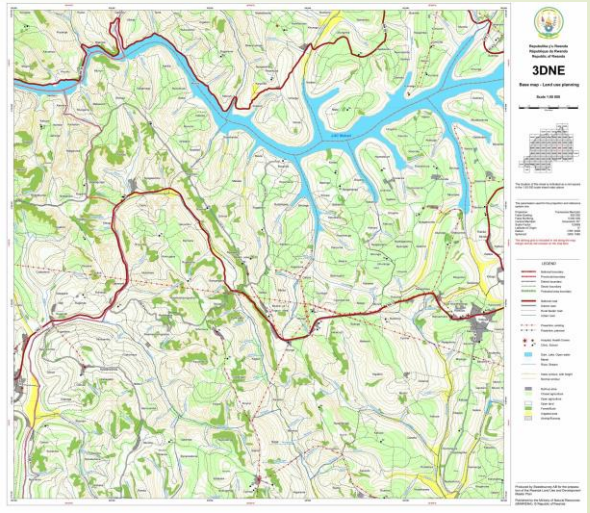
RWANDA NATURAL RESOURCES AUTHORITY
Department of Lands and Mapping

Rwanda new Basemap and data sharing portal

Ir Jean Maurice MUNEZA
Photogrammetrist
Rwanda

CBFP Meeting
Kigali International Convention center

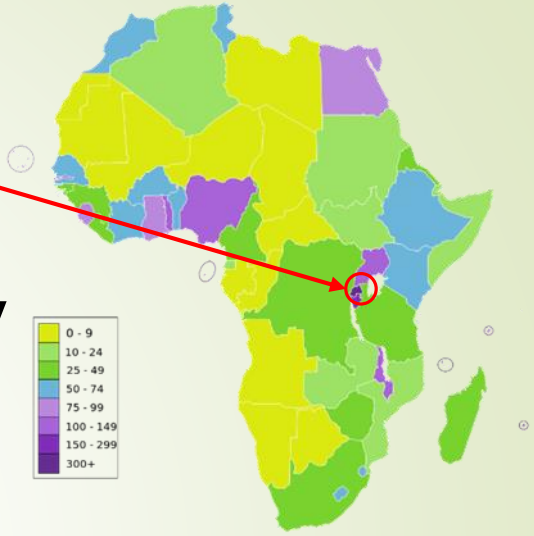


November 21th,2016

AGENDA

- Introduction
- Need of new Basemap
- New Basemap preparation
- Basemap content
- Data sharing portal
- Future development

RWANDA IN BRIEF



- ✓ Area: 26,338 Sqm
- ✓ Land locked East African country
- ✓ Pop (2013): 11.38 m
- ✓ Pop Dens. (2013): +400/sqkm

VISION 2020

- Good governance and a capable state
- ICTs in all sectors of the economy
- Infrastructure development
- Protection of environment and sustainable natural resource management

From an agrarian to knowledge-based economy

NEED OF NEW BASEMAP

- Rwanda one of fast developing economy
- Characterized by high population density.
- Increase of infrastructure (roads,building,…)

Spatial tools

- ✓ To guide the development in all sectors
- ✓ Provide spatial relationships for decision making
- ✓ To monitor this development in effective way.
- ✓ Much needed in Land use Master plan preparation

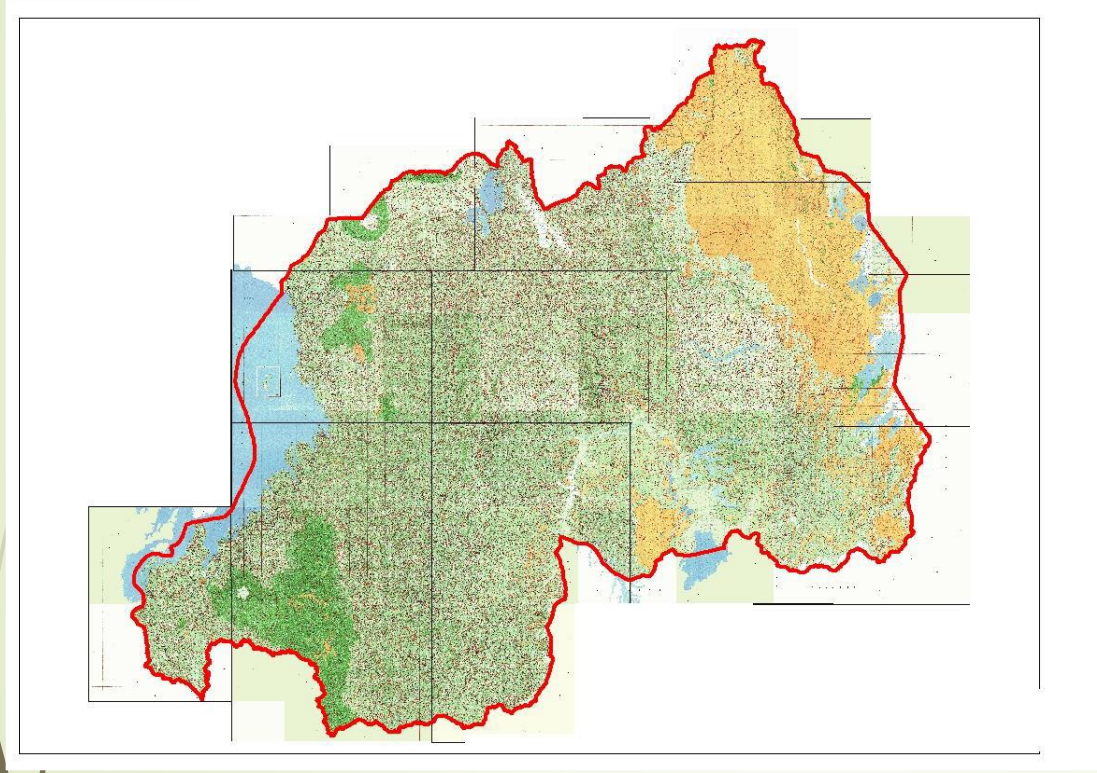
Basemap

- Map on which information may be placed for purposes of comparison or geographical correlation
- Planning and development by providing boundaries, elevation, hydro, social infrastructure, physical infrastructure etc

NEW BASEMAP PREPARATION

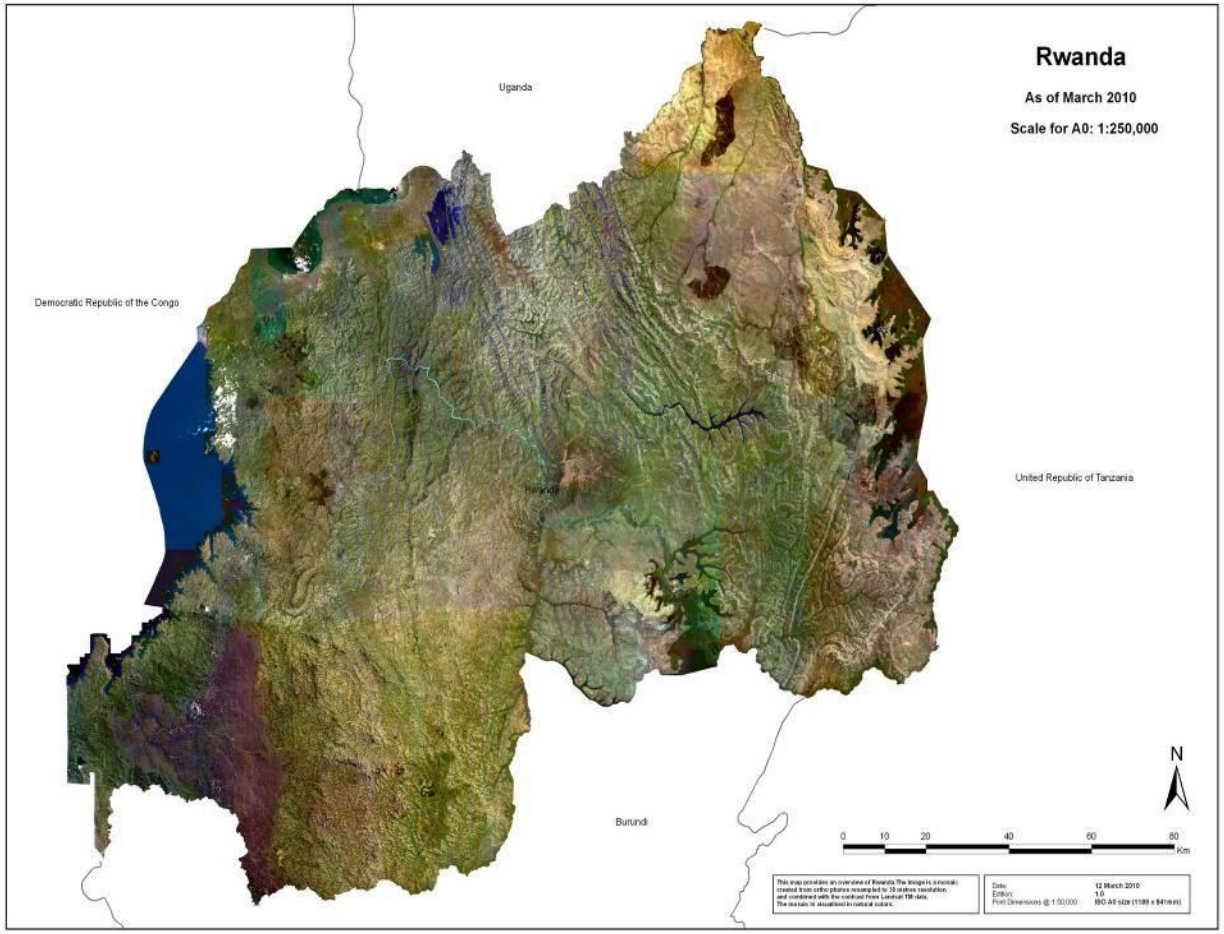
EXISTING SPATIAL DATA

- Topographic Map of 1978 - 1989



- Datasets from differents institutions (NISR,RHA,RTDA,..)
- Many were old(Need of update)

NEW BASEMAP PREPARATION
NEW ORTHOPHOTO



- 25 Cm resolution
- 96% Aerial Photo
- 4% high resolution satellite Images
- Summer2008-2009

Used to digitize:
- Roads
- Rivers
- Schools
- Health centers
- Centers,……

Used in land registration

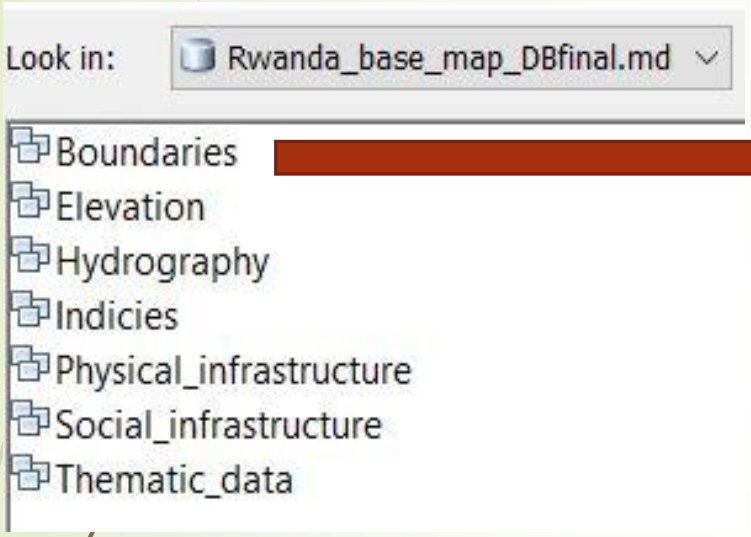
NEW BASEMAP PREPARATION NAME & GROUNDVERIFICATION

Names & Ground verification

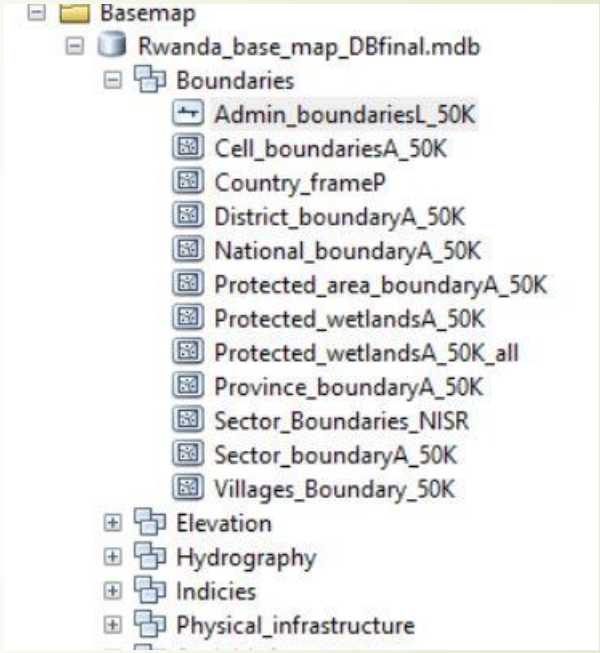
- ✓ Use of printed sheet and GPS
- Attributes
- Names : Rivers,roads,electric lines,….
- completeness

BASEMAP CONTENT

6 Main areas



Boundaries

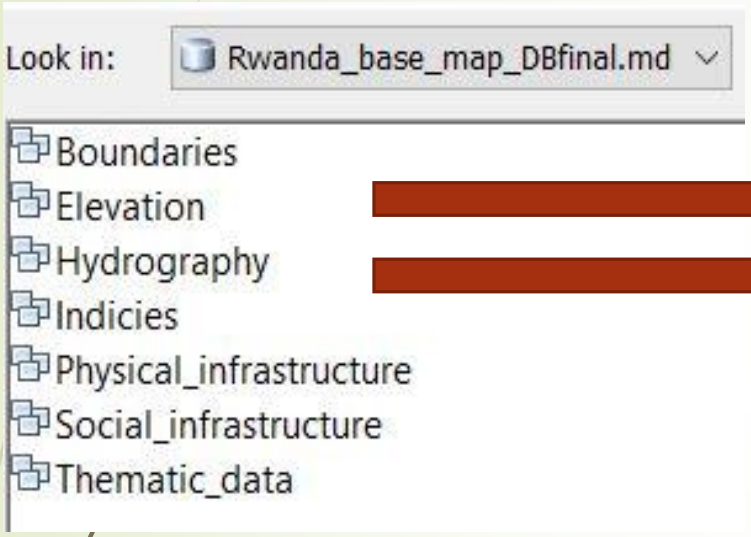


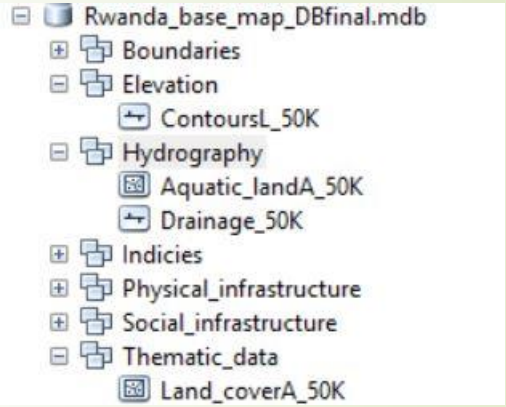
Boundaries : Feature dataset has been devised for storage of all data layers related to boundaries, i.e. administrative boundaries, protected area boundaries, restricted areas, etc.

BASEMAP CONTENT

6 Main areas

Hydrography&Elevation





Elevation feature dataset stores all layers related to elevation :contours, spot heights, trigonometric network, etc.

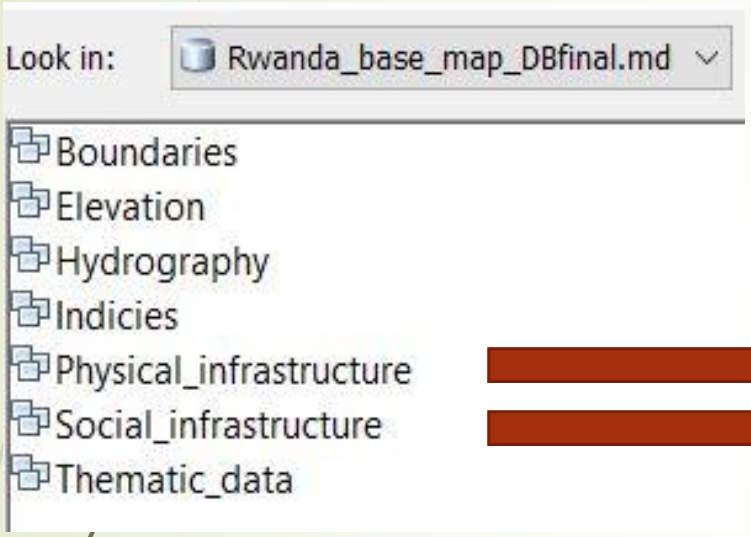
- **Hydrography**: The hydrography feature dataset has been devised for storage of all layers related to hydrography, i.e. drainage lines, water bodies, wells, water points, etc.

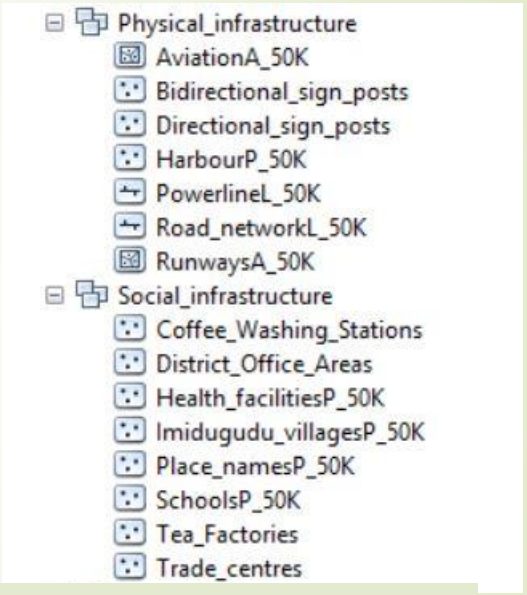
Thematic data feature dataset is intended for all layers related to thematic data, i.e. land cover/land use, geology, soils

BASEMAP CONTENT

6 Main areas

Infrastructures

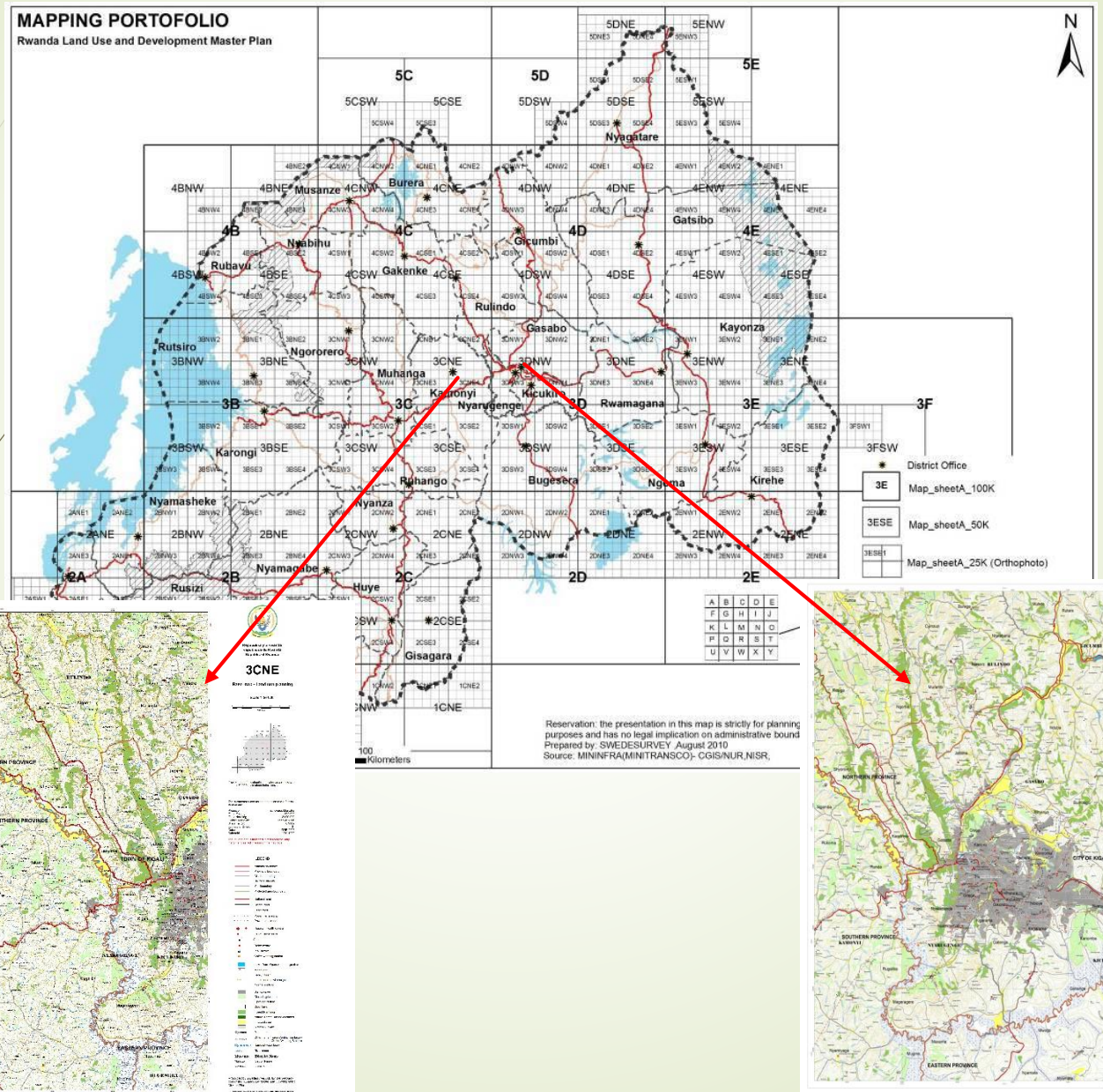




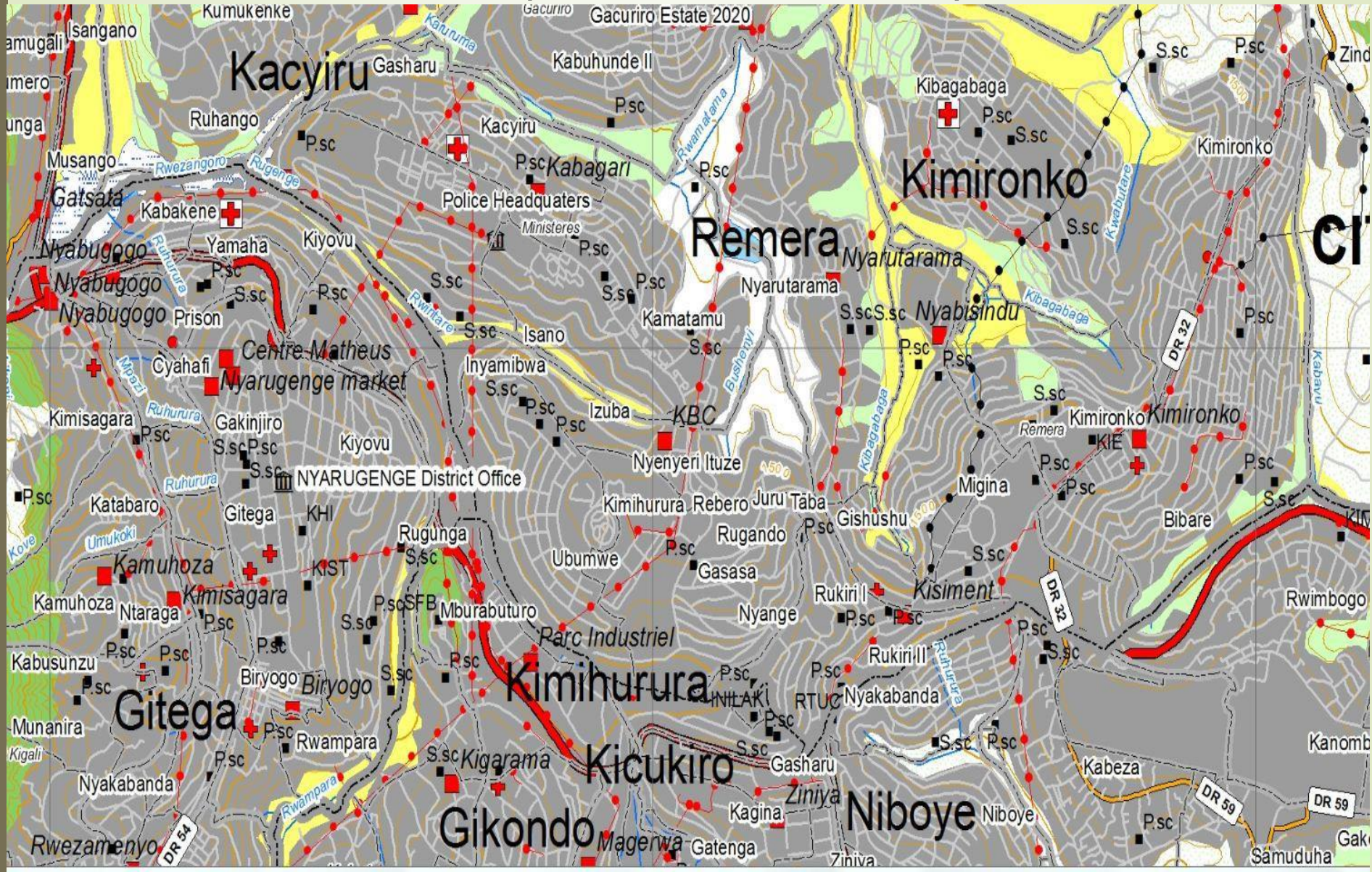
Physical infrastructure feature dataset has been devised for storage of all layers related to physical infrastructure, i.e. roads, railways, power lines,

Social infrastructure dataset is used for all datasets related to social infrastructure, i.e. health, education, governmental offices, markets, imidugudu Villages, schools, places names…

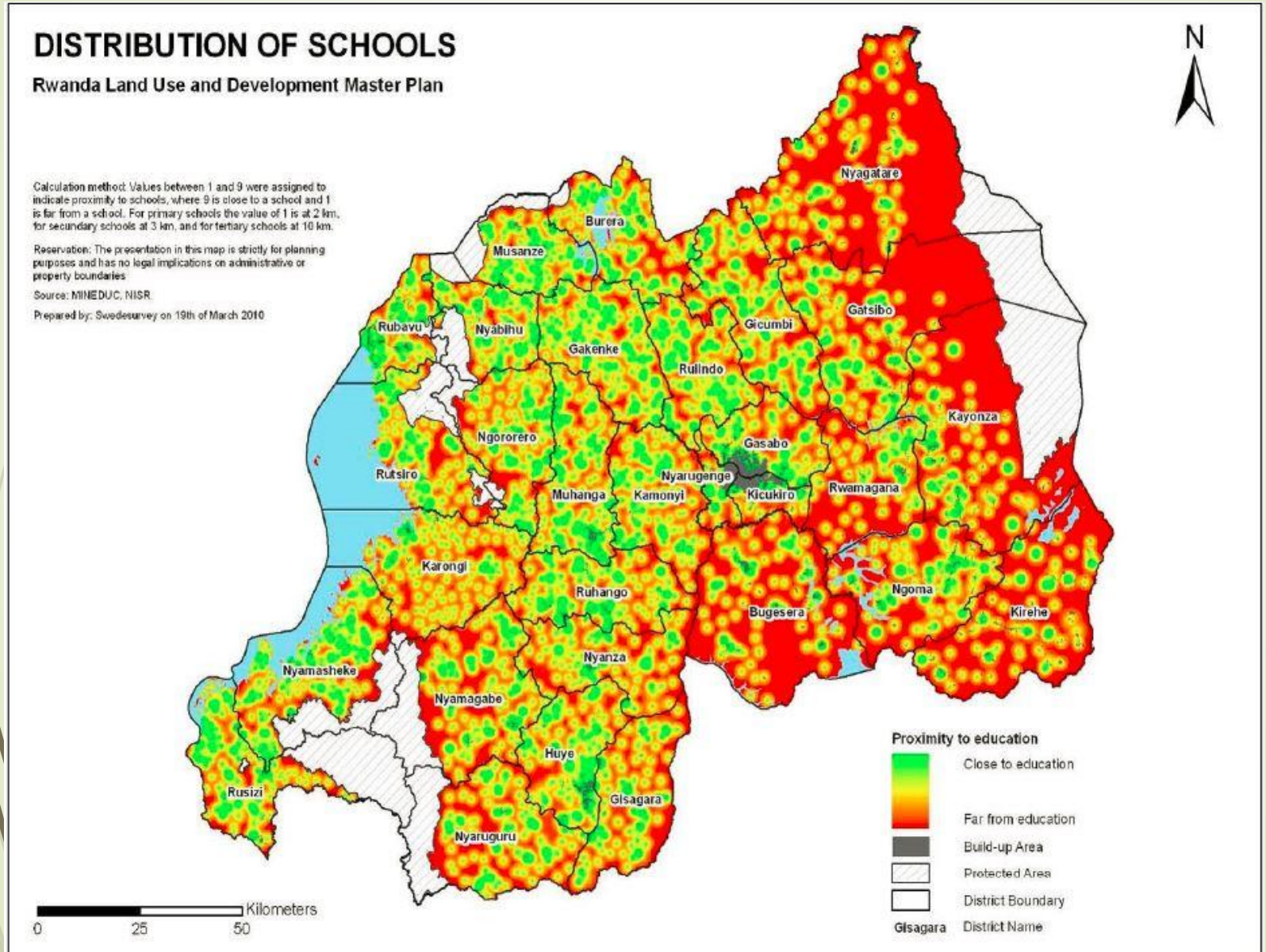
NEW BASEMAP (LAUNCHED 2014)



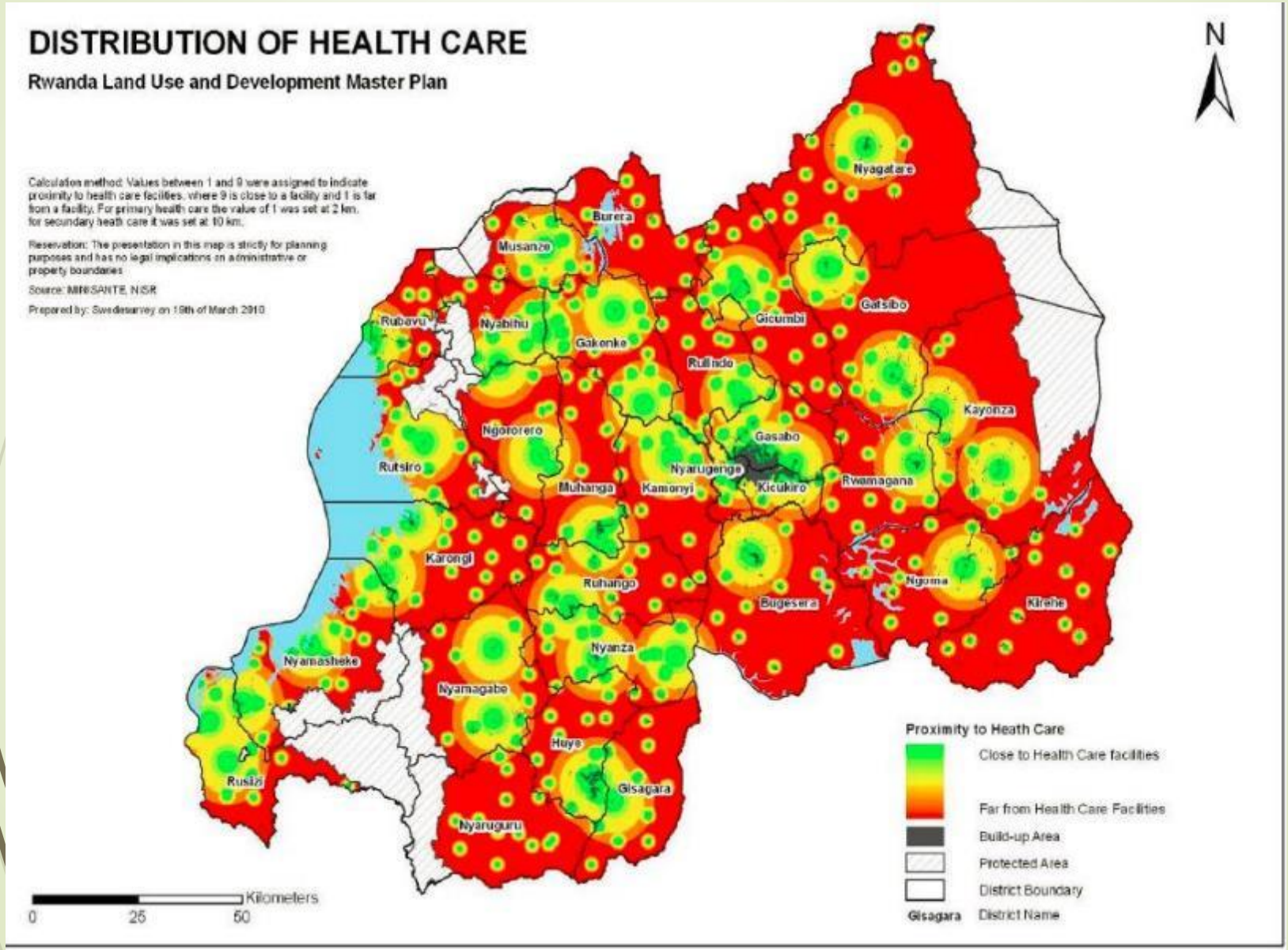
NEW BASEMAP (LEVEL OF DETAILS)



13 BASEMAP (USED IN LAND USE MASTER PLAN)



14 BASEMAP (USED IN LAND USE MASTER PLAN)



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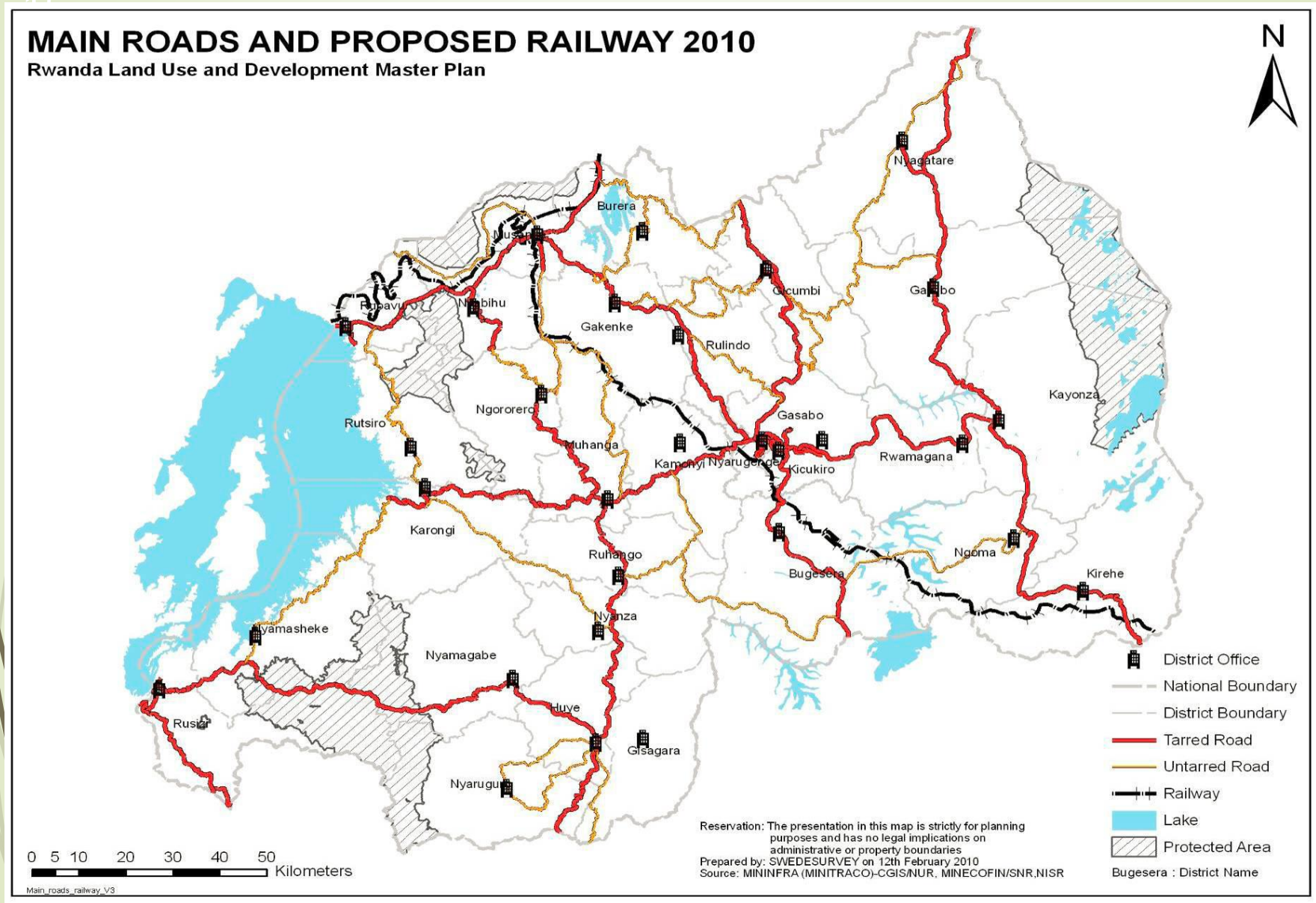
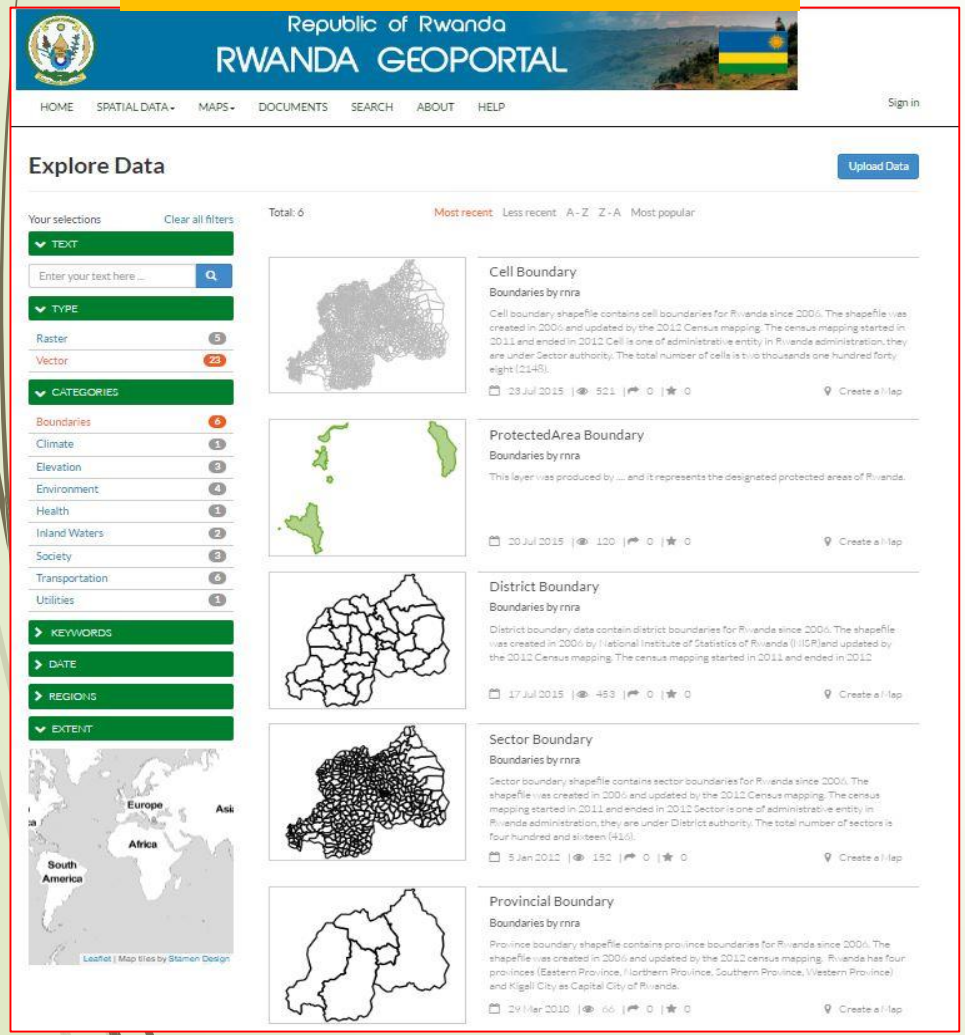


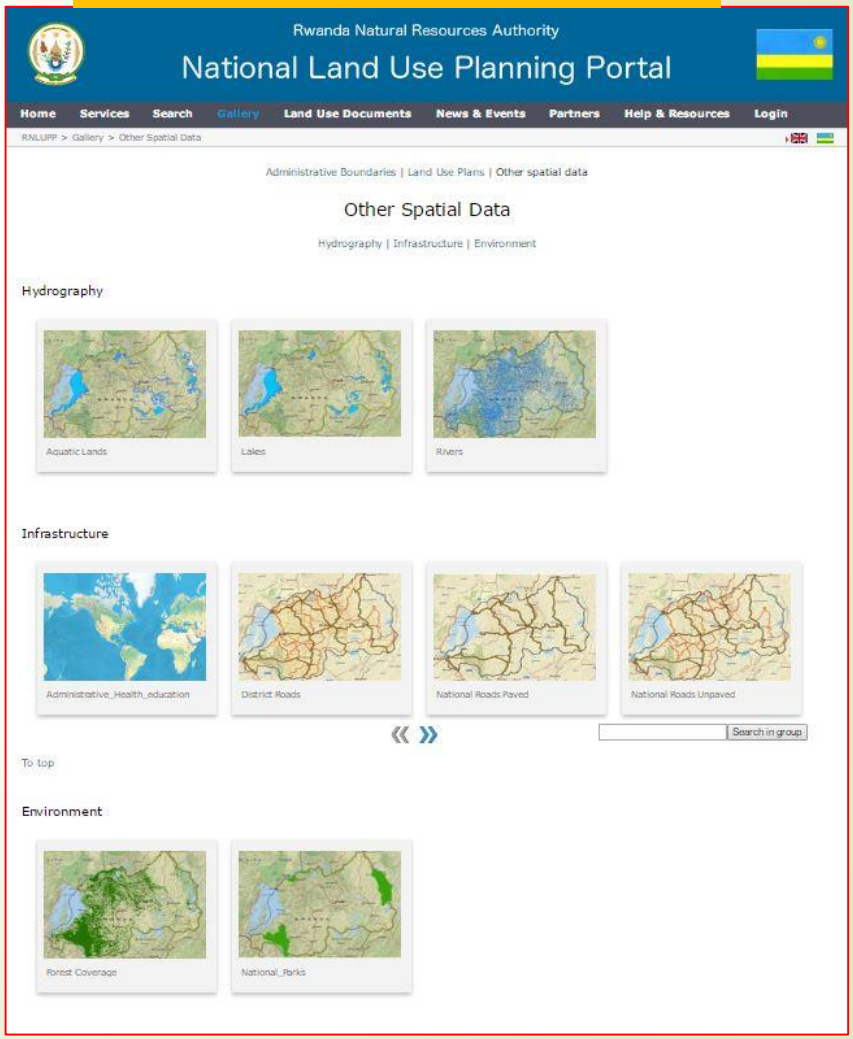
BASEMAP :SHARING PORTALS

2 Data sharing portals

www.rwandageoportal.rnra.rw

www.rwandalanduse.rnra.rw





BASEMAP :RWANDA GEOPORTAL

www.rwandageoportal.rnra.rw

Rwanda spatial data sharing portal :

- Government agencies
- Private &NGO
- Institutions (academic,..
- General public

- In line of National Spatial Data Infrastructure (NSDI) Policy

Users can:

- Download data
- Download documents
- Download metadata
- Make online maps usind available datasets

- Built on open source: Geonet

BASEMAP : RWANDA LAND USE PORTAL

www.rwandalanduse.rnra.rw

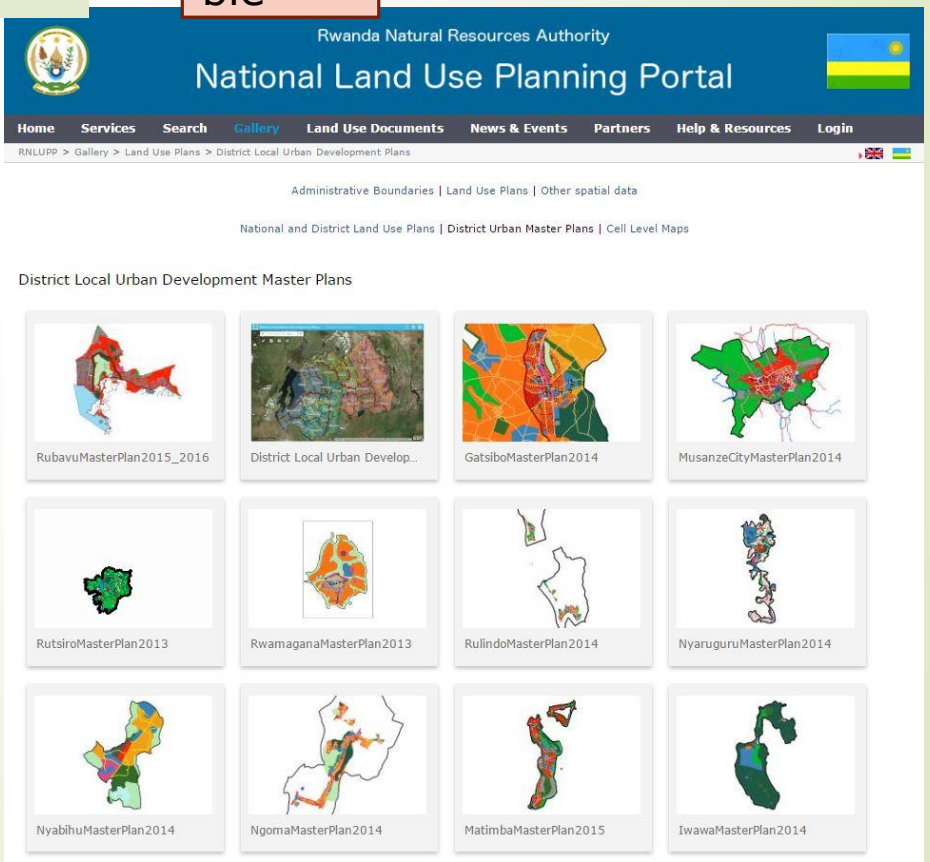
Land use plans and related information
- National Land use Master plans
- District Land use Master Plans
- Urban Development Master plans
- Cell level land use maps

To make them easily accessible

To users and decision makers

Advantages

•Quick and easy access to up to date and accurate data on land use planning data at a minimum cost;
•Increased awareness on land use planning in Rwanda;
•Increased transparency in accessing to data/information on land use planning.

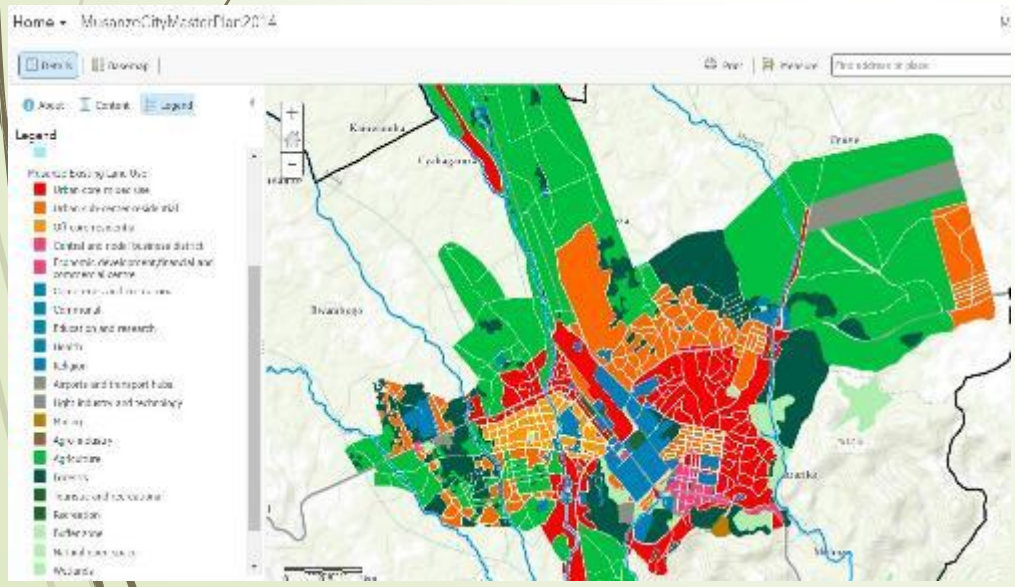


BASEMAP : RWANDA LAND USE PORTAL

www.rwandalanduse.rnra.rw

Services :

- Check land use of parcels
- Downloads datasets used in land use planning
- Make online maps using available online data(land use,..)
- Decision making before any development



BASEMAP
FUTURE PLANS

Keep updating the current basemap – do corrections:

- Need institutions custodian of data to provide them
- Update metadata
- Produce large scale map for Cities 1:2000(Reduce dependency on orthophoto)

Thank You for your attention

MURAKOZE