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OPTIMIZATION OF THE LOCATIONS OF CASSAVA POSTHARVEST FACILITIES IN SURALLAH, SOUTH COTABATO, PHILIPPINES

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ABSTRACT – The municipality of Surallah has the highest production capacity of cassava in South Cotabato. In this study, the optimal locations of cassava postharvest facilities to be built in Surallah were determined using the formulated *p-center* facility location model which optimized the total transportation cost. Results showed that barangays Centrala, Lamsugod and Naci were the best locations should there be three additional postharvest facilities. The developed model was able to reliably identify which barangays in Surallah should be catered by each of the located postharvest facility. Through the use of these additional postharvest facilities, a kilogram of cassava tubers processed in a postharvest facility generates a profit of 2.74 Php. This is higher by 0.48 Php as compared to the current average profit per kilogram of processed cassava. Moreover, a hectare of land planted with cassava produces an estimated profit of about 93,060 Php, which is higher by 16,427 Php based on the current average profit per hectare of 76,633 Php.

Key words: postharvest facility, p-center, facility location, binary integer model, cassava, optimization

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