

***Decision Support System For Community Welfarelevel
In Kabat Village Using Simple Additive Weighting Method***

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ABSTRACT

The manual measurement of socio-economic data in Kabat Village causes difficulties in accurately mapping community welfare and lacks an objective database. This study aims to build a web-based Decision Support System (DSS) using the Laravel frameworks to measure community welfare objectively. The system implements the Simple Additive Weighting (SAW) method based on four criteria: asset ownership, income, occupation, and personal data. System testing involved three stages. Black Box Testing ensured all functionalities operate without software defects. User Acceptance Testing (UAT) measured operational feasibility, achieving a 91.67% (Highly Feasible) acceptance rate. Furthermore, validation testing compared the SAW algorithm's output against real-world categorizations by village authorities (Expert Judgment), yielding an 86.67% accuracy rate. Minor deviations occurred realistically due to specific physical factors, such as multi-story buildings and business quantities, which were outside the current criteria limitations. Overall, this DSS serves as a highly feasible and reliable tool for objective welfare measurement.

Keywords: *Decision Support System, Simple Additive Weighting, Community Welfare, Laravel, Kabat Village.*