



## Background

- The United Nations cited eradicating global poverty as the first Sustainable Development Goal as well as advocates for multidimensional deprivations to measure poverty.
- In Uganda, a low-income country located in East Africa, 34.6% of its population still lived under \$1.90 per day in 2013, although it has achieved a great progress in poverty reduction since 2006 (World Bank, 2016). Uganda's Multidimensional Poverty Index was 0.359 in 2013, ranking behind other developing countries (UNDP, 2016).
- Foreign aid is a significant contributor to poverty alleviation in Uganda. Recently, around \$1.7 billion of official development assistance every year flows to support Uganda's social and economic development (World Bank, 2017).

## Research Question

- Did the distribution of foreign-sponsored development projects between 2006 and 2013 mesh well with the areas of Uganda in most need of anti-poverty and development interventions?

## Methods

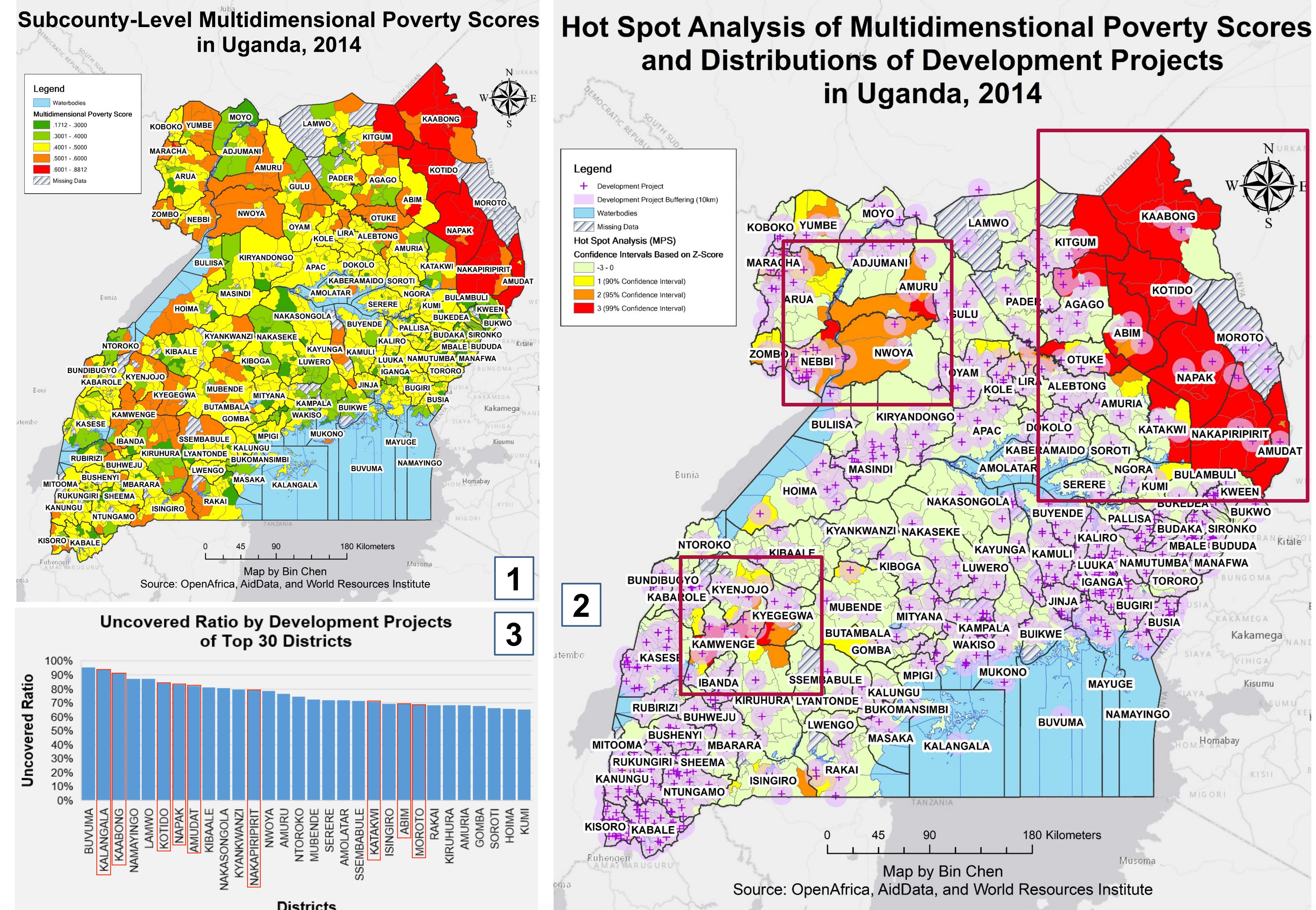
### Data Source

Data	Source
Subcounty/District Boundaries of Uganda (2014)	OpenAfrica
Uganda's National Population and Housing Census 2014 (Subcounty-Level)	OpenAfrica
Major Health Centers in Uganda	ArcGIS Online Database
Development Projects Sponsored by Foreign Countries	AidData
Waterbodies in Uganda	World Resources Institute

### Measures

Dimensions	Indicators	Measurements	Value
Health	Food Insecurity	Households having less than two meals per day (%)	1/6
	Access to Health Services	Number of households per health center (>1500) [dichotomous]	1/6
Education	Years of Schooling	Households having no individual graduating from primary school (%)	1/6
	School Attendance	Households having children under 15 not attending school (%)	1/6
Living Standards	Improved Toilet	Households having no improved toilets (%)	1/15
	Safe Water	Households having no access to safe water (%)	1/15
	Electricity	Households not using electricity (%)	1/15
	Floor	Households having temporary floor (%)	1/15
	Assets	Households having a radio (%)	1/60
		Households having a bike (%)	1/60
		Households having a motorbike (%)	1/60
		Households having at least two clothes (%)	1/60

## Results



## Discussion

- Although multidimensional poverty is a nationwide concern for Uganda, uneven distribution of poverty and anti-poverty efforts is found in this study. Uganda's government should respond with better, holistic planning and coordination of current and future development projects, especially focus on the northeastern region and the Amuru-Nwoya area.
- Bodies of Water, especially Lake Victoria, seem to have a certain relieving influence on the poverty levels of surrounding subcounties. This influence may occur through increasing local residents' access to safe water and the possibility of engaging in the fishing industry which is economically more productive than subsistence farming. Uganda has substantial natural and environmental resources, and they can be taken advantage of to promote internal drivers of economic growth.
- The findings are valuable for policy-makers and foreign aid providers to avoid excessive convergence of development projects in Uganda and promote balanced regional social and economic development.

## Limitations

- The main focus of this study is the mismatch between social development projects and areas in most need of development, thus ignoring other important factors of multidimensional poverty, like infrastructure building.
- Whether development projects are specific to local needs were not examined in this study, but this point is very important for the optimal distribution of development resources.
- Future studies are needed to further investigate the reasons for development projects overlooking the three areas in most need of development.

## Methods (Cont'd)

- Equation and Threshold of Multidimensional Poverty Score (MPS)**

$$MPS = \frac{1}{6} * X_{FS} + \frac{1}{6} * X_{ATHS} + \frac{1}{6} * X_{YS} + \frac{1}{6} * X_{SA} + \frac{1}{15} * X_{IT} + \frac{1}{15} * X_{SW} + \frac{1}{15} * X_E \\ + \frac{1}{15} * X_F + \frac{1}{60} * X_{Ra} + \frac{1}{60} * X_{Bi} + \frac{1}{60} * X_{Mo} + \frac{1}{60} * X_{Cl}$$
- Subcounties with calculated MPS greater than 0.4 was considered deprived.
- Mapping Development Projects**
  - Ten-kilometer-radius was used to model the radiating effects of all development projects regardless of type.
- Spatial Analysis**
  - Cleaned and Joined Uganda's National Population and Housing Census (2014) to the shapefile of subcounty boundaries
  - Calculated and visualized subcounty-level MPS
  - Employed hot spot analysis to distinguish subcounties of Uganda in most need of development
  - Mapped development projects with ten-kilometer buffers
  - Computed uncovered ratios of districts by development projects

## Results (Cont'd)

- Overall, nonmonetary poverty is a huge issue for Uganda. Almost all subcounties with the highest level of multidimensional poverty ( $MPS > 0.6$ , Figure 1) are clustered in the northeastern region.
- Hot spot analysis (Figure 2) shows that the northeastern region, parts of the northwestern region, and a small proportion of southwestern region had statistically significant, higher MPS than their peripheries, denoting a greater need for development. However, development projects between 2006 and 2013 overlooked the two areas in north Uganda.
- Excluding the districts mostly covered by Lake Victoria, like Buvuma, the districts of northeastern region were near the top of uncovered ratio list (Figure 3).