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BAZNAS and the Transformation of the Zakat Sector Program for the Empowerment of Poor Asnaf in Indonesia

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ABSTRACT

This study identifies the status of poor asnaf in Indonesia using the K-Nearest Neighbors (KNN) model to optimize zakat distribution. Data from 8,655 respondents covering economic and social variables — such as micro businesses, agriculture, and livestock — were analyzed. The KNN model, with k=1, rectangular weighting, and Euclidean distance, achieved outstanding results (MSE: 0.003, R^2: 0.974). Respondents were classified into four poverty status categories: high (e.g., East Java, 0.731), medium (0.3047–0.5080), low (0.107–0.285), and very low (0.010–0.088). Key factors influencing poverty status include micro enterprises (dropout loss 0.056), agriculture (0.054), and livestock (0.048). The National Amil Zakat Agency (BAZNAS) plays a crucial role in coordinating fair and effective zakat distribution through a data-driven approach. This research's practical implications include developing zakat-based economic empowerment programs, such as skills training, access to capital, and micro business development. The study's main contribution lies in integrating technology for targeted poverty alleviation, empowering communities, and enhancing welfare. By adopting this approach, BAZNAS can ensure zakat

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reaches those in greatest need, supporting sustainable poverty reduction and fostering long-term community resilience.

Keywords: K-Nearest Neighbors, BAZNAS, zakat, poor asnaf, poverty prediction, data-based policies

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