

ABSTRACT

The waste bank program in Yogyakarta City is one of the efforts made by the local government to reduce the amount of household waste in Yogyakarta City. However, according to data from the Yogyakarta City Environment Agency, the absorption rate of household in waste bank is still very low, which is only 5.4% of all household waste. The community is expected to adopt waste bank services to increase the absorption of the amount of waste that can be processed.

By paying attention to the role of each agent, this modeling is carried out using an Agent Based Modeling approach by considering the benefit-cost factor, time and economic level as factors that influence changes in people's behavior in disposing and processing as well as price and distance factors that influence people in choosing a waste bank and waste collectors where they sell their trash.

The results of the analysis show that the influence factor of the selling price and the distance of waste delivery has a major role in increasing the amount of waste that enters the waste bank in the city of Yogyakarta and is one of the factors that influence changes in people's behavior to sell after sorting household waste. In this model, 4 scenarios are carried out, namely subsidies/increase in the selling price of waste, decrease in retribution costs, increase in retribution costs and publication/education on waste sorting. The use of the waste bank pick-up service scenario and subsidies/increase in the selling price of waste can increase the amount of waste that enters the waste bank.

Keywords: Household Waste, Agent Based Modeling, Waste Selling Price, Waste Bank