Taking the Data Revolution to the Next Level: Effective and Inclusive Methods of Communicating Spatial Data

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Key words: Access to land; Cadastre; Capacity building; Digital cadastre; e-Governance; Geoinformation/GI; Low cost technology; Standards; open data, big data, geospatial data

SUMMARY

The "Data Revolution" is such a well-established and widely recognized concept within the sustainable development sphere now, that it is hard to believe it has only been an integral part of the development agenda since a few years. With the development of the post-2015 agenda, the UN High Level Panel expressed a need for such a 'data revolution' to enable the transformative action necessary to respond to the demands of an incredibly complex development agenda. Data collection, analytics and monitoring have been hot topics of discussion within the land community as well. New technologies are developed continuously to allow actors to capture and analyze data at a greater speed and in higher volumes than has been possible before. Research has shown that a big portion of the global "big data" is actually geospatial data, and the size of this data is growing rapidly at least by 20% every year.

Being able to analyze spatial data requires a unique skill set that only a minority of people in the land sector possess. As a result, geospatial data and analytics often do not leave the specialized networks of GIS experts, which leaves a major gap for the rest of the land sector. Generally, attention seems to be shifting from the early efforts to capture "raw data", to the use of data to now focusing on spreading skills and attitudes for data use to a wider audience. Phrases such as "citizen geodata science" and the like are emerging in other sectors and the land community is required to understand how to better manage this new trend. Therefore, the question we would like to pose in this paper is: how can we open up the wealth of geospatial data and make it part of an inclusive global debate that goes beyond the technical GIS audience?

While we believe it may be worthwhile to expand trainings to build actor's capacities to digest and analyze spatial data themselves, we do not imagine that all actors in the land community will or, better yet, should be able to make sense of datasets with polygons or spatial coordinates. Data analysis is a expert skill for a reason and drawing conclusions from data analysis can be inaccurate

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Geospatial information for a smarter life and environmental resilience
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or even harmful if not done correctly. However, we do see a crucial societal opportunity for wider inclusion in expanding the reach of geospatial data to a non-expert audience, as opposed to data scientists speaking to other data scientists. We would like to argue that new technologies should not (only) focus on innovative methods of data capture or analysis, but start focusing more on communicating that data.

Using appropriate software tools to visualize data, for example, can be a highly effective way to communicate data and get the message across. Visual information is said to be processed 600,000 times faster than text and consumers of information are said to retain 80 percent of what they see, while only paying attention to 20 percent of what they read. In a world bombarded with information, clear and concise visuals are what can grab a person's attention. In our case, without engaging visuals that depict the physical land we are talking about, we are only telling half of the story.

The implications and means to achieve this are twofold. The first being evident and obvious; the way in which we tell the land rights story needs to become inherently more visual and compelling. The second, which in fact may be more essential, is finding the appropriate methods and tools to communicate this data to citizens and through that, empower them to enter into the global debate. Story maps are one important means by which the gap between narratives and visuals can be bridged. Maps can be overlay with narrative texts, other images as well as multimedia content. The key here is to encourage the use of tools that help people to find real insights and avoid statistical mistakes.

One possible way of allowing non-experts to work with and visualize the spatial data that is of interest to them, which the Land Portal Foundation is currently exploring together with the University of Twente and Plan B, with Kadaster International in an advisory role, is by establishing a geospatial platform specifically tailored to non-GIS-experts. Some of the possible ways we envision users can interact with this platform to achieve their specific goals are the following:

For example, as part of its due diligence process, a private investor looking for suitable agricultural land for his sugar plantation in Peru may consult the platform to match soil and land use data maps to community land maps. Similarly, a donor agency assessing a new program in Liberia can consult a visual dataset detailing (active) projects by other donors to avoid duplication of efforts. These are but a few of the many examples that can be given, but one can imagine how such a visual analytics tool can benefit many beyond the GIS expert network.

In our full paper, we highlight more detailed specifications of such a tool as well as other methods of communicating spatially explicit data and opening up the debate to a non-expert audience. While big data are becoming increasingly available to a wider audience, we investigate how to turn this recent trend into an opportunity for the land sector. Ultimately, we hope this paper can be catalytic

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to provoke deeper thought beyond developing technology to capturing or analyzing data, but shifting the attention from the technology itself to the needs and the experience of wide range of new potential user groups.

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