

**HEAD OF THE STATE  
Cabinet Office**



# Integrated Infrastructures for a Modern DR Congo



**Office of the Special Advisor  
on Infrastructures**





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« Modern Infrastructures for a Modern  
Congo »

## DISCLAIMER

- The content of this presentation is provided for informational and discussion purposes only
- It is a working document representing a research in progress
- This work represents the respective author's opinions and is the product of professional research

# 1. DRC Country Profile





# 1.1 | DR Congo in figures

## Geographical Data

- Official Language French
- Capital City Kinshasa (14 millions d'habitants)
- Area 2,345,410 sq km (Africa: 2nd, World 11th, West Europe, 80\*Belgium, 4\*France, 6\*Germany)
- Water Area 3.3 %
- Access to Ocean 37 km of coastline
- Frontiers 9,165 km – 9 countries
- Other Local Languages Lingala, Kikongo, Tshiluba et Swahili
- Religion(s) : Catholics (40 to 50%), Protestants (40 to 50%), Islam (5 to 10%), Kimbanguists (5 to 10%)

## Demographic Data

- Population 95,784,841 (Africa : 4th and World: 16th)  
50% youths over 16 years of age
- Population Density 40 inhab per sq km
- Main Towns Kinshasa (14), Lubumbashi (1.8), Mbuji-Mayi (1.7), Goma (1.1), Kananga (1.1), Kisangani (0.9), Bukavu (0.8)
- Life expectancy M: 59 years et W: 62 years (OMS)
- Birth rate 43.69 ‰
- Death rate 13.27‰
- Fertility index 6.45 enfants per woman
- Literacy rate (15 years & above) : 63.82%



## Economic Data

- GDP (2019) : 48.99 Bln \$ US current (World Bank)
- GDP per inhabitant (2019) : 501 \$US (World Bank)
- Growth (2019) : + 5.5 % (IMF)
- Unemployment : 43 %
- HDI (ranked : 182/187) : 0.500
- Main customers (2014, WTO) : China (43%), Zambia (24%), South Korea (8%), Italy (3.5%), Belgium (3.3%), Finland (3%), United States of America (2%)
- Main Suppliers (2014,WTO) : China (20%), South Africa (18%), Zambia (11%), Belgium (6%), India (4.3%), France (3%)

Source: FMI – World Economic Outlook Database (2019)

Banque Mondiale – France Diplomatie (2018 )



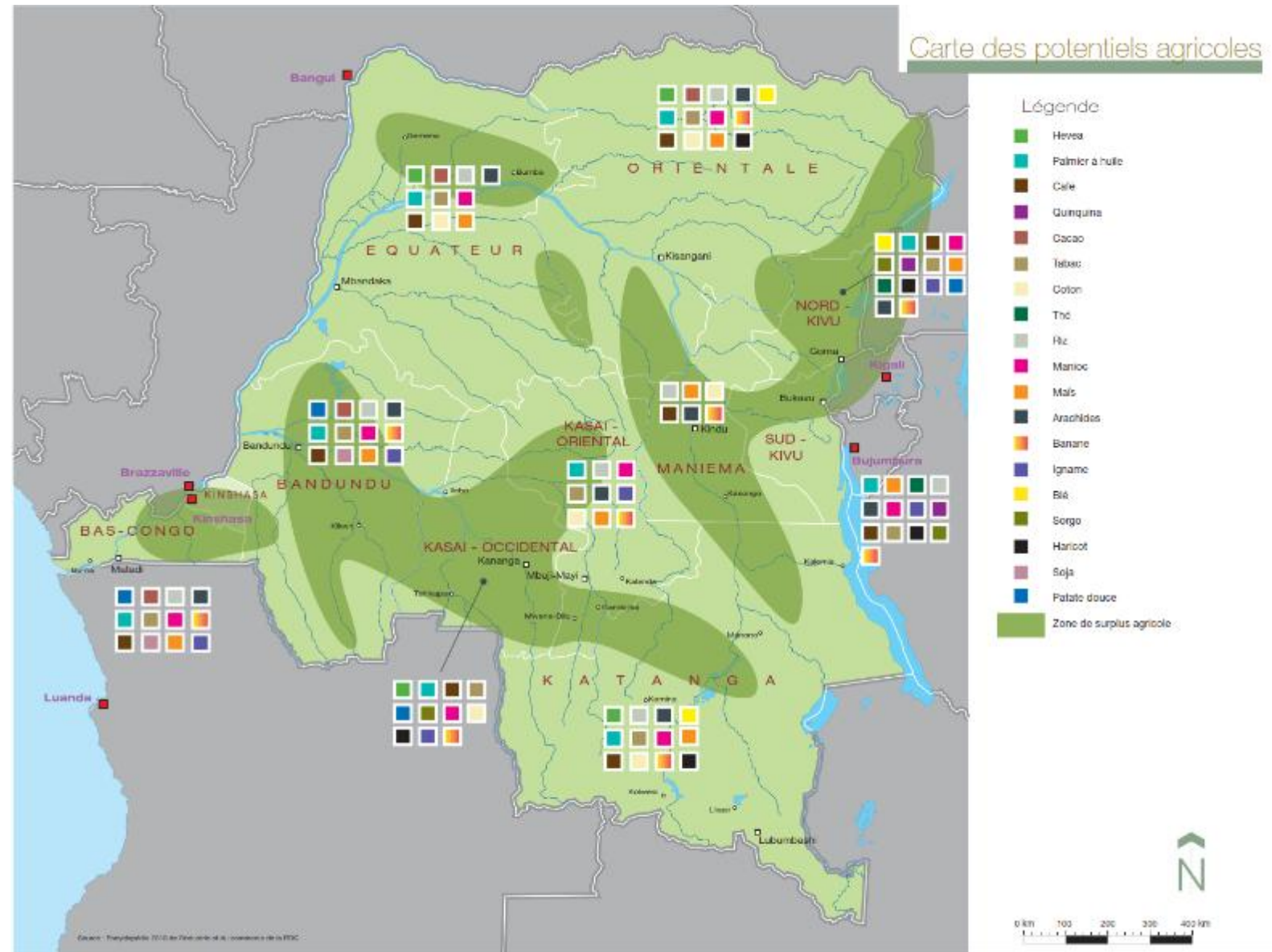
## 2. Country Potential





## 2.1 Agriculture, Livestock and Fisheries

- More than de 120 Mlns hectares of arable lands, 4 Mlns hectares of irrigables lands – of which only 10% are being exploited;
- A variety of agricultural resources (coffee, wood, cocoa, wood, rubber, etc.);
- + 40 Mlns cattle
- + 700,000 tons of fish production per year

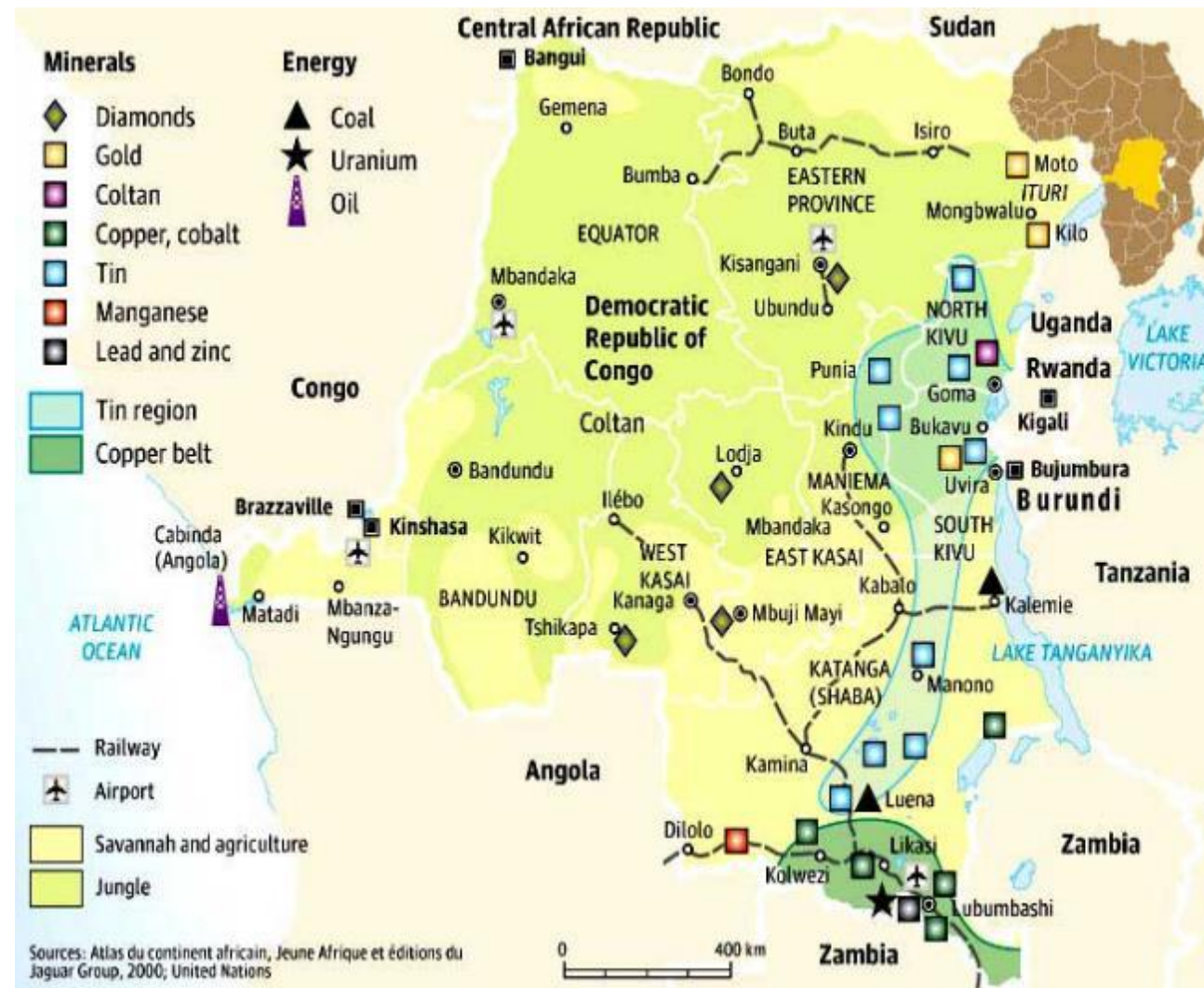




## 2.2 Minings

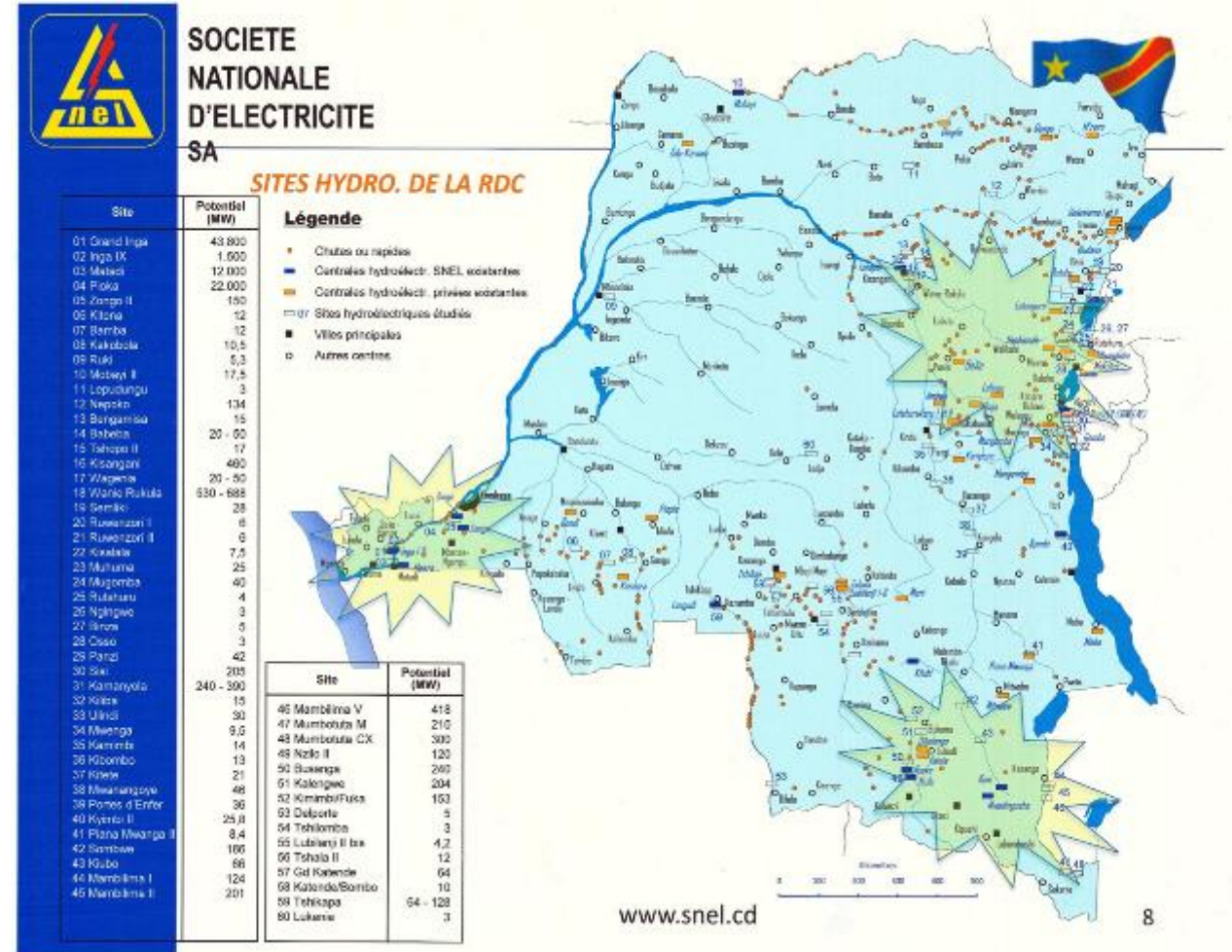
DR Congo is a geologically blessed land with immense reserves

	[%] of global reserves	reserves [Mio. tons]	Estimates [Bln \$ US]
Diamond	25	>500 Mln carat	>17
Copper	6	70	130
Cobalt	34	5	90
Gold	> 1	500	34
Tantalum	65	0,2	15
Zinc	3	6	4
Tin	7	0,8	2
Crude Oil	Exploration ongoing	75	20
Carbon	Exploration ongoing	780	20
Natural Gas	Exploration ongoing	1 G cbm	20



## 2.3 Energy

- Hydroelectric Potential: over 100 000 MW
  - ❑ 23% of world potential;
  - ❑ 37% of African potential;
  - ❑ 52% of African reserves.
- Huge energy reserves such as oil, coal, natural gas (Lake Kivu: nearly 50 billion cubic meters of methane gas)
- Other possible types of renewable energy: solar, wind, geothermal, biomass and biogas.



**An energy superpower capable of serving Africa and the world**



## 2.4 Water

- 41 000 m<sup>3</sup>/s of Congo river water flow
- 52% of Africa water reserves
- 23% underground and spring continent reserves resources
- 1 646 mm/yr of rain
- 155,5 millions Ha of vast forests
- 3,7 millions km<sup>2</sup> Congo river bassin (African biggest and 2<sup>nd</sup> in the world)



The African country with the most important water resources

### 3. Objectives





# 3.1 | Social and Economic Integration

Developing integrated infrastructures capable of meeting current and future nation needs



Establish a national infrastructure strategy



Strengthen the infrastructure regulatory framework



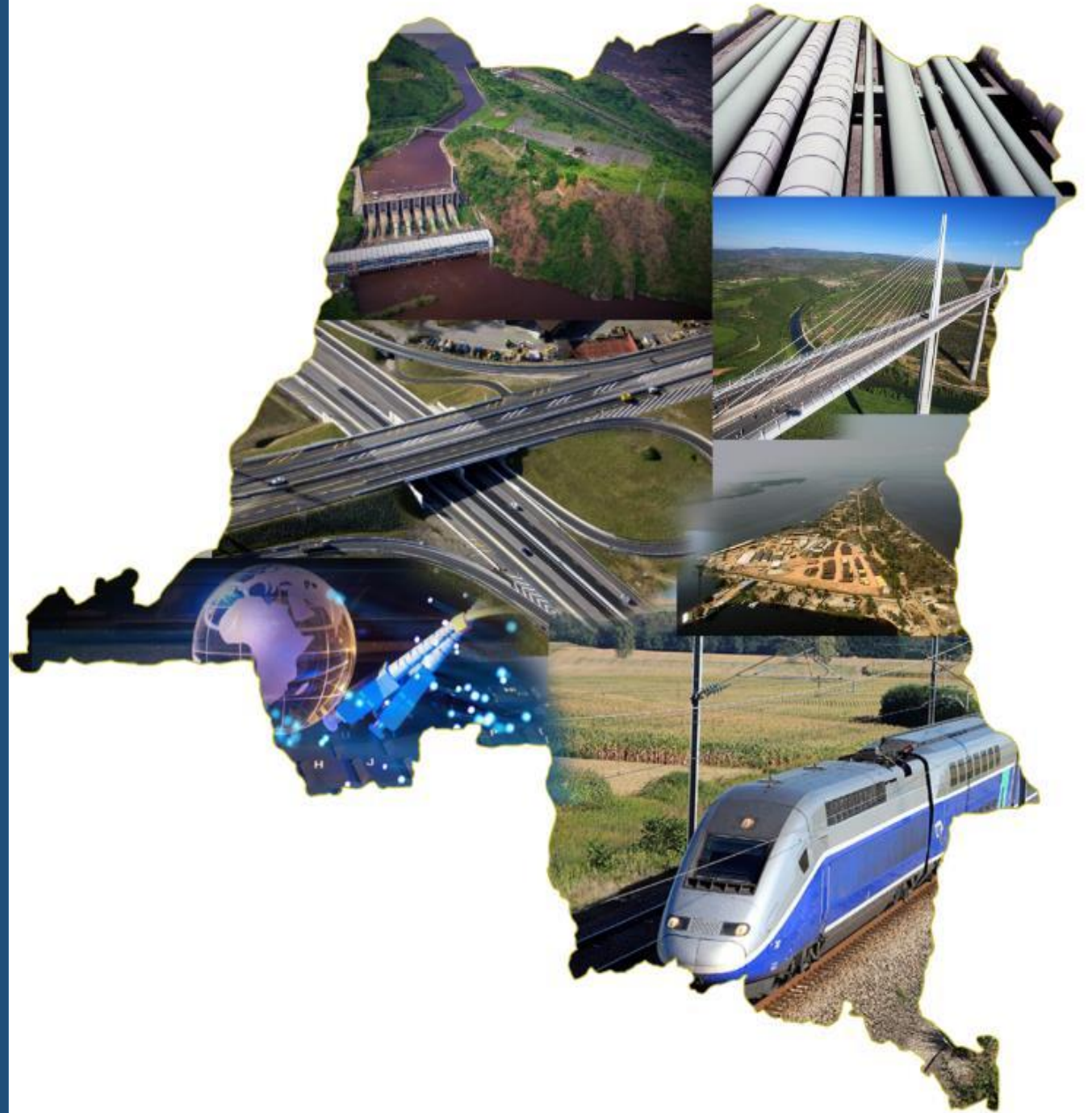
Provide the nation with a coherent and efficient infrastructure policy



Implement multi-sector infrastructure management tools



4. Examples of  
Structuring Projects  
per Sector





# 4.1 Projects Prioritizing Criteria

Served territories agricultural and industrial potentials



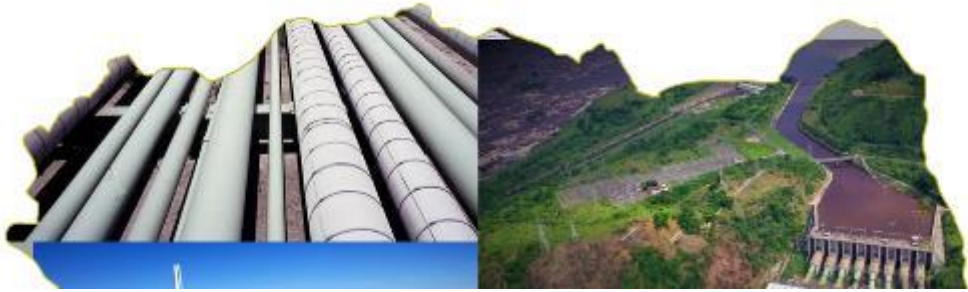
National Integration : interconnecting provincial capitals

Served territories populations



Regional interconnect to international corridors

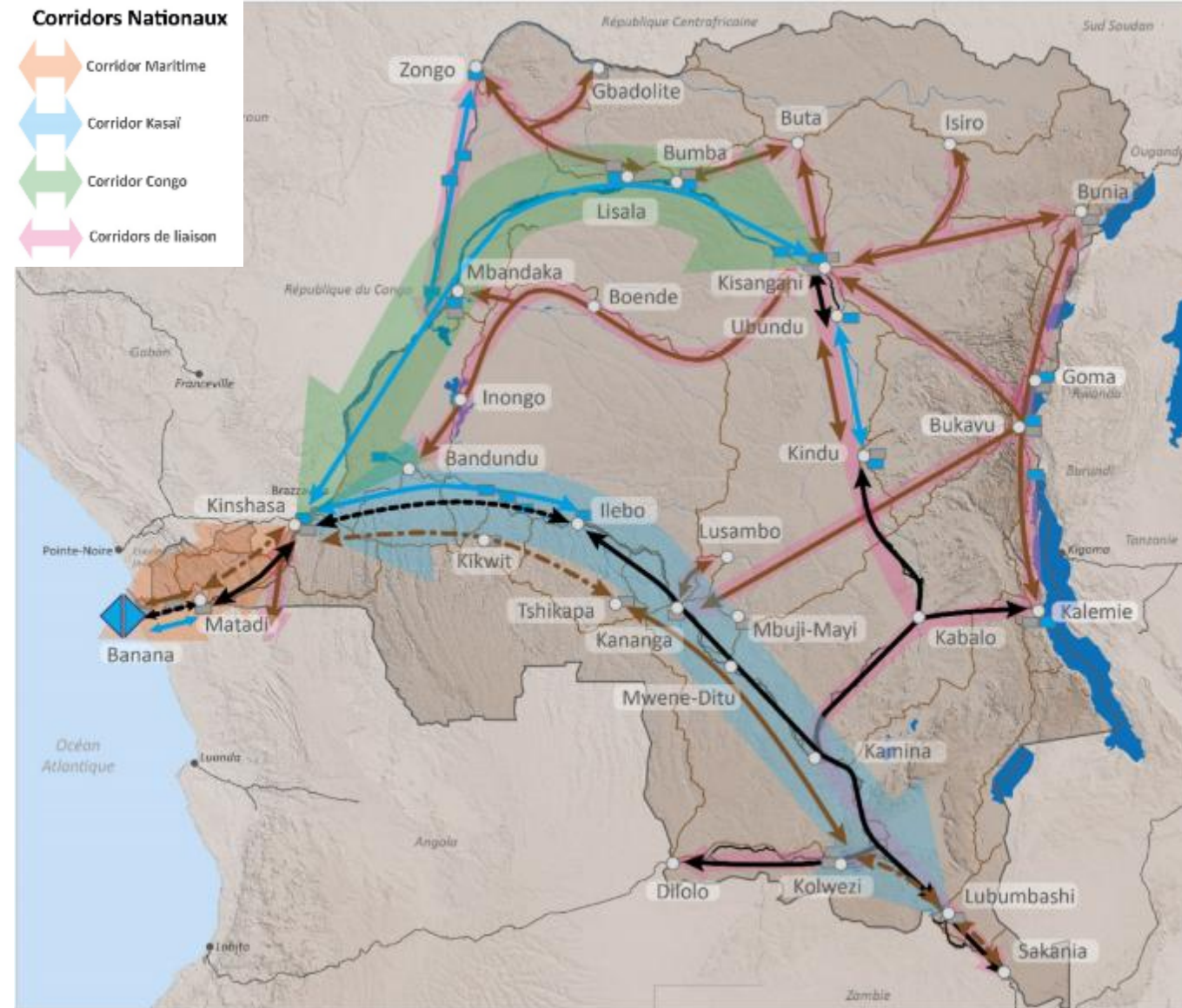
Integration with other infrastructures



## 4.2 | Growth Poles

Eight growth poles have been identified:

1. Matadi-Boma-Kinshasa-Kikwit Corridor (agriculture, livestock, fisheries, woods, agribusiness, construction materials, etc.)
2. Kinshasa-Equateur-Mbandaka Corridor (agriculture, livestock, fisheries, woods, etc.)
3. Lubumbashi-Likasi-Kolwezi Corridor (mines, agriculture, livestock, fisheries, woods, etc.)
4. Lubumbashi-Kindu-Kisangani Corridor (mines, agriculture, livestock, fisheries, woods, etc.)
5. Kinshasa-Kisangani Corridor (transport, agriculture, livestock, fisheries, woods, etc.)
6. Kisangani-Bukavu-Goma-Beni Corridor (agriculture, livestock, fisheries, tourism in Virunga mountains, etc.)
7. Bukavu-Kalemie Corridor (agriculture, livestock, fisheries, tourism around the Tanganyika lake, etc.)
8. Kasai – Bukavu – Kasongo - Mbuji-Mayi Corridor (mines, agriculture, livestock, fisheries, tourism, etc.)





# 4.3 | Roads

## Short Term

Planning to build **10,213 km** of roads



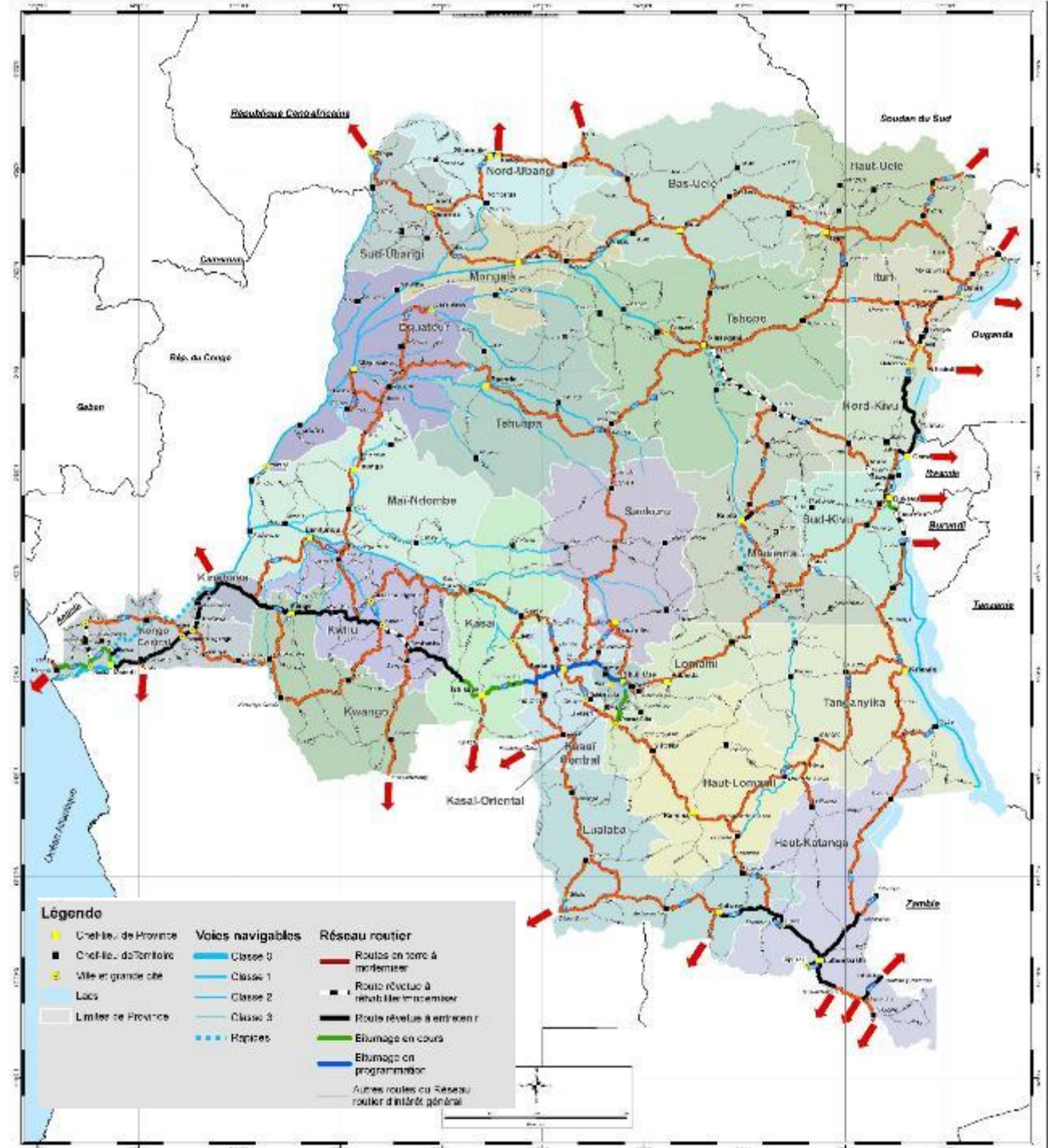
## Mid Term

Planning to build **10,040 km**



## Long Term

Targeting rest of General Interest Roads (GIR)  
**37,876 km**



## Example of Road Projects



Rehabilitation & Bituming of Niania – Kisangani road: RN4 –322 km

1

Rehabilitation & Bituming of the Dilolo - Mutshatsha – Kolwezi section: RN39 - 429 km

2

Rehabilitation & Bituming of Buta-Bondo-Ndu section: RN4 –398 km

3

Bituming of the section Kananga – Kalamba-Mbuji - till Angola border:– 220 km

4

Rehabilitation & Bituming of Kisantu – Ngidinga - Lubishi of the RN16 - 240 km

5







# Example of Railways Projects

Tenke - Kolwezi – Dilolo (with possible interconnection to Angola towards Lobito/Luanda): 522 km



Tshikapa - Kananga - Mbuji-Mayi - Kabinda – Kabalo: 1,186 km



Ilebo - Idiofa - Kikwit - Kenge - Kinshasa – Maluku: 870 km



Kinshasa - Matadi – Banana: 512 km





## 4.5 | Urban Transport & Highways



RER



For urban roads  
131.7 km



Tramway



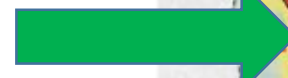
BRT/BHNS



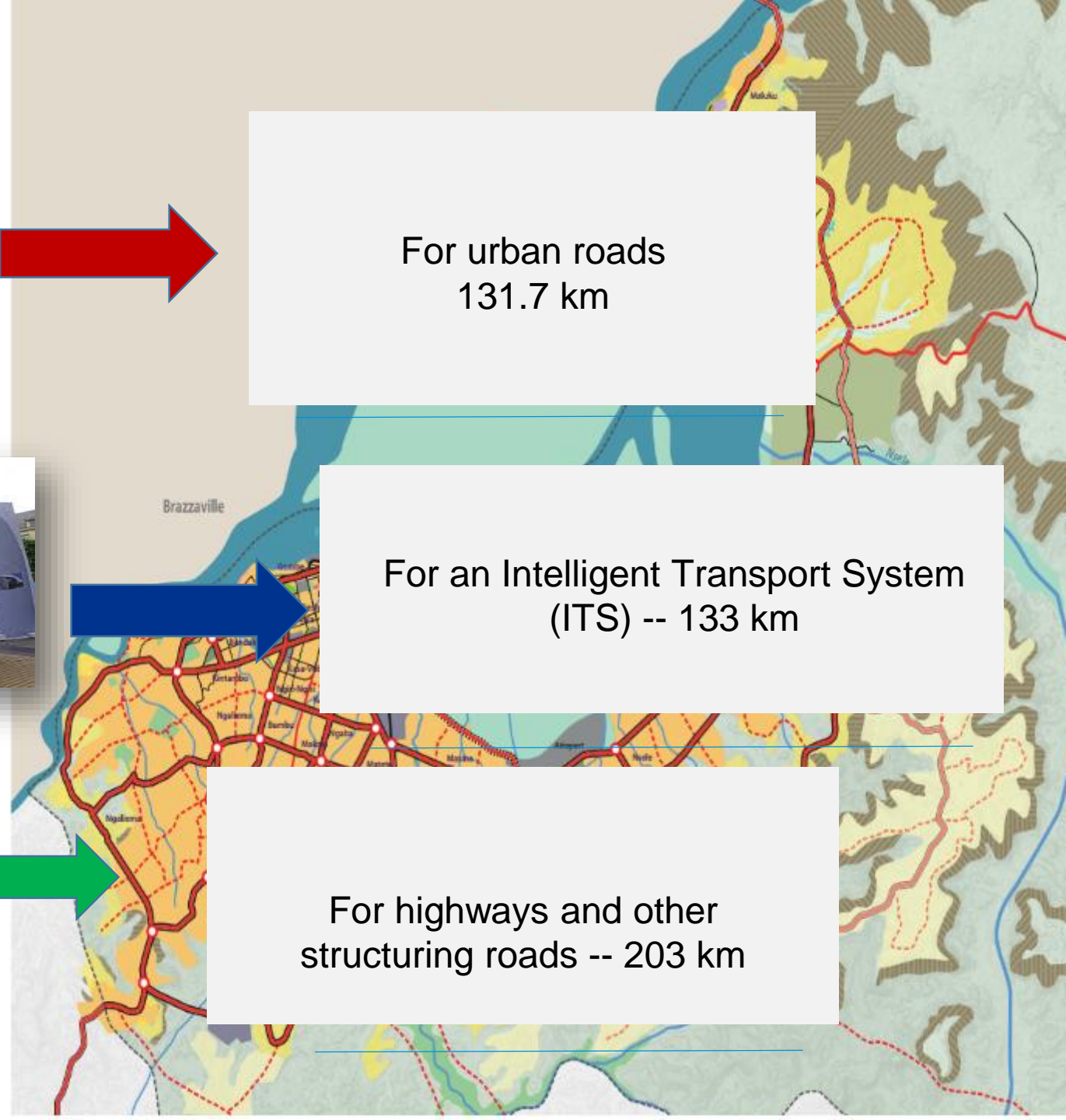
For an Intelligent Transport System  
(ITS) -- 133 km



Highway



For highways and other  
structuring roads -- 203 km



## Example of Urban Transport & Highways Projects

Peripheric Boulevard – N'djili river-  
Kibomango, to the outskirts at the hills  
bases (2x3 ways): 40.6 km

1

Semi-peripheric Boulevard -- Lemba - gare  
Lemba –N'djili - Kimbanseke - fin N'djili Airport  
(crossing the N'djili river) (2x3 ways with 2x  
BHNS) : 35.2 km -

2

Highway Centre-Ville – N'djili airport --  
Socimat square(2x2 ways) :  
22 km

3

Semi-peripheric Boulevard – Western Ring -  
Molwa (RN1) - Binza Okapi, Rond-Point Ngaba  
(2x3 ways) : 15.5 km -

4





## 4.6 | Airports

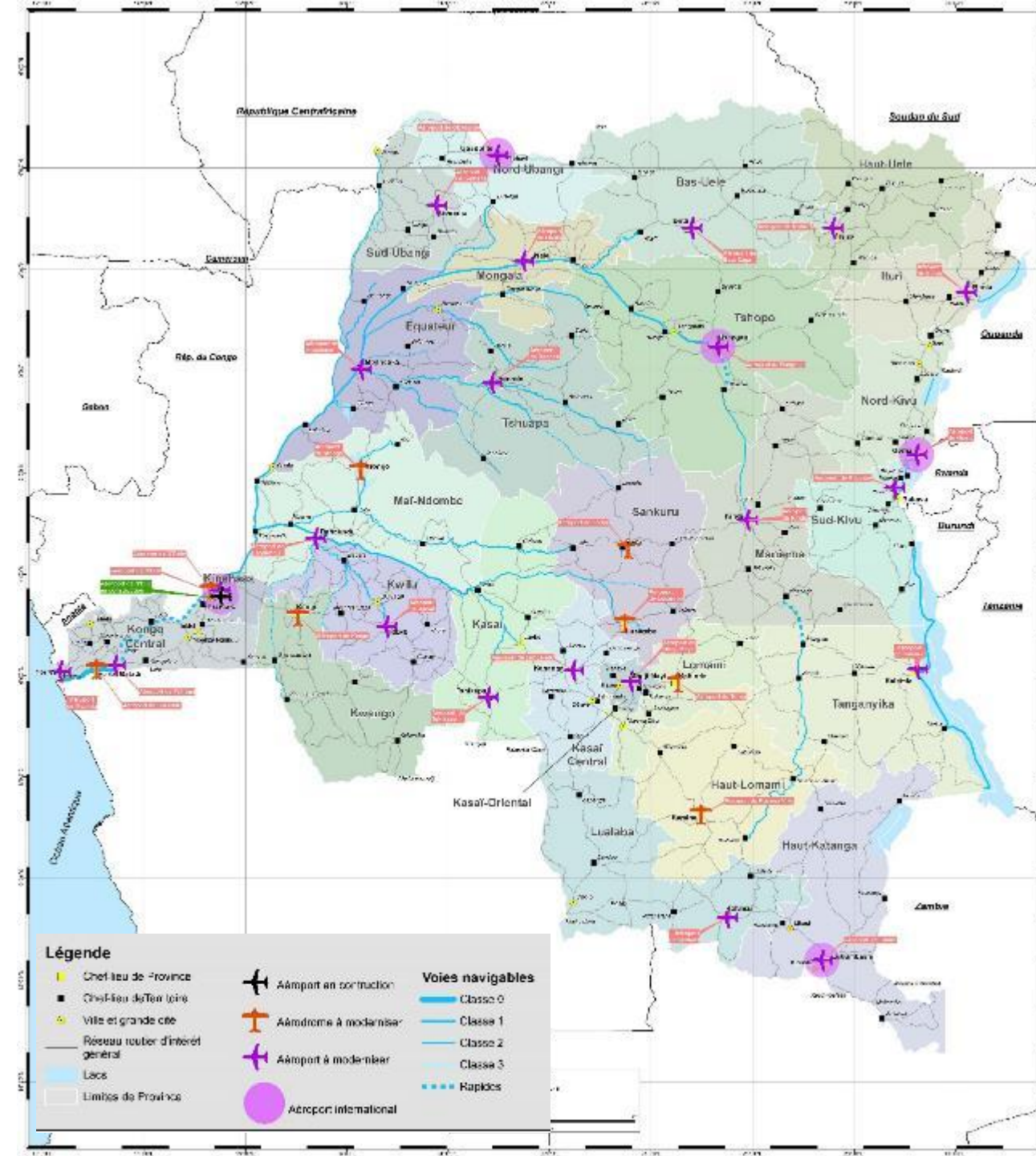


- 33 Aerodromes
- 4 International Airports
- 16 National Airports
- 5 military airports



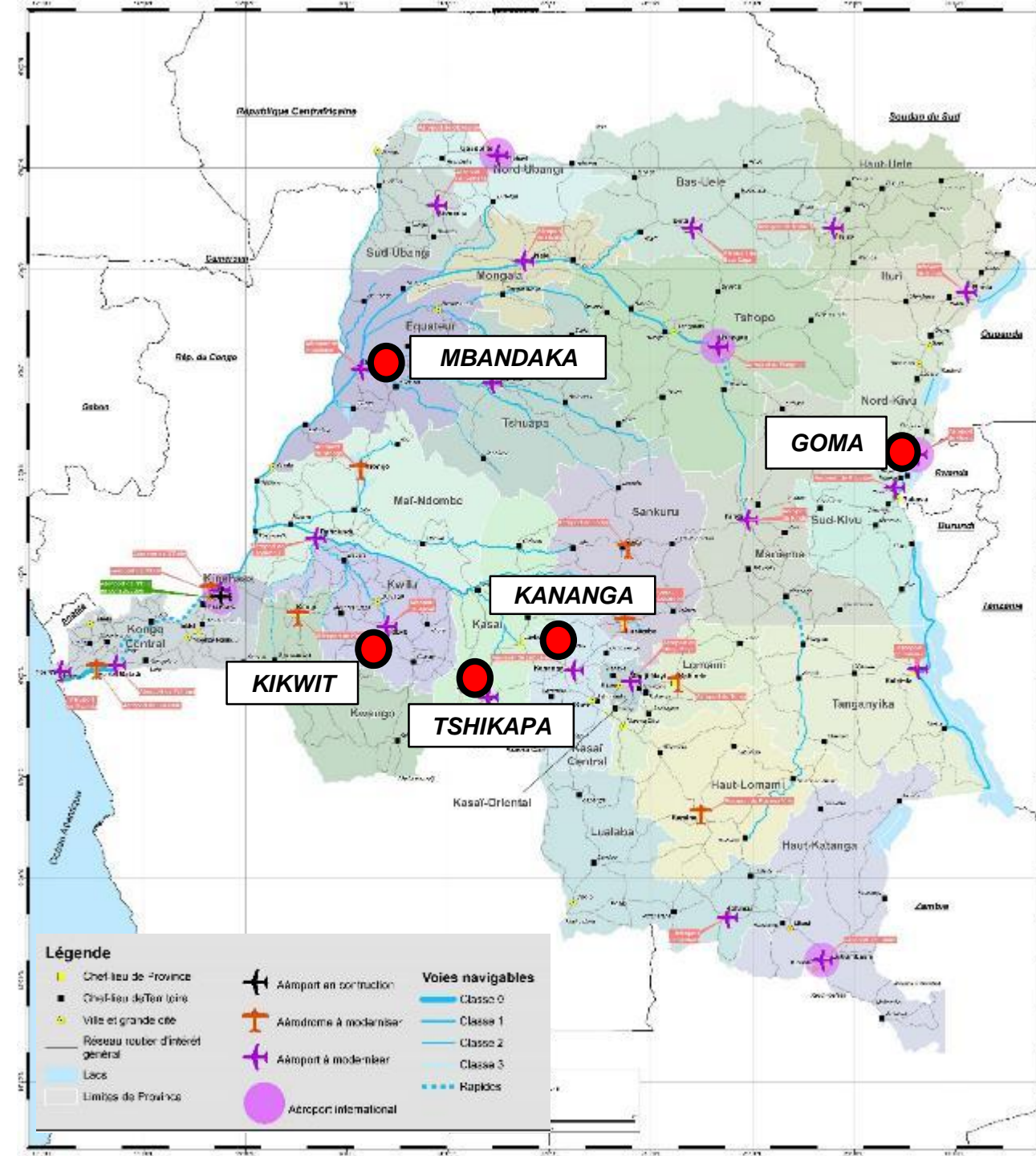
in first phase we must rehabilitate, modernize and/or build new infras to the latest standards.

**Feasibility studies urgently needed**



# Main Airports Projects

- New Airport in **KANANGA**  
To be used as a Hub in order to decrease airplane travelling cost
- Modernization of existing infras in
  - **GOMA**
  - **MBANDAKA**
  - **TSHIKAPA**
  - **KIKWIT**







# Example of Airport Projects

Modernizing and extending Kananga National Airport



Rehabilitation of the Bunia National Airport

Modernization of the Loano International Airport





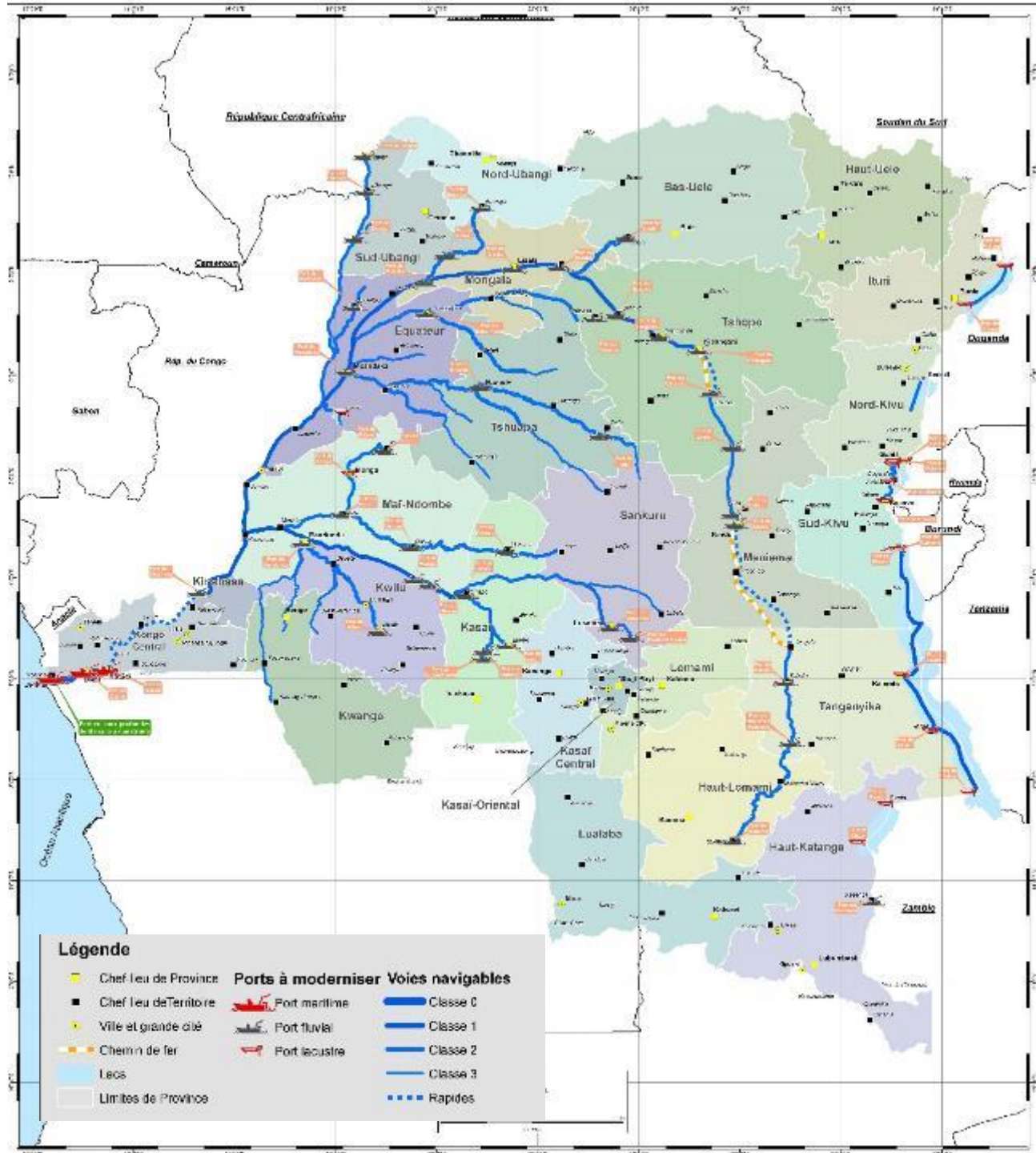
# 4.7 | Ports



- 40 Fluvial and Lakeside Ports
- 3 Sea Ports
- Multitudes of Private Ports

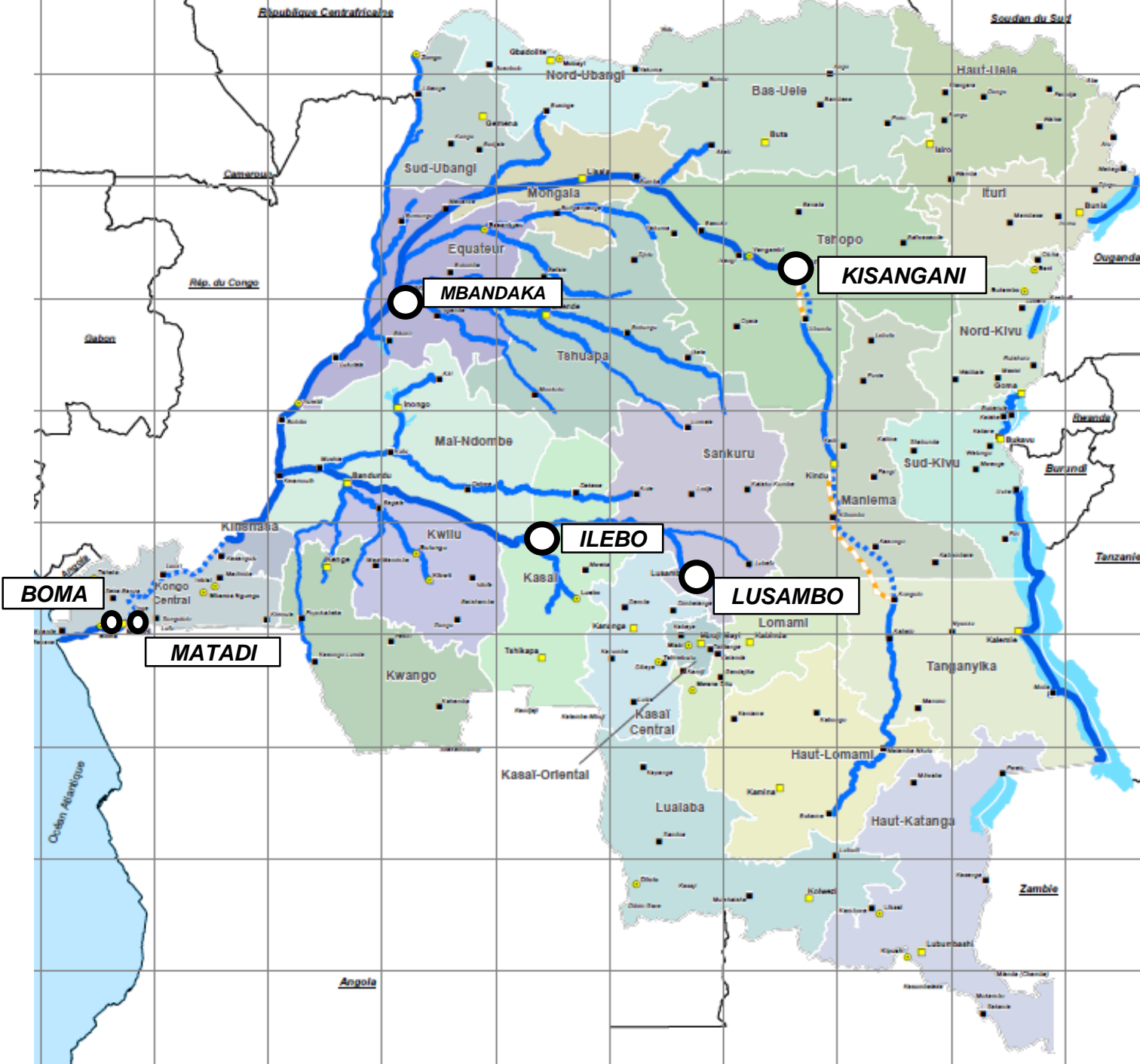


For Ports rehabilitation and modernization



# Rehabilitations & Building of Fuel Depots needed on the following feeder Ports

- Matadi
- Boma
- Kisangani
- Mbandaka
- Ilebo
- Lusambo





# Examples of Ports Projects



**Banana Deep-Waters Port**

1

2

**Boma Port:** rehabilitation of quays and equipment refurbishment

**Matadi Port:** rehabilitation of quays and procurement of equipment

3

4

**Mbandaka Port Rehabilitation**

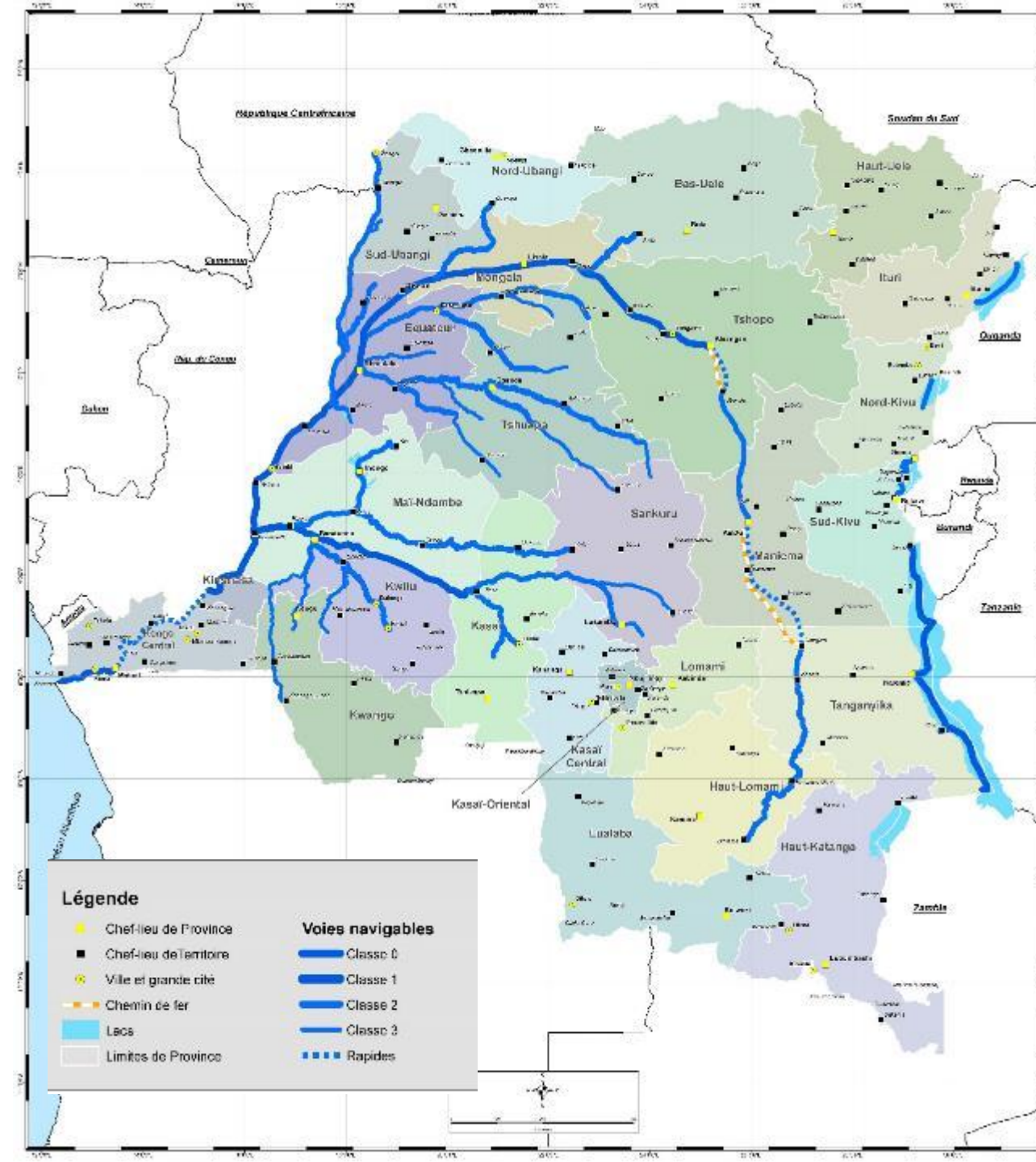




## 4.8 | Waterways

25,000 km long  
3 navigables reaches on the Congo river

Rehabilitation and modernization of  
navigables reaches



## Example of Waterways Projects

Building of Canals on the Congo River:

- Kinshasa - Matadi
- Kisangani – Ubundu
- Kindu – Kongolo



Building of Canals on other affluents:

Kongolo – Kabalo

Tagging and Mapping of Agricultural  
Service Waterways – 10,000 km long –  
around



Waterways Development & Maintenance  
-- around



Update the Congo River and lakes navigation  
codes -- around





# Canals and Dams on the Congo River

Matadi - Kinshasa

Kisangani - Ubundu

Kindu - Kongolo



To make the entire Congo River navigable from its source to the Atlantic Ocean



## 4.10 | Energy

**wwe**

**World  
Wide  
Energy**

- ❑ **Hydroelectric Dams Rehabilitation:**
  - ❖ **Over 100,000 MW of potential**
- ❑ **Rehabilitation of MV & LV Lines**
- ❑ **Distribution Networks Development**
- ❑ **Possible Interconnect to International Networks**



# 4.10.1 | Hydroelectric Sites



**+ 100,000 MW**  
Hydroelectricity



**+ 50,000 MW**  
Solar and Wind Potential



**SOCIÉTÉ  
NATIONALE  
D'ÉLECTRICITÉ  
SA**

## SITES HYDRO. DE LA RDC

Site	Potentiel (MW)
01 Grand Inga	43.800
02 Inga IX	1.500
03 Matsadi	12.000
04 Pioka	22.000
05 Zongo II	150
06 Kitona	12
07 Bamba	12
08 Kakobola	10,5
09 Ruki	5,3
10 Mobayi II	17,5
11 Lepudungu	3
12 Nepoko	134
13 Bengamisa	15
14 Babeba	20 - 50
15 Tshopo II	17
16 Kisangani	460
17 Wagenia	20 - 50
18 Wanja Rukula	530 - 688
19 Semliki	28
20 Ruwenzori I	6
21 Ruwenzori II	6
22 Kisalala	7,5
23 Muhuma	25
24 Mugomba	40
25 Rutshuru	4
26 Ngingwe	3
27 Binza	5
28 Osso	3
29 Panzi	42
30 Sisi	205
31 Kamanyola	240 - 390
32 Kiliba	15
33 Ulindi	30
34 Mwenga	9,5
35 Kamimbi	14
36 Kibombo	13
37 Kitete	21
38 Mwanangoye	46
39 Portes d'Enfer	36
40 Kyimbi II	25,8
41 Piana Mwanga II	8,4
42 Sombwa	186
43 Kiubo	66
44 Mambilima I	124
45 Mambilima II	201

### Légende

- Chutes ou rapides
- Centrales hydroélectr. S.N.E.L. existantes
- Centrales hydroélectr. privées existantes
- Sites hydroélectriques étudiés
- Villes principales
- Autres centres

Site	Potentiel (MW)
46 Mambilima V	418
47 Mumbotula M	210
48 Mumbotula CX	300
49 Nzilo II	120
50 Busanga	240
51 Kalengwe	204
52 Kimimbi/Fuka	153
53 Delporte	5
54 Tshilomba	3
55 Lubilanjii bis	4,2
56 Tshala II	12
57 Gd Katende	64
58 Katende/Bombo	10
59 Tshikapa	64 - 128
60 Lukenie	3



# Example of Hydro Projects

220 kV Nkenda-Beni-Butembo &  
Beni-Bunia Transmission Lines  
- around

1

Wanie-Rukula Hydroelectric Development  
+ Associated Networks –  
- around

3



2

Ubangui Hydroelectric Development +  
Associated Networks  
- around

4

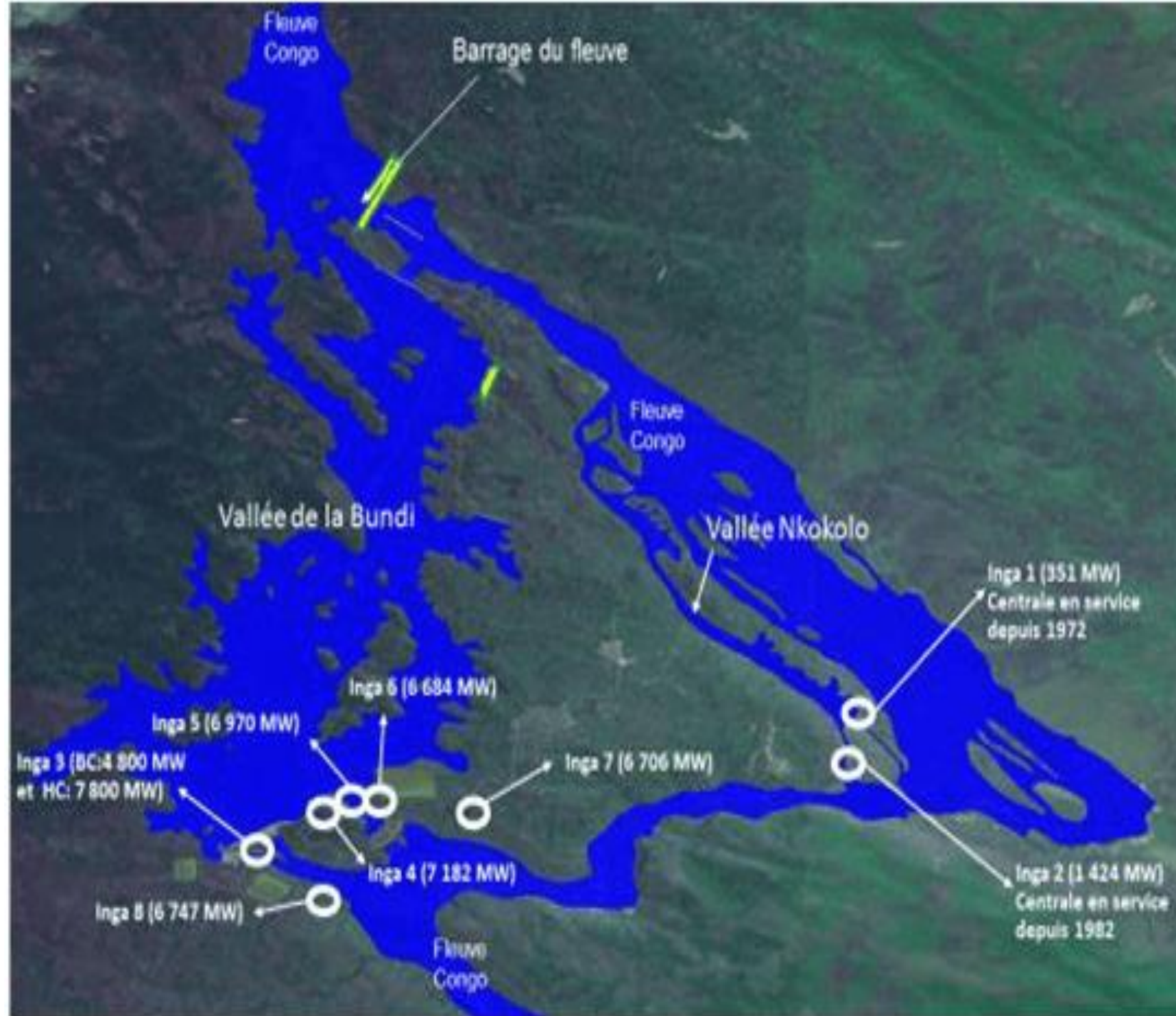
220 kV Bandundu-Mbandaka Transmission  
Line + Associated Distribution Networks -  
around





# Grand Inga Project

**43,800 MW  
Hydroelectric Potential**



# 4.10.2 | Drinking Water



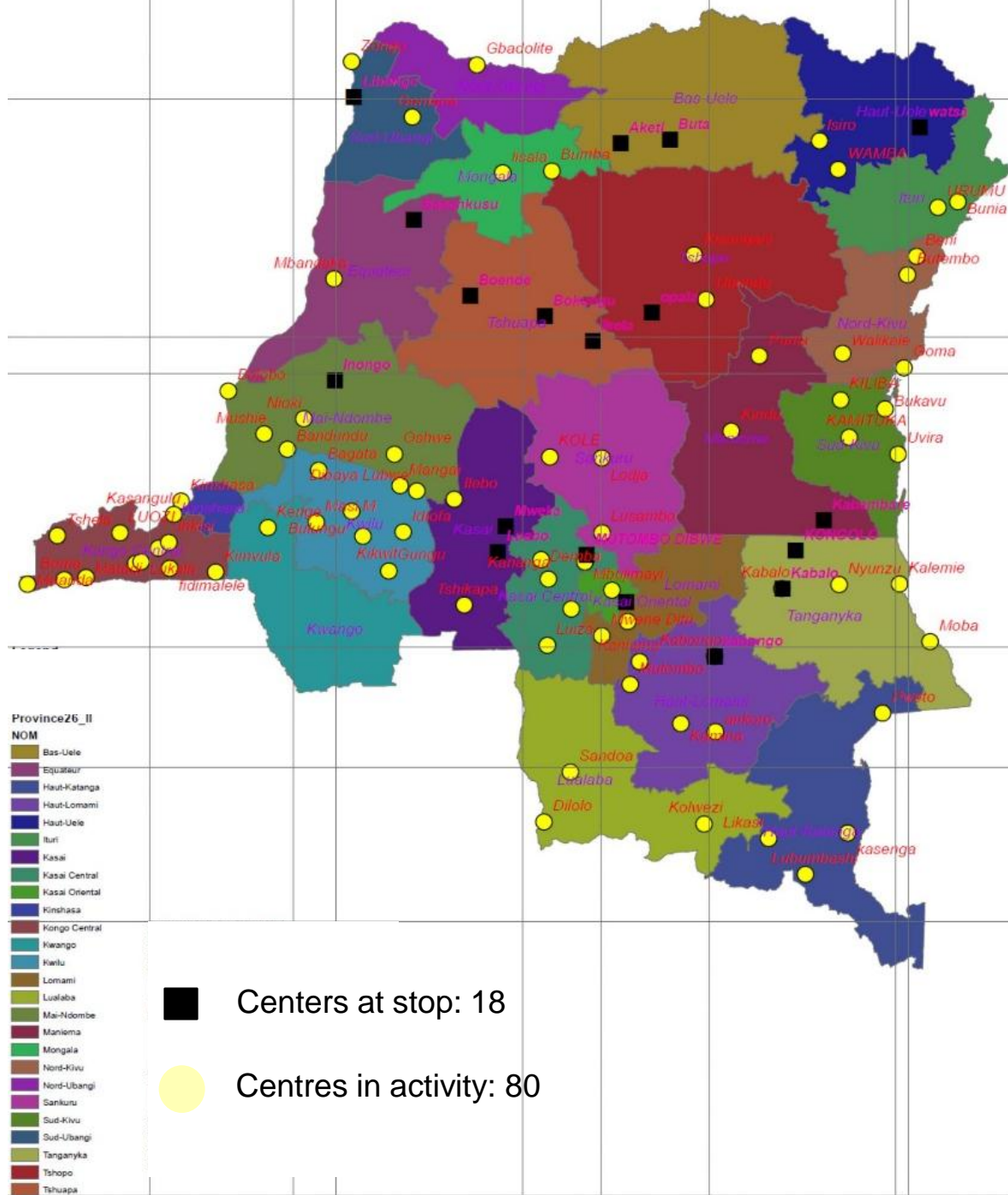
Despite boasting **52%** of Africa's surface water reserves & **47%** of groundwater and springs **only 26%** of the population have access to drinking water – **only 7 cubic meters** distributed per individual per year against 19,967 cubic meters available



Rehabilitation, restarting and extension of water treatment plants and DWSCs (Drinking Water Supply Centers)



**Access to drinking water for all!**





# Examples of Drinking Water Supply Projects



PEMU - FA Reinforcement of DWSCs in Kinshasa

1

2

Goma + Bukavu DWSCs

Rehabilitation & Reinforcement of Kananga DWSC

3

4

Gbadolite DWSC

# 4.11 | Optical Fiber

3,300 km installed between Kinshasa – Kasumbalesa (in need of urgent upgrades needed)

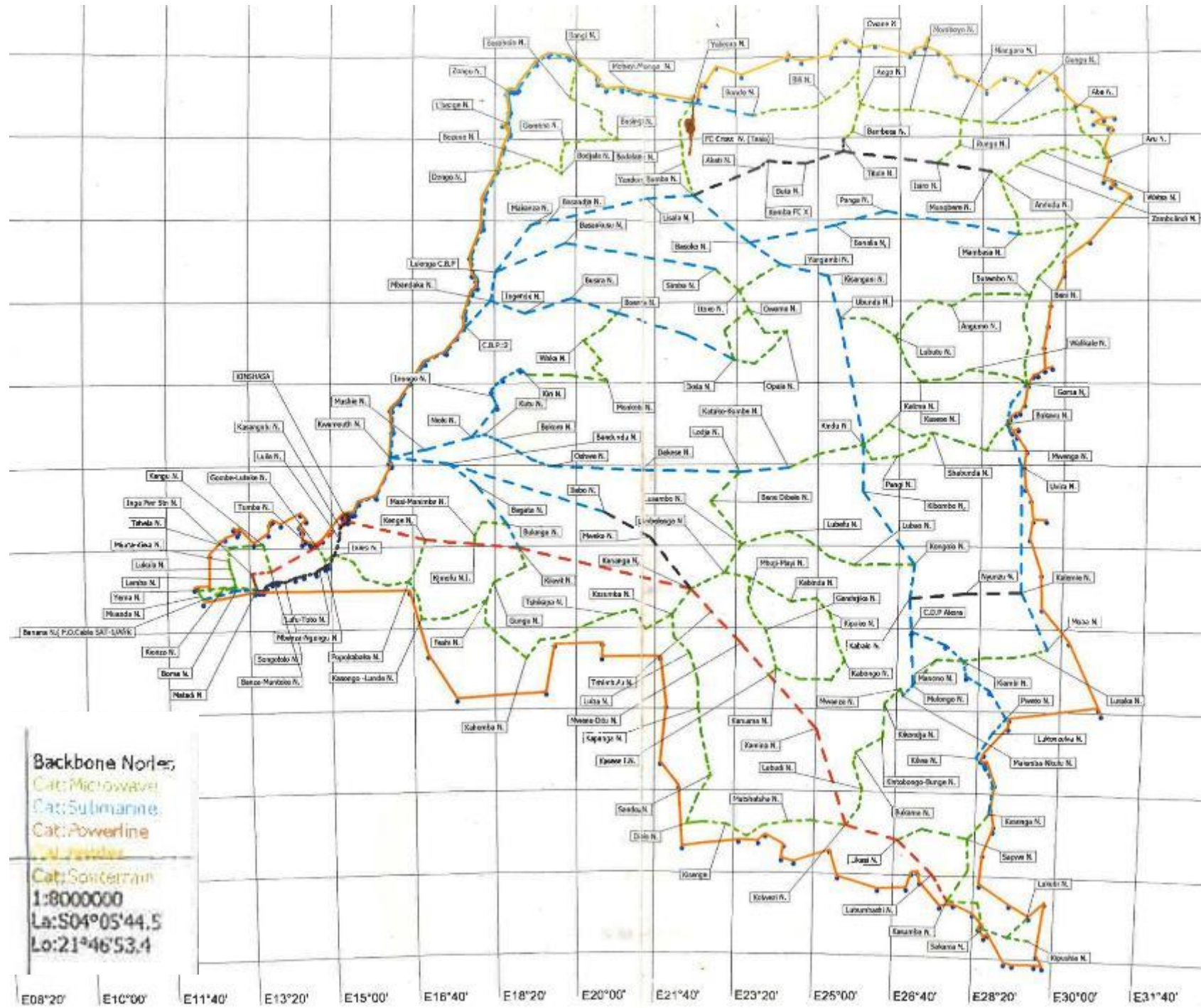
650 km Kinshasa - Moanda (to be rehabilitated)



3.5 Billion \$ US

Deployment of 5G & Internet Of Things

Feasibility Studies must be carried out





## 4.12 | Healthcare

### Statistics:

Healthcare Areas: **8,504**

Healthcare centers: **8,266**

Healthcare Zones: **516**

General Reference  
Hospitals : **393**

Provincial Hospital: **8**

University Hospitals : **3**

*Source: Projet d'Equipement des  
Structures Sanitaires 2019*



**4.2 Billion \$ US**

**Rehabilitation,  
construction et  
modernization of  
Infrastructures**



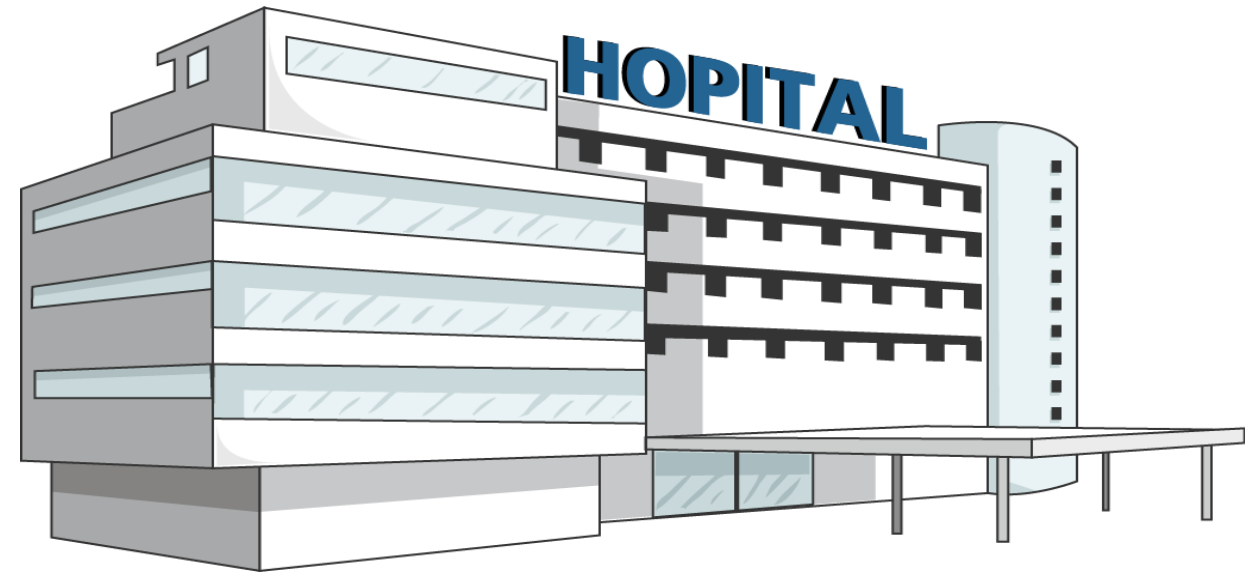
**Infrastructure and Equipment Deficit**



## Example of Healthcare Projects

Building Construction of a University  
Hospitalier for Cancer Treatment in  
Mbuji-Mayi – around **1.2 Billion \$ US**

1



2

Rehabilitation of the Kinshasa University  
Clinics

Building Construction of the  
Maniema Provincial Laboratory

3

4

Building Construction of the Nord-Ubangui  
Provincial Hospital



## 4.13 | Education

Universities:  
**38**

Colleges :  
**379**

High Schools :  
**8,257**

Primary Schools :  
**19,319**

Construction,  
rehabilitation and  
modernization of  
schools and  
universities

Deteriorated Infrastructures

Modern Schools and Establishments for the Country



# Example of Education Infra Projects

Rehabilitation of 1,570 classrooms in 260  
Primary Schools





## 4.14 | Police Infrastructures

### Statistics :

Provincial police  
Offices: **26**

Districts & Urban Police  
Office : **515**

Local Police Offices :  
**3,680**

Adequate  
Administrative  
Buildings: **4**

Provincial Inspection  
Antennas: **11**



**around  
6.5 Million \$ US**

**Construction &  
Equipement of  
Offices and  
sheds**



**Modern Buildings for the National Police**

# Example of Police Infras Projects

Construction of Kinshasa Provincial  
Police Office

1



2

Construction of Mongala Provincial Police  
Office

Construction of Lomami Provincial  
Police Office

3



4

Construction of Kongo Central Provincial  
Police Office



# 4.15 | Housing

## In rural areas:

- 7% of houses are built in hard materials
- 95% have no drainages, septic tanks, adequate sanitation and toilets

*(HE Felix Speech, Lac de Ma Vallée, le 16/08/2019)*

**Building of low cost social houses**

**Construction of prefabricated buildings/houses**

**Development of new cities and towns**

**Building of Modern social houses**



Radio Okapi PH, John Bompengo

5. National  
Infrastructure  
Cartography







## 6. Conclusion







*« ... infrastructures, the basis of our development, are necessary to win back our economy, especially road infrastructures, ports, airports, access to water and electricity, new technologies in all their various forms. »*

**His Excellency Felix-Antoine Tshisekedi Tshilombo**

*Investiture Speech (January 24th 2019, National Palace)*



**THANK YOU  
FOR YOUR ATTENTION!**

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