Accelerating Participatory Land Rights Mapping with Smartlandmaps Tools: Lessons Learnt from Benin

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SUMMARY

Sketching on maps is useful during participatory mapping activities in various contexts such as urban planning or environmental protection. Particularly for land rights recording, participatory mapping found endorsement by the FFPLA (Fit -For-Purpose Land Administration) guiding principles. However, the co-creation of information and analogue way of mapping necessitates substantial effort to bring the sketched maps into a georeferenced digital format and combine them with any attribute data. SmartLandMaps addresses this challenge by its approach and tools that facilitate the automatic digitization of hand-drawn sketches on existing maps.

The SmartLandMaps pilot project in Benin builds on an existing land tenure intervention financed by the Netherlands through the Land Administration Modernisation Project, PMAF. In the PMAF project field data collection is exclusively done by GNSS survey, but the beneficiary, Agence Nationale du Domaine et du Foncier, is also interested in different methods and approaches, trying to find optimal solutions to reach nationwide cadastral coverage.

For the SmartLandMaps pilot project Benin two sites are selected: an urban area in Seme Podji and a rural area in the municipality of Zé. This paper aims to present the findings from the SmartLandMaps pilot project in Benin. First, the mapping workflow is evaluated. Different background maps are used to understand the impact of the spatial and temporal resolution on the interpretability of the orthophoto and the ability of groups of persons to identify their parcel boundaries. Second, the SmartLandMaps technology performance is assessed by comparing automatically extracted polygons to on-screen digitized polygons. Third, the georeferenced data is validated through independent GNSS measurements of parcel boundaries. At last, this paper reports on a user workshop with various stakeholder groups including students, government as well as civil society organizations testing the SmartLandMaps approach and tools.
