



Accessing OpenStreetMap as a Source of Volunteer Geographic Information of Sri Lankan Administrative Systems: A Case Study in Selected Districts of Batticaloa, Vavuniya and Gampaha in Sri Lanka

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Abstract

Based on the historical information and survey, there is a lack of geospatial data gathering and methods in the government bodies. Therefore, the study was carried out to introduce the Open Source applications to collect the field level information and create an online contribution of Volunteer Geographic Information (VGI) through a community participatory mapping exercise. The geospatial data is essential for Sri Lanka due to various usages such as decision-making, identifying the flood inundation areas, risk assessment, water resource management, land use planning, innovative creating apps, 3D model and navigation. The study aims to analyze how far the role of OpenStreetMap (OSM), field papers, Maps.me, Java OpenStreet Map Editor (JOSM), Hot Task Manager and Preset to support collecting the geospatial data and developing the maps in Vavuniya, Batticaloa and Gampaha Districts. It is done by collecting geospatial data through a community participatory method using an Open Source Application. The data were collected through very simple approaches because of the advantage of Sri Lanka's administrative system and governance. Collected geospatial data were validated and verified by the government officers and evaluated the progress of the map development based on the OSM contribution of contributors. Location-based and Administrative maps were developed through a community participatory mapping exercise. The OSM produced a user-friendly application of open source and GIS to develop complete geospatial data for three districts which have been uploaded into the web-based portal, while, it can be accessed anytime, anywhere and by anyone for cost-effectiveness. The building footprint, road access, land uses and point of interest database were established using JOSM, Field Paper and Bing satellite imagery. It was updated with the building attributes produced by the data collection exercise. The developed online geospatial database in OSM is an important asset since it is supported by preparing village-level spatial information (service centers, roads and buildings), an emergency flood risk management plan, accelerate the emergency response and flood mitigation plan for the study area by the government.

Keywords: Geospatial, Community Participatory Mapping, Openstreetmap, User-Friendly