Kigali City
Street AddressingS

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City of Kigali, Rwanda
Rwanda

- In central and east Africa
- Bordered by Uganda, Tanzania, Burundi and the Democratic Republic of the Congo;

- Located in the African Great Lakes region and is highly elevated; its geography dominated by mountains in the west and savanna to the east;
- Its climate is temperate to subtropical, with two rainy seasons and two dry seasons each year;

- Area: 26,338 km²
- Population: 12M
- Density: 435/Km² (29th and 1st in Africa)
- History: Genocide against Tutsi of 1994
- Economy: GDP 2012: $7.103 billion, $ 619 per capita

“Kigali City, a green, clean and secure City”
Rwanda

“Kigali City, a green, clean and secure City”
Vision 2020

After genocide against Tutsi of 1994, the Government of Rwanda put in place the 2020 Vision to transform Rwanda into a middle-income nation in which Rwandans are healthier, educated and generally more prosperous by six interwoven pillars:

1. Good governance and efficient State;
2. Skilled human capital;
3. Vibrant private sector;
4. World-class physical infrastructure;
5. Modern agriculture and
6. Livestock,

All geared towards national, regional and global markets.
About Kigali City

- Located at Rwanda’s geographical heart.
- Area: 730 Km²
- The City of Kigali is divided into 3 Districts comprising 35 Sectors, 161 Cells sub-divided into 1,061 Imidugudu (villages).
- It is presently inhabited by approximately 1.2 million inhabitants. Kigali in size is 70% rural while ¾ of its population are urban dwellers.
- Growth rate of city is 10.7%
- One of the cities that is growing very fast in Africa.
City of Kigali Map

Gasabo
429.3Km²

Nyarugenge
134Km²

Kicukiro
166.7Km²

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Kigali City Street addressing

- After putting in place a 50 Years Kigali City Master Plan and starting its implementation with the objective of developing an urban growth strategy that will guide the growth and development of Kigali City in a manner that makes the best sustainable use of available land and infrastructure.

- Kigali City in collaboration with Ministry of Infrastructure initiated urban street addressing project to improve addresses, direction and navigation system in the City of Kigali:
  - Naming all streets and installation street name signs;
  - Numbering all Building/houses and fixing house number plates along streets;
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City of Kigali Street Addressing Map

Urban sectors: 20/35

Legend

- Area of Street Addressing
- Districts
  - GISOPO
  - KICUKIRO
  - NYARUGUSE
Objectives

- Street Addressing System as practical and innovative urban management tool comprising essential and critical information helpful for spatial planning, administrative works, emergency responses, research, marketing, mapping, GIS, routing and navigation among other purposes.

- The main objective was to complete the process of improvement of the urban location of properties.

- Specific objectives:
  - Provide a powerful tool for urban management,
  - Improve the municipal and land management functions,
  - Improve the local revenues system,
  - Improve provision of urban services.
Concept

Based on three principles:

1. Street Classification (Roads, Avenues and Streets) and naming (Alpha numeric system): The numbering and taking measurements from the primary roads towards the minor ones were done and represent them on a digital map;

2. Numbering of Entries to properties with the system odd numbers to left hand side and even numbers to right hand side;

3. Technical and financial capacities
Implementation

Involve five steps:

- **Naming**: Defining a system for identifying streets and numbering entryways;

- **Mapping**: Creating the basis for a working Map;

- **Signage**: Installing street name signs at intersections;

- **Numbering**: Fixing numbers to entryways;

- **Address Indexing**: Assigning an address to each parcel of land or dwellings, urban fixtures, and services in the structured areas based on data collected during entryway numbering process.

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Findings

- Large number of un-digitized and unnamed streets, unplanned and unnumbered parcels;

- Kigali Street Addressing System operations as a part of the national effort to resolve some of the urgent urbanization challenges facing the city;

- Land-use trends and distribution within the city will influence the efficiency and benefits associated with Street Addressing System and good governance;

- The mixed land-use developments evidenced in the entire city poses urban management problems;

- A total of 37,274 properties along the streets and 2,061 streets were covered during the field survey in the project area.
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“Kigali City, a green, clean and secure City”
Developed software details the innovative Geographical Information System (GIS) approach in Street Addressing System in terms of:

- System design and development,
- System implementation and application and
- Spatial database and summary of visualization.

The designed system was made flexible to support future updates and various platforms;

The system is implemented in the standard of GIS software ArcGIS and connected to Ms SQL Server Database.

The tools used are:

- ArcEditor 10.0 as Geographical information system tool,
- Microsoft.NET platform for development and deployment and
- Ms SQL Database as back end database application

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Current Situation

- After street addressing study, implementation started immediately and now physical address is at 97% for street name signs and 22% for house number plates.

- The City of Kigali engaged Google Ireland to upload Kigali street map to Google map. The map of street name is now accessible through Google map by using any IT device.
Constraints

- Scattered sources of secondary data;
- Inadequate basic data,
- Delays caused in re-building and up-dating data files;
- Turn-over and training of Data Collectors;
- Widespread and illegal status of informal settlements;
- Irregular street network in Kigali City meant that street numbers are not sequentially assigned.
Conclusion

- Vision 2020 calls for rapid development;
- There is no development without solid planning;
- Maps are done today using a GIS: GIS is vision 2020 spatial for Rwanda;
- At its completion, Kigali Street Addressing Project will uplift the Capital City of Rwanda to another height of modern and smart city. Residents and visitors have already started to use it and are enjoying the benefits of addresses given to streets and houses/properties which are facilitating them to reach their destination easily.
- Final phase is to extend the Street addressing in rural area and to assign permanent address to each property in City of Kigali and continuing its update.

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THANK YOU AND WELCOME TO KIGALI!