

ABSTRAK

Di era digital saat ini, pemanfaatan teknologi informasi menjadi elemen penting dalam mendukung kinerja instansi pemerintah, termasuk dalam hal penyaluran bantuan kepada masyarakat. Dinas Perkebunan Provinsi Sumatera Selatan memiliki program strategis berupa pemberian bantuan alat dan mesin perkebunan kepada kelompok tani. Namun, proses penentuan penerima bantuan selama ini masih menghadapi permasalahan dalam hal efektivitas dan transparansi, akibat metode pencatatan yang belum optimal. Oleh karena itu, penelitian ini bertujuan untuk merancang dan membangun sistem rekapitulasi penentuan penerima bantuan berbasis *web* yang menerapkan metode *K-Means Clustering*. Penelitian ini menggunakan metode pengembangan sistem prototype, dan data yang digunakan mencakup variabel luas lahan dan tingkat produksi dari 25 kelompok tani aktif pada tahun 2024. Proses pengelompokan data dilakukan melalui tahapan normalisasi dan perhitungan *Euclidean Distance* dalam algoritma *K-Means*. Hasil dari penelitian menunjukkan bahwa sistem yang dikembangkan mampu mengelompokkan data penerima bantuan secara lebih terstruktur, serta meningkatkan efisiensi dan transparansi dalam pengambilan keputusan. Dengan sistem ini, Dinas Perkebunan dapat menyalurkan bantuan secara lebih tepat sasaran berdasarkan kriteria yang objektif.

Kata Kunci: bantuan alat dan mesin, rekapitulasi, *K-Means Clustering*, sistem informasi, Dinas Perkebunan, *web*.

ABSTRACT

In today's digital era, the utilization of information technology plays a vital role in enhancing the performance and accountability of government institutions, especially in the distribution of aid to communities. The Plantation Office of South Sumatra Province has introduced a strategic program to provide agricultural tools and machinery to farmer groups in order to boost productivity. However, the existing process of determining aid recipients often suffers from inefficiency and lacks transparency due to suboptimal data management systems, which can lead to misallocation. Therefore, this study aims to design and implement a web-based recap system that leverages the K-Means Clustering method to categorize aid recipients objectively. The research adopts a prototype system development approach, using data that includes land area and production level from 25 active farmer groups in 2024. The clustering process involves data normalization and distance calculations based on the Euclidean Distance formula. The findings demonstrate that the developed system successfully groups recipient data in a more systematic and structured manner, which improves both efficiency and fairness in decision-making. With this system, the Plantation Office can distribute agricultural aid more accurately and responsibly, based on clear and objective criteria, ultimately ensuring that assistance reaches the most deserving farmer groups in the region.

Keywords: *agricultural tools and machinery assistance, data recap, K-Means Clustering, information system, Plantation Office, web-based system.*