

# Utilizing Openstreetmap Tags For Road Toponyms In Post Tsunami Reconstruction Area: The Lesson From Aceh, Indonesia

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**Key words:** Cadastre; Engineering survey; Geoinformation/GI; Implementation of plans; Photogrammetry; Positioning; Urban renewal; [Policy, Toponyms, Roads, Post Tsunami Reconstruction, String Comparisons, Semantic meaning]

## SUMMARY

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The Indonesian Government has been applying the policy to exploit Open Source Data in order to reduce cost, to improve and to enrich existing mapping products by using Openstreetmap (OSM). This project tries to demonstrate utilizing OSM tags for NLA road toponyms in urban and rural area in Aceh Province, Indonesia which had been impacted by tsunami in 2004. That disaster caused significant impact towards the geography of Aceh, especially man-made features like roads and buildings. During the post-disaster reconstruction, there had been major changes in topography and geography objects like roads and buildings. In addition, Indonesia government through The Ministry of Agrarian and Spatial Planning/National Land Agency (NLA) and Indonesian National Board for Disaster Management (BNPB) concern in Post Tsunami Reconstruction and Hazard Mitigation. One of their project is InaSafe (GFDRR, 2014), it is “a plugin for QGIS software aiming to produce realistic natural hazard impact scenarios for better planning, preparedness and response activities, using hazard and exposure geographic data”. It significantly related with OSM because it can be utilized for analysis in Inasafe. Here, the community collected details and updated the geographic information, such as road toponyms which had been changed after tsunami and

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post-disaster reconstruction. (GFDRR, 2014). By the fact, Aceh had been impacted by the tsunami makes it as a priority for the government in order to prevent such a great lost from ever happening again. Then, BPNB invites and supported community mapping in Aceh. So, OSM tags in Aceh Province can be assumed as updated data by given from local knowledge contributors.

This project is expected to improve the quality and coverage of toponyms of NLA Map, and can determine the benefits and limitation of OSM data. OSM tags were compared to NLA toponyms by using string comparisons, assessing road names semantic meaning, and measuring their road names existence. As results OSM tags can help to fix NLA toponyms mistakes that derived from toponyms survey, give another perspective about the road names in different local languages, and could enrich NLA roads which do not have attributes. Yet, the existence of road's OSM tags is the limitation on this projects as it is needed in string comparisons.

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