

SHALLOW TUBE WELL MAPPING IN SELECTED BARANGAYS OF PAVIA, ILOILO
USING GEOGRAPHICAL INFORMATION SYSTEM

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ABSTRACT

This study aimed to create a digitized map of installed shallow tube wells (STWs) in selected barangays of Pavia, Iloilo using Geographic Information System (GIS). The research focused on the identified Strategic Agriculture and Fisheries Development Zones (SAFDZ) of the Municipality of Pavia namely; Brgys. Cabugao Norte, Pagsanga-an, and Tigum, where STWs serve as an essential alternative irrigation source due to inconsistent water distribution from irrigation canals. The study sought to determine STW locations and its service areas, create a digitized map, and analyze spatial distribution patterns using the Average Nearest Neighbor (ANN) analysis tool in ArcMap 10.8.1. A total of 51 STWs were identified, with the highest number located in Brgy. Tigum followed by Brgy. Pagsanga-an, and Brgy. Cabugao Norte. The spatial analysis revealed a dispersed pattern in Brgy. Cabugao Norte, a random distribution in Brgy. Pagsanga-an, and in Brgy. Tigum. The overall analysis of the three barangays indicated a clustered arrangement, signifying that STWs are primarily located in areas with higher demand for irrigation. The result provides a valuable tool for the Municipal Agriculture Office and the Local Government Unit of Pavia, supporting data-driven decision-making in policy formulation and the prioritization of agricultural projects. Ultimately, the digitized map and spatial analysis offer guidance for infrastructure development, agricultural resilience, economic growth, and long-term food security in the Municipality of Pavia, Iloilo.

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