Using System Dynamics Approach in Modeling the Integrated Farming Scenario to Increase Cassava Production in Indonesia

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Abstract

This research was focused on integrated farming system and usage of system dynamic approach. This research was done in Trenggalek District, East Java Province, Indonesia. It used secondary data, and supported by primary one. Modeling and making policy scenario used system dynamics approach. The model fit was examined by Theil test. Modeling with system dynamics approach is effective to create a complex model of IFS, because the model behavior is similar with those of the real-world. The model also could be used to simulate policy scenarios and estimate the future performance of the model. The scenario done was a policy of technology innovation namely optimal production with the environmental awareness. This scenario focuses on using organic fertilizer in cassava-goats integrated farming; it is quite effective and can decrease farming cost as much as 27.75% up to 34.36%. The scenario needs introduction of composting technology and availability of the facilities and infrastructure. Therefore, the implementation needs supports from stakeholder, i.e. government and society, as well as public and private sectors.
References


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Feed in The Establishment of Sustainable Cassava Farming Systems in Indonesia. cgia.org


Index Terms

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Keywords

System dynamics, modeling, scenario, cassava, agribusiness, organic fertilizer.