

## **Automated Land Cover and Elevation Profiling using Transect Resource Map**

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**Abstract:** Maps are widely used nowadays to address Disasters Risk Reduction and environmental related initiatives, as a medium for management and decision making; however, the utilization of maps limits and makes it impossible to account the resources in a given elevation, distributed across the area. Thus, limits the information and deducted decision that can be captured out from it. This research introduced methods of presenting and converting maps using the concept of Transect Walk or Community Map. The research utilized Resource Map from NAMRIA, Phil. - LiDAR 2.B.14 Agricultural Resource Map and Digital Elevation Model as an input datasets. GIS technology and techniques was utilized for the preparation of data, and MATLAB and Python for pixel and matrix manipulation for the generation of Transect Resource Map. Both DEM and Resource Map were interpolated to establish the relationship that both data point to the same location. Elevation Profiling and Resource Inventory were then conducted for the generation of the transect resource map. The resulting figure presents the relationship of Land cover and Elevation as a results of interpolation in a simple and very informative. Thus, addresses the limitations of the traditional mapping method and was a good supplementary tool for decision making and for anything related to understanding the terrain, in relation to elevation and land cover.

**Keywords:** Transect Resource Map, Community Mapping, DEM, Resource Map, and Disaster Risk Management.