

Case Study



Electricity Grid Maps for Non-Governmental

Electricity Grid Maps Help NELSAP take Stock of Infrastructure Assets and Make Better Decisions



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Customer Profile

The Nile Equatorial Lakes Subsidiary Action Program (NELSAP) is an investment program within the framework of the Nile Basin Initiative (NBI). NELSAP countries include Burundi, D.R. Congo, Egypt, Kenya, Rwanda, Sudan, Tanzania, and Uganda. The mission of the NELSAP is to contribute to the eradication of poverty, to promote economic growth, and to reverse environmental degradation in the Nile Equatorial Lakes region. NELSAP oversees the implementation of the jointly identified Subsidiary Action Programs and promotes cooperative inter-country and in country investment projects related to the common use of the Nile Basin water resources.

Business Situation

NELSAP faced challenges in communicating with key stakeholders in the power sector, about the exact positioning of infrastructure assets, leading to difficulties in decision making at the highest level. NELSAP needed consultation on developing maps to facilitate partners to make better decisions, plan purposes of grid extensions and reinforcement, and easily appreciate the NELSAP achievements in the power sector.

Solution

Techno Brain produced high quality maps that displayed both existing and planned infrastructure within five East African countries; namely Burundi, Kenya, Rwanda, Tanzania and Uganda. These included high voltage power transmission lines, power generating plants and adjoining sub-stations found in these riparian countries. All these were at a relatively small scale to represent the bigger picture as far as grid coverage was concerned.

Major features of the NELSAP Electricity Grid Maps include:

- Maps of existing power infrastructure in the East African region
- Maps of planned power infrastructure in the East African region
- Maps of aggregated features across both planned and existing infrastructure
- Verified and accurate database of actual power plants, substations and high voltage lines within the riparian countries
- Metadata accompanying all geo database entries
- Review and project summary reports to account for the entire consultancy's findings

Technologies:

ArcGIS Desktop 10.1, Android 4.0.3, AutoCAD TrueView 2013, Google Earth

Benefits:

The maps produced by Techno Brain provided an updated view of the level of penetration of electricity in Nile Basin countries and extent of power transmission within the region. This data portrayed the specific

Customer:

Nile Equatorial Lakes Subsidiary Action Program's (NELSAP) objective is to prepare and coordinate the implementation of regional investment projects that would allow power trade among the NELSAP Countries.

Industry:

Non-Governmental Organisation

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Solution:

Techno Brain produced high quality maps that displayed both existing and planned infrastructure within five East African countries.

Benefits:

- Centralized geo database of electricity infrastructure
- Accurate information leads to better management decisions
- Aesthetic view of assets
- Effective communication tools for client partners

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grade of voltage load carried by each line and at glance enabled NELSAP and their partners to map out electricity projects to upgrade existing lines or plan new projects to untapped frontiers.

Key benefits of NELSAP Electricity Grid Maps:

- **Centralized geo database of electricity infrastructure** – Techno Brain developed a comprehensive database of the region's power infrastructure from multiple sources that could be used as a point of reference in future projects.
- **Accurate information leads to better management decisions** – The data collected during the consultancy will aid NELSAP chart out new projects based on the pressing needs of the region and account for existing projects in operation
- **Aesthetic view of assets can aid in presentations** – the maps would be used in different activities e.g. for power point presentations, for hanging in offices at NELSAP and distributed to different NELSAP countries
- **Effective communication tools for client partners** – the maps were also intended to be communication tools to facilitate NELSAP partners to easily appreciate the NELSAP achievements in the power sector.