ABSTRACT
TOMMY FERDY LOLOWANG. Modelling Design for Cluster Plan of Sugar-palm Agroindustry in Sulawesi Utara. Under direction of DJUMALI MANGUNWIDJAJA, MARIMIN, ANAS MIFTAH FAUZI, and TITI CANDRA SUNARTI

Sugar-palm (Arenga pinnata Merr) is a local plant which produced some products such as palm sugar, brewing and alcohol. Most of sugar-palm agroindustries in Indonesia are rural industries and involved many households for harvesting and processing. This research is aimed to design a system modeling for strategic planning in the development of sugar-palm agroindustry. Sulawesi Utara is the second production center in Indonesia, was chosen as a case study. Designing models consisted of (1) determination of location, (2) determination of core industry, (3) cluster institutional, (4) determination of processing technology, and (5) financial analysis. The result showed that Kabupaten Minahasa Selatan was the potential location for agroindustry cluster development in Sulawesi Utara, with palm-sugar based industry was the most prospective core industry, and crystal palm-sugar as most prospective products. The results explained that the interpretive structural modeling could be identified as hierarchical structure, classification of matrix driver power-dependency, and the key elements of the essential agroindustry development system. Output from processing technology models shows that crystal palm sugar industry with 5000 liters of palm saps production capacity and open-pan & vacuum evaporating techniques were chosen as competitive processing technology; and feasible to be developed in Sulawesi Utara.

Keywords: sugar-palm, palm-sugar, agroindustry cluster, feasibility analysis