Genealogical Aggregation and Ancestral Domain Management: A Web-based GIS Implementation in a Developing Country

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Abstract: The nascency of emerging technologies brought significant impact to different walks of life, and most prone to vulnerability and repress are the marginalized society, especially in developing countries at large.

The domain of this study focuses on the Indigenous Peoples (IP) of the Philippines in a select geographic region. According to the country's republic act number 8371 or commonly known as "Indigenous Peoples' Rights Act of 1997 (IPRA)", is to preserve and protect the cultural diversity, solidarity, rights, welfare; and ownership of ancestral lands exhibited to the indigenous community. Throughout times, there have been reports on cases and incidents of land disputes, miscalculation of boundaries, and inconsistencies of terrestrial data. In some extant literature, challenges such as inaccuracy and loss of genealogical records have been accounted, in which, must be kept for the preservation of their ancestral origin. To address the issues presented herein, we conducted an assessment in the case of the Caraga region. First, we gathered data through available permitted documents from the office of the National Commission on Indigenous Peoples (NCIP), the sole agency in the implementation of IPRA law. Second, we interviewed key personnel of the agency and triangulated it with the documents presented. Third, we analyzed the data and presented the recommendatory solutions to the agency. The recommendation encompasses digitized spatial data banking and building a demographic profile among IPs. Thus, Genealogical aggregation and ancestral domain management system.

The system was built using the web 2.0 architecture integrating therein other technological platforms such as GIS, Google map, database infrastructure, and other mapping tools. Genealogical aggregation starts from profiling of each IP and aggregates with other profile in order to produce a genealogical record or its ancestral origin while ancestral domain management enables the user to upload shapefiles, manage and update maps overlayered in the google maps, which renders a visual representation of ancestral land.

In conclusion, upon the implementation of this study, it provides a convenient way of accessing information, production of accurate and timely records, and printable maps, thereby expedite the goals on the IPRA law in preservation and conservation of the indigenous group.