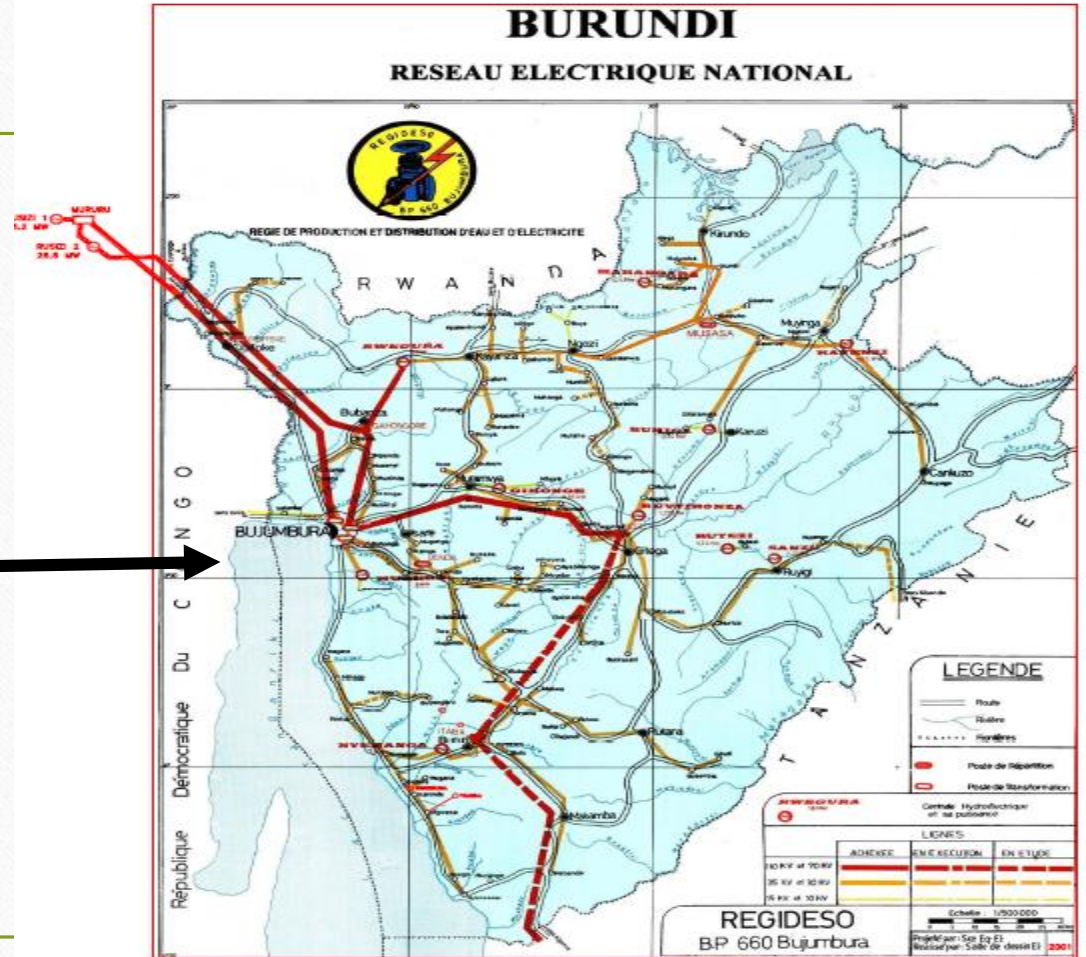
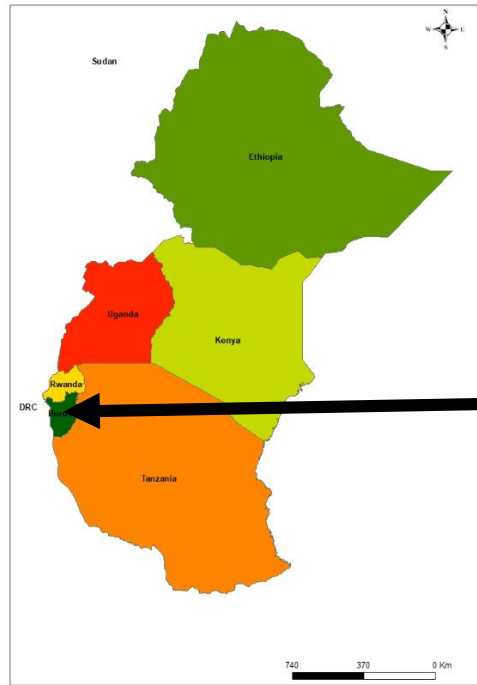


Electricity sector organization and performance in Burundi

René NSABIMANA

Electricity sector in Burundi



Motivation

- To investigate the organization of the electricity sector in Burundi and its impact on the performance
- This study, then, is the first attempt at investigating the quality of service and reliability of the sector.
- Secondly, the study relies on a strong dataset collected from the various departments of the REGIDESO.
- Hence, this paper, which analyzes the state of electricity in Burundi, initiates benchmarking performance of the sector in East Africa.

Performance of electricity sector in Burundi

Generation

- Installed capacity:
82.1 MW
- Power projects:
400 MW

Transmission

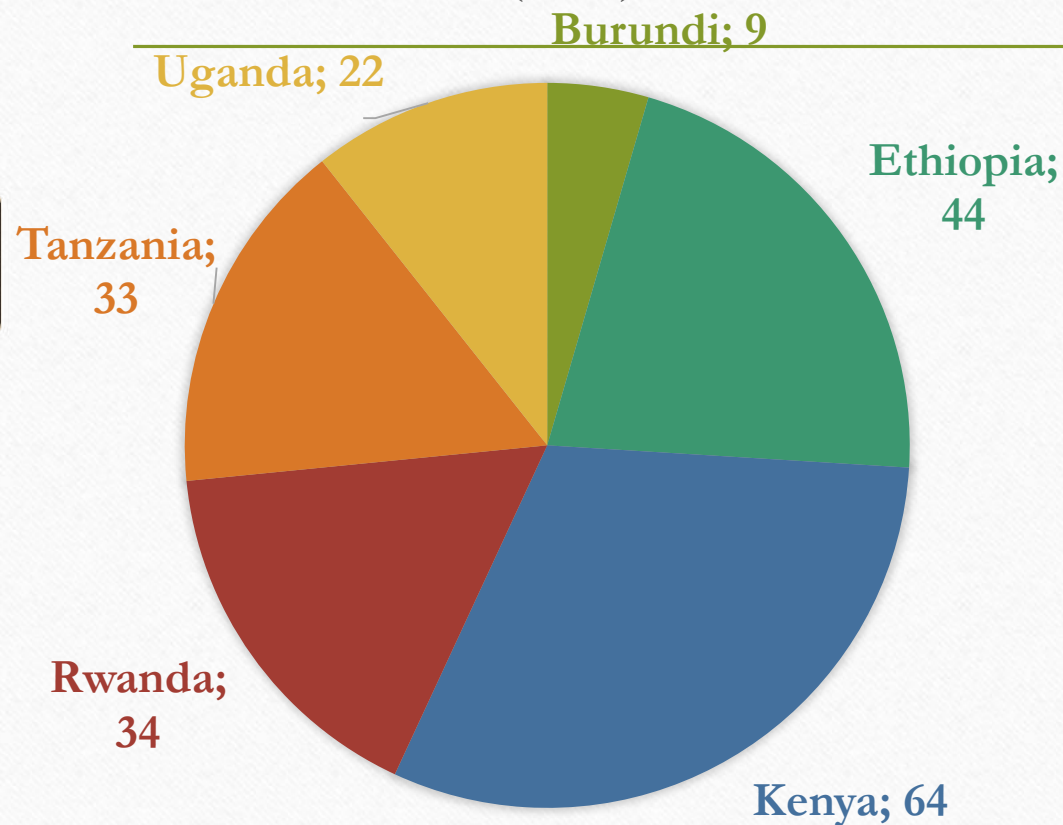
- HV lines: 210 km
of 110 kV, 112
km of 70 kV
- 30 kV used as
transmission lines

Distribution

- MV lines: 1396.47
km including 30
kV lines
- LV lines: 610.19
km

Performance of electricity sector in Burundi: electricity access

Figure 1. Electricity access in East Africa
% (2017)



- more than 90% of the Burundian population had no access to electricity in 2017.
- Electricity Access benefits urban areas (61.8%) far more than rural ones (2%).
- Electricity access remains very low compared to other countries.
- Under-consumption compared to Subsaharan country : 20 vs 486 kWh per capita

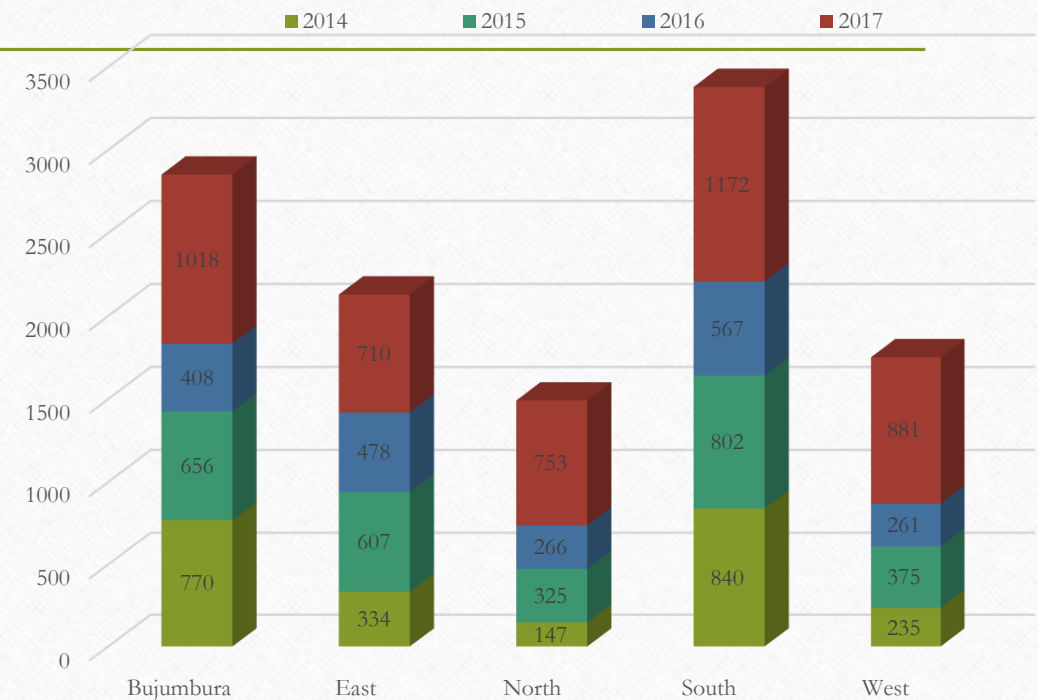
Performance of electricity sector in Burundi:

Quality of service

4a. Interruption frequency



4b. Interruption Duration in hours



High interruption frequency

High interruption duration
More than a month without electricity

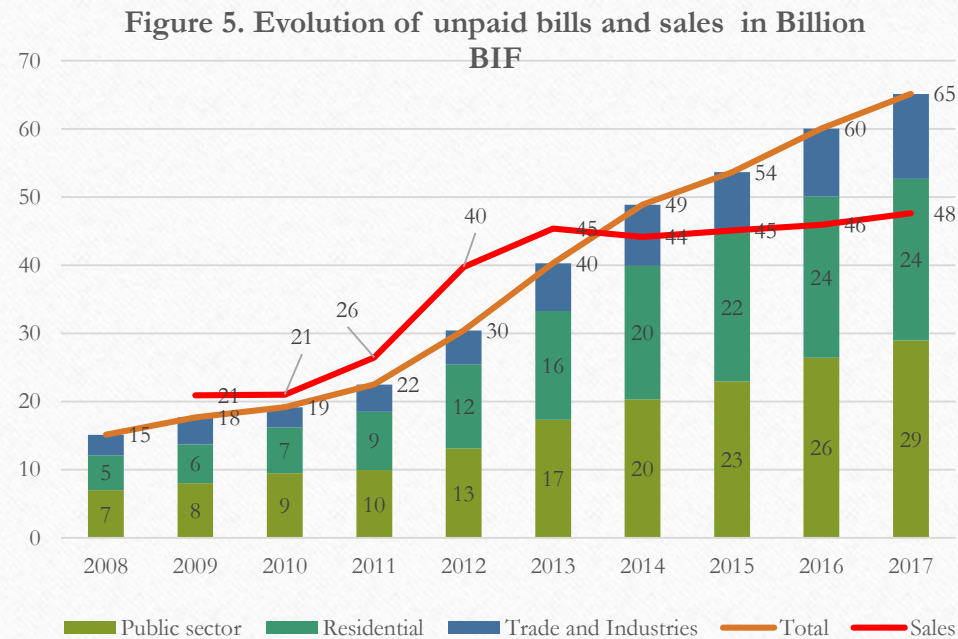
Performance of electricity sector in Burundi:

Reliability index

| Year | SAIFI | SAIDI | CAIDI |
|------|--------|--------|-------|
| 2014 | 122.94 | 571.84 | 4.65 |
| 2015 | 102.15 | 549.68 | 5.38 |
| 2016 | 79.00 | 405.95 | 5.14 |
| 2017 | 111.43 | 777.27 | 6.98 |

- 79 to 123 interruptions per year
- Interruption duration from 405 to 777 hours a year
- it takes 4 to 7 hours to restore the service

Quality of service and reliability



- Higher unpaid bills, especially from the public sector
- Total unpaid bills exceed the sales since 2014
- Unpaid bills are the high components of electricity losses

Challenges

- **Cyclical challenges:**

- ✓ Socio-political crisis of 1993-2005 and the post-electoral crisis of 2015.

- **Structural challenges:**

- ✓ Low level of wealth: GDP per capita below US\$300

- ✓ Poor governance

- ✓ Low attraction of private investments

- ✓ High charges

Recommandation

- Liberalize the REGIDESO and reorganize the electricity sector
- Diversify the energy mix
- Prioritize the regional projects for generation, transmission and distribution
- **Thanks**

Address

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