PROPOSED SCALE MODEL OF A SOLAR-POWERED MEDICINE BANK AND DRUGSTORE IN BARANGAY GIGOSO, GIPORLOS, EASTERN SAMAR

ABSTRACT

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Frequent and prolonged power outages in Barangay Gigoso, Giporlos, Eastern Samar, may limit access to reliable health services and appropriate medicine storage. To address this concern, the study proposed a scale model of a medicine bank and drugstore powered by solar panels connected to a battery-storage system. The proposed facility was intended to support the storage of temperature-sensitive medical supplies during extended outages. The study used a quantitative descriptive research method and purposive sampling. Data were gathered through a survey questionnaire and Google Forms from five civil engineers and five electrical engineers. Respondents evaluated the scale model in terms of materials, durability, functionality, reliability, and presentation. A t-test was used to compare the assessments of the two respondent groups. The proposed scale model was rated "Highly Acceptable" across materials, durability, functionality, reliability, and presentation. Civil engineers provided an overall weighted mean of 3.30, whereas electrical engineers provided an overall weighted mean of 3.27. The reported comparison yielded $t = 0.1286$ and $p = 0.9263$, indicating no statistically significant difference between the two groups' assessments. Respondents recommended the use of efficient and functional materials, improved structural design, proper component positioning and alignment, and additional reinforcement to improve durability and stability. The model should also clearly demonstrate the intended function of each component. These evaluator assessments support further prototype refinement but do not establish the operational performance of a full-scale medicine bank or the preservation of temperature-sensitive medicines during actual outages.

RECOMMENDED CITATION

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