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Migrants: the pull effects of rural industrial sites as seen from space

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Motivation and Background

- Migration, the permanent shift of a person's life, influences the African continent's dynamics. [1]
- The availability of migration data in West Africa is inadequate. [2]
- We examine whether remote sensing can proxy migration, particularly on rural industrial locations in West Africa.

Figure 1: Newmont gold mine, Ghana

Conceptualization of Study

- Datasets industrial locations were downloaded from industryabout.com.
- To designate rural industrial locations, the JRC GHSL [3] for the year 2000 was employed.
- Control sites were chosen 20 kilometres (km) distant from rural industrial locations. At this time, the dataset was updated to include the industries founding dates, types, and ISO codes.
- We established a 6 km buffer to accommodate large-scale industrial sites based on this. For 2000–2015, we used the World Settlement Footprint Evolution (WSF-Evo) [4] dataset as well as a built-up growth product using Sentinel-1 and -2 developed by DLR for 2015–2020.
- We utilised data from the WorldPop[5] dataset for the years 2000-2020 to evaluate the number of people living in rural areas.

Findings

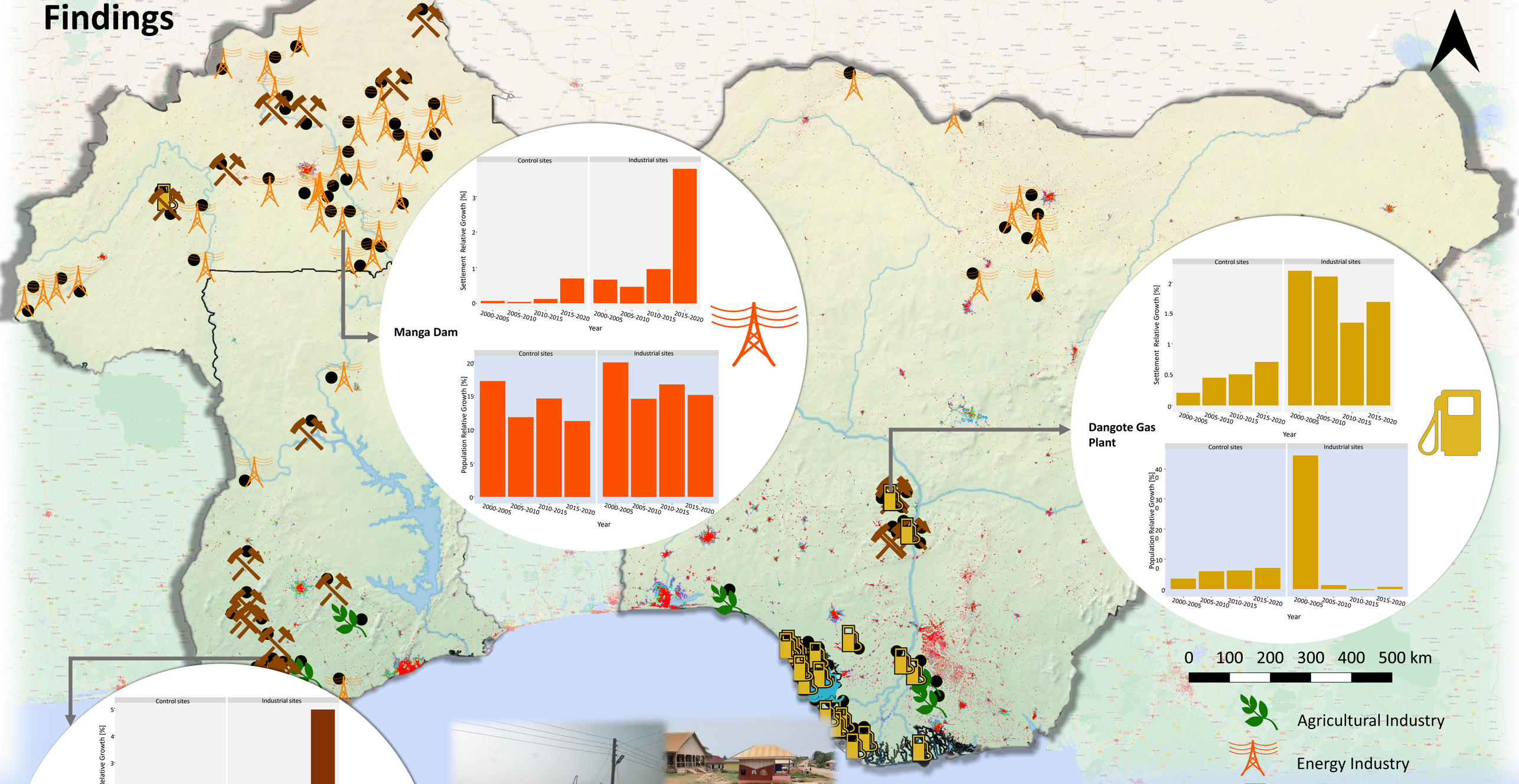
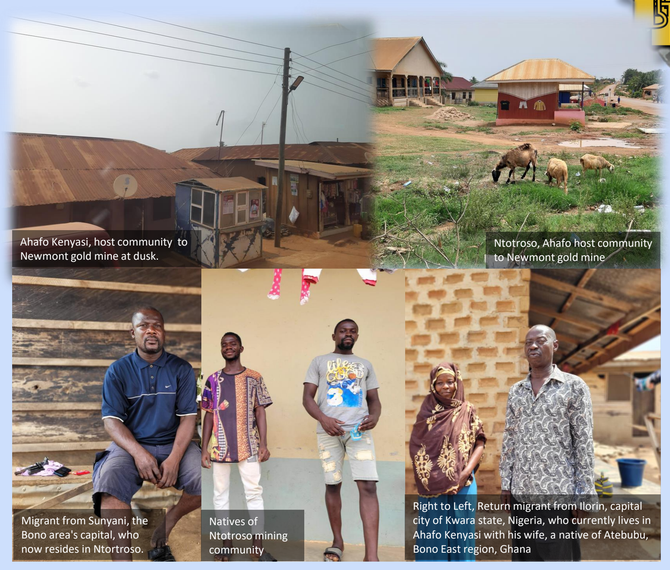


Figure 2: The distribution of rural industrial locations in Burkina Faso, Ghana, and Nigeria. The exhibited charts depict the leading industrial sites with expanding settlement areas.

Coordinate Reference System: WGS 84
Basemaps: WSF-Evo & Natural Earth Map



*Photos displayed with participants consent.

- Rural industrial towns have expanding populations and settlements.
- Industrial sites grown faster than control sites 20 km away.
- Rural industrial sites are pull areas of migration
- Earth observation data is a good proxy for rural African migration studies.

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