Palang Merah Indonesia

Utilizing Open Data Kit Applications for Risk Mapping

Our context

Mapping Risk, Threat, Vulnerability and Capacity is one of the tools that are very important for the preparation of materials of ICBRR and other Risk Reduction Action Plan. In the implementation process mapping, SIBAT and key communities are as the main actor. They are enabled to recognize the risks, vulnerabilities that exist in the environment and identifies the capacity or resources (5 Capital) has to reduce the level of risk of the impact of disasters territory, which is in turn arranged in a risk reduction plan undertaken by the community itself. Through the mapping and analysis of the assessment and analysis of risks, threats, vulnerabilities and capacities, together with PMI Volunteers (KSR), SIBAT and local community leaders facilitates the process of preparation, implementation, assessment and determination of the level of risk and flood modeling.

Risk mapping is one of tool to obtain the data and information that covering a rural / urban neighborhoods as a part of implementation of Integrated Community-Based Risk Reduction, CFR, CBHFA and others program.

As part of the process of VCA (vulnerability capacity assessment), , the Risk mapping is one of the important parts to the activities of KAP and baseline surveys and participatory community assessment study.

PMI through Integrated Community Based Risk Reduction programs in implementing the mapping process always involves the public to obtain data collected. In the execution of Risk Mapping, SIBAT supported by PMI volunteers (KSR) using GPS as

a tool to determine the coordinates of any information gathered. Besides taking notes in form of information of each point coordinates are stored, and then analyzed to strengthen the initial data from the Baseline and PRA (participatory rural appraisal) have been obtained from previous VCA process.

Currently, through Community Flood Resilience development programs,) PMI developed a method for mapping activities. All of 21 villages have done Risk Mapping in the villages. New tool of Risk Mapping with ODK application is to strengthening the GIS data (Geographical Information System) which is also being developed by PMI.

The utilization of technology of the risk mapping using ODK Application as the software to collect data in the process mapping activities.

Why we use ODK (Open Data Kit) Application ?

ODK (Open Data Kit) is a combination of software that provides solutions in data collection method directly using mobile devices such as tablets or smart phones ODK consists of two applications such as ODK Collect and ODK Aggregate. ODK collect is the software used in Android devices is currently conducting a survey. ODK is software that serves to accommodate the data transmitted by the field staff/volunteers.

Access Open Data Kit is faster, effective, efficient, can record image data, video, Voice, GPS position and also avoid the use of paper.

Data processing is a process by which data attributes and Spatial Data that have been obtained from field data collection is analyzed by computer and the results are stored. After that, the results of Data analysis will be matched back to the situation on the ground.

Presentation data

Presentation of data is a process to displaying data that has been collected and processed into an information as needed so it will be easily understood by others.

Benefit and Challenges:

Risk mapping with ODK application and also linked with JOSM, QGIS, and InaSafe is very useful, precise, effective and

How to organize Risk Mapping Process ?

Risk Mapping Process of covering 3 stage, such as : Data collection, Data processing and Presentation of data.

· Mapping by using JOSM, QGIS and InaSAFE.
· Retrieving data using the walking paper / paper field, form data and GPS.
· JOSM as a data entry application, QGIS as application processing / analysis of data from the data in JOSM and Baseline data.
· InaSAFE a plugin in QGIS to get an overview of the scenario or what actions can be taken during a disaster.

Data Collection

Collection of data is a process of collecting data in the field using ODK collect as a means of collecting data attributes and GPS as a data collector Spatial.

Data Processing
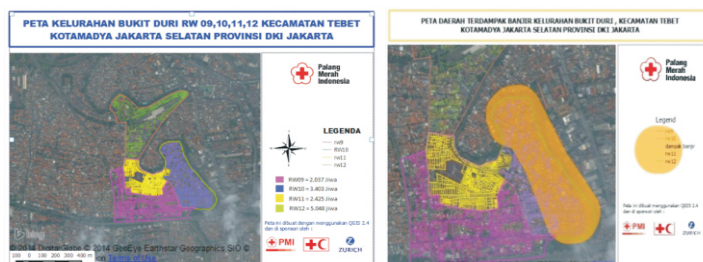
efficient. It can be produce the best quality of map. But they also have challenges, such as How to design presets between upstream (rural) and downstream (urban) river, How to define roles and functions between the PMI branches – PMI province - the PMI NHQ in the managing Risk Mapping. Beside these also how to managing reporting and maintenance of risk mapping.

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