ↓



↑ O_2



Nothing New under the Sun



A Green City is a Healthy City

A Healthy City is a Happy City

THANK YOU

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