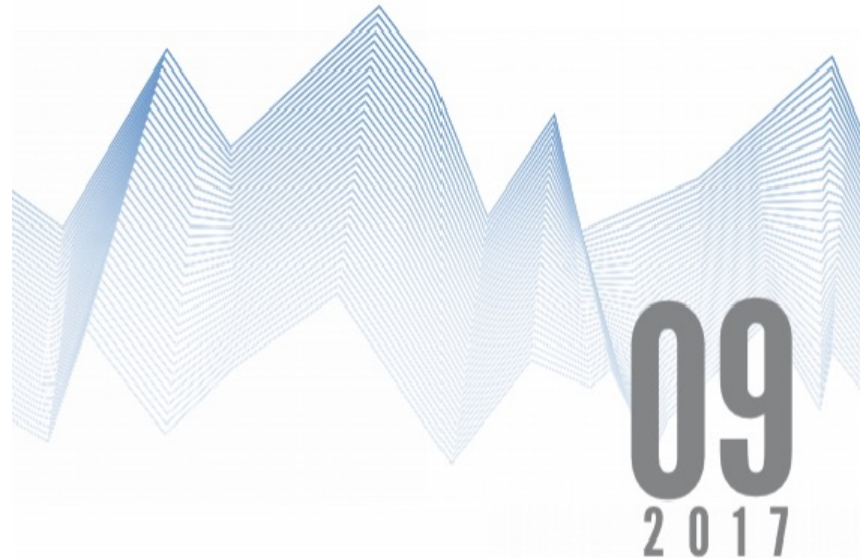# Geodata and Geospatial analysis of aid – possibilities and limitations

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GEOSPATIAL ANALYSIS OF AID: A NEW APPROACH TO AID EVALUATION

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Geocoded outcome data: E.g. survey or satellite data on the outcome we are interested in

What do we mean by geospatial analysis of aid

$\Rightarrow$ Combining geocoded project and outcome data makes it possible to evaluate the local allocation and effects of development projects systematically and on a wide scale

Chinese aid projects and Afrobarometer coverage

Legend
- • Chinese ODA-like project locations
- • Afrobarometer clusters
- ▭ Countries
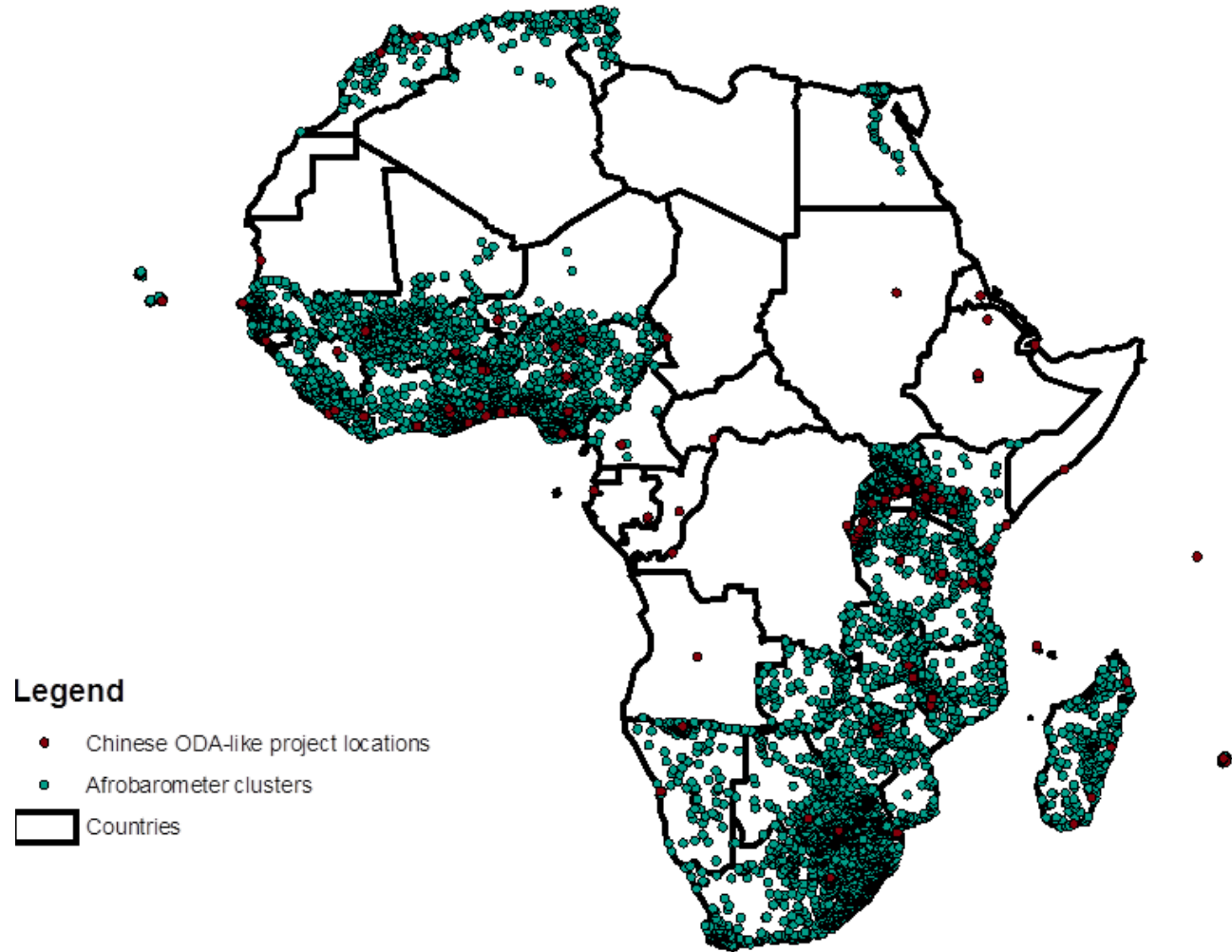
Rapid increase in availability of geocoded data

Increased availability of geocoded data on development projects (see AidData.org)

- World Bank, African Development Bank, Asian Development Bank, China, India
- Some aid receiving countries geocode incoming aid flows (e.g. Nigeria, Uganda, Senegal, Malawi, Afghanistan)

Increased availability of geocoded outcome data

- Household/individual survey data increasingly geocoded
- Increased availability of geocoded data from satellite imagery, and from mobile phone, internet and credit card use

$\Rightarrow$ Growing number of studies utilizing geospatial data

Geodata enables evaluation of aid allocation patterns

- Consider pre-existing characteristics of aid receiving localities and the people living there - does aid end up where it is most needed within countries?

  ➢ Do aid flows reach the poorest areas?

  ➢ Do e.g. health/employment/school interventions reach the areas where the concerned health/employment/school needs are the greatest?

Geodata enables rigorous evaluation of project impacts

- Do projects achieve their intended objectives?

  ➤ Compare e.g. local health outcomes over time in areas covered by an health project and areas not covered by health project

- Do projects have unintended consequences?

  ➤ Positive spill-overs?

  ➤ Negative side effects?

Strengths of geospatial impact evaluation

- Enables rigorous evaluation of project impact in cases when it is not feasible to conduct an RCT
  - Well-suited for quasi-experimental methods controlling for confounding factors at the local level

- Relatively strong in terms of generalizability
  - Can estimate the impact of a multitude of development projects, potentially across several countries and over long time periods

- Relatively cost-effective due to the use of publicly available existing data materials

Limitations of geospatial aid analysis

- Geospatial analysis is not appropriate for all types of development projects.
  - Need a well-defined project site (e.g. local interventions in terms of health, education or local governance)
  - Some projects are implemented at more aggregate levels, such as a district or greater administrative region, and some lack a clear project site (e.g. debt-relief agreements, budget- and sector support).

- Data restrictions
  - Gaps in the geocoded aid data makes it difficult to get a full picture of all development projects located in the area.
  - The questions one can address with geospatial data, without further data collection, is limited by the information available in existing data sources

Benefits of geocoding aid

- Geospatial analysis is a valuable tool to evaluate aid allocation patterns and aid impacts

- Help management/dialogue/planning of development cooperation
  - Highlight financing gaps and inequalities
  - Simplify donor coordination

- Improve donor /partner country transparency and accountability
  - Publicly available mappings of aid flows can help citizens verify that projects are being implemented in their intended locations

- Contribute to the public good that publicly available geocoded aid data constitutes

Swedish aid not yet geocoded on a wide scale:

- A reasonable first step: screen and compile already available geocoded data pertaining to Swedish aid flows

Deciding to geocode, there are different options:

- Hire coders to do broad portfolio level geocoding of past and ongoing projects (needs to be preceded by a screening of the potential for geocoding different parts of the aid portfolio)

- Geocode specific projects of particular interest in a more detailed manner

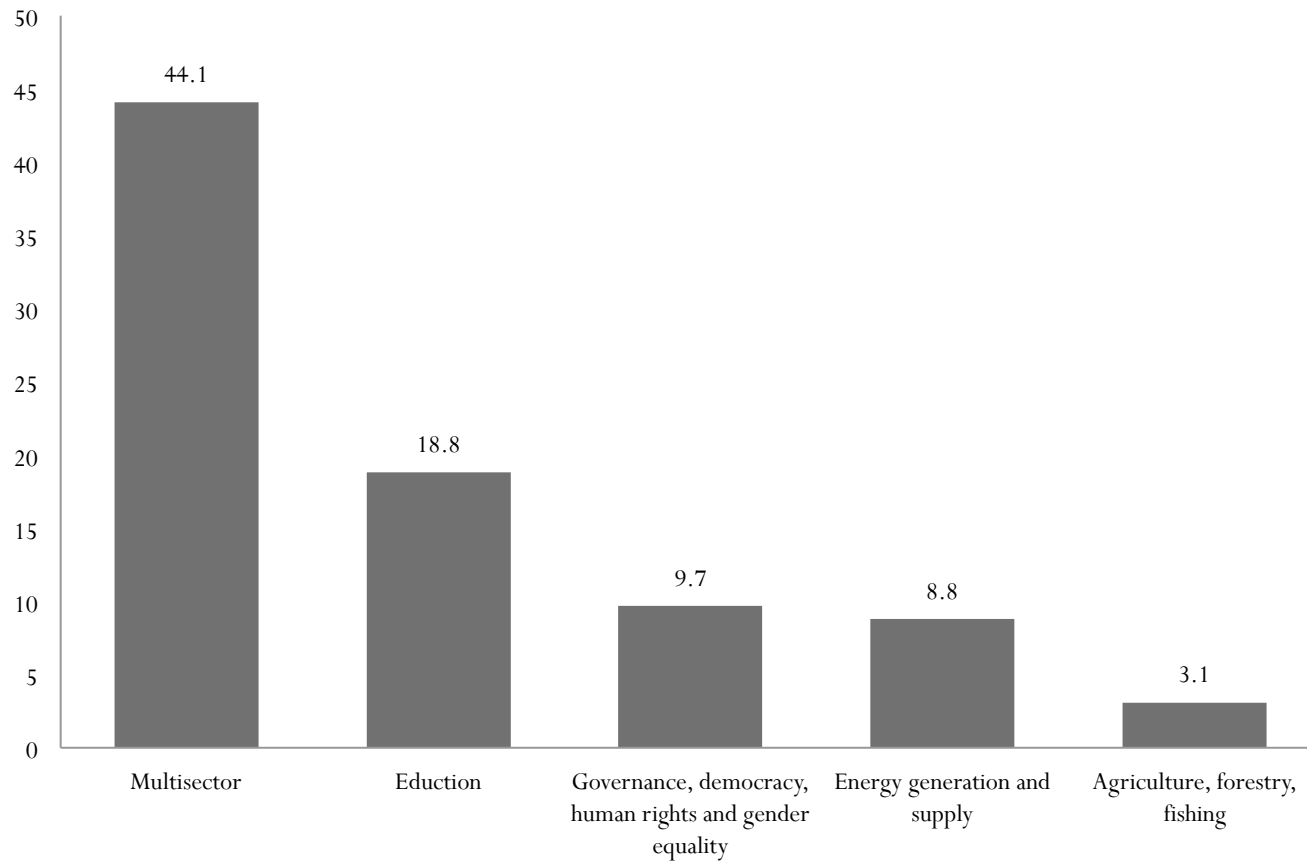- Provide support to partner country initiatives to geocode incoming aid flows

Potential of geospatial analysis of Swedish aid

Main sectors of Swedish aid in 2016 (openaid)
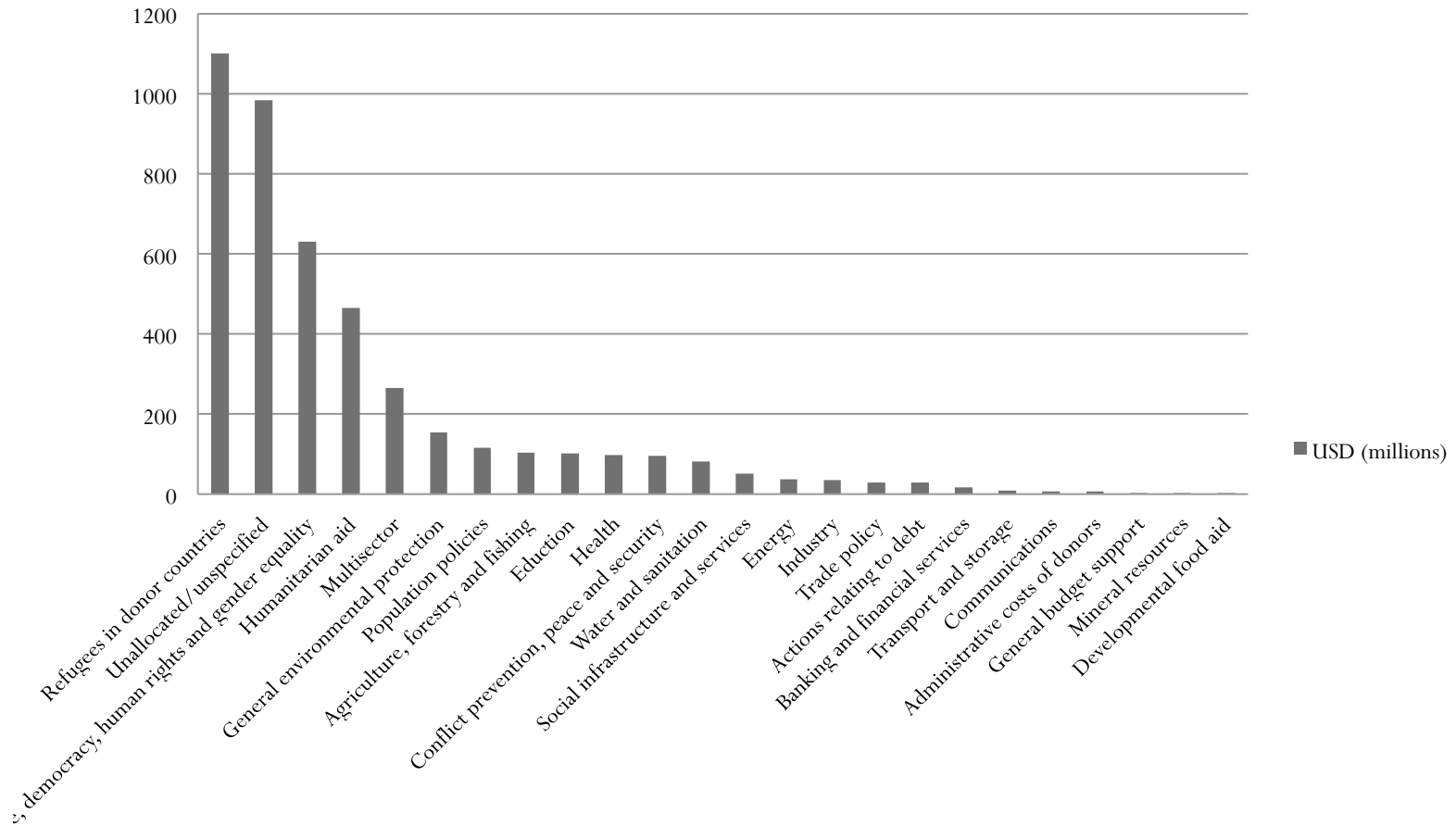
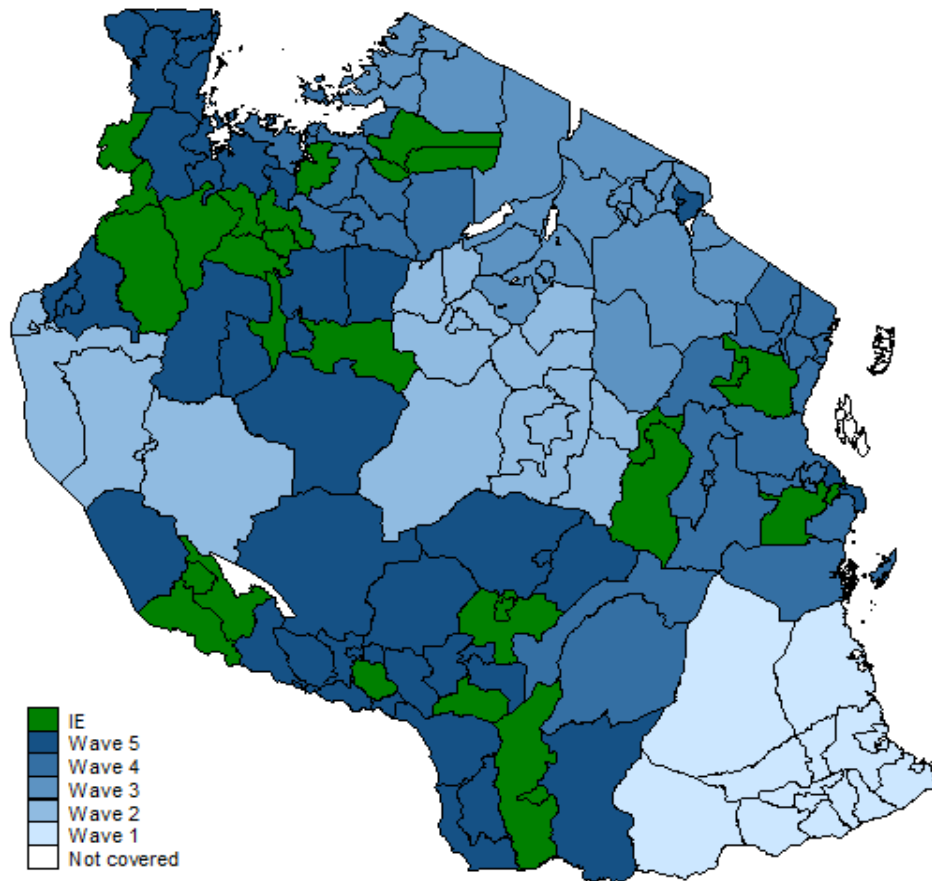# Potential of geospatial analysis of Swedish aid

Five main sectors of Swedish aid to Tanzania in 2016 (in millions of USD)

Potential of geospatial analysis of Swedish aid

Geographical roll out of the Productive Social Safety Net program in Tanzania 2013-2015

In sum...

- Geospatial analysis is not relevant for all aid…

- But for projects with well-defined project sites it is a valuable tool to evaluate aid allocation patterns and aid impacts

- A rapid increase in the availability of geocoded data, often publicly available, offers great opportunities for cost-effective evaluation

- Geocoded aid data also has benefits in terms of development cooperation management, dialogue, planning and transparency

- For Swedish development cooperation to reap these benefits geocoding efforts are needed.