

عنوان مقاله:

Sustainability assessment of animal feed production from by-products of Sago palm smallholder industry

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نویسندگان:

Allaily . - Animal Sciences Department, Agriculture Faculty, Universitas Syiah Kuala, Banda Aceh Indonesia

A.D. Santoso - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

M.N. Rofiq - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

N.A. Sasongko - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

H. Daulay - Research Center for Behavioral and Circular Economy, National Research and Innovation Agency, Indonesia

E.I. Wiloso - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

E. Widjaja - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

B.N. Utomo - Research Center for Veterinary Science, National Research and Innovation Agency, Indonesia

A.I. Yanuar - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

S. Suryani - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

Y.P. Erlambang - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

U.N. Thiyas - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

D. Iskandar - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

A. Anhar - Department of Forestry Science, Faculty of Agriculture, Universitas Syiah Kuala, Banda Aceh, Indonesia

M. Rahmawati - Department of Agrotechnology, Faculty of Agriculture, Universitas Syiah Kuala, Banda Aceh, Indonesia

T. Simamora - Research Centre for Sustainable Production System and Life Cycle Assessment, National Research and Innovation Agency, Indonesia

Y. Yusriani - Research Center Aceh Cattle and Local Husbandry Universitas Syiah Kuala Banda Aceh Indonesia

G. Maghfirah - Environmental Engineering Department, Universitas Serambi Mekkah, Banda Aceh, Indonesia

خلاصه مقاله:

BACKGROUND AND OBJECTIVES: Sago plant is a valuable source of raw material for the processing industry and every part is very useful for food and shelter. Moreover, by-products of the Sago processing industry are useful as animal feed and liquid waste which has not been widely used. There are limited studies on the use of Sago by-products and sustainability of Sago palm smallholder industry. Therefore, this study aimed to assess sustainability of Sago palm smallholder industry in Simeulue Regency and identify the values of each attribute in the four impacting dimensions. **METHODS:** This study was carried out through the direct interview method, using a questionnaire containing 35 attributes related to 4 dimensions, namely 8 attributes of economy, 12 environmental, 10 social, and 5 technological. The data were obtained from 5 entrepreneurs of Sago palm smallholder industry in Simeulue Regency, out of a total of 7 active Sago processing factories. Subsequently, the data were analyzed using Multidimensional Scaling method with rapid appraisal software. Sustainability status and leverage attributes were analyzed by Monte Carlo analysis and alternating least-squares algorithm. **FINDINGS:** The results showed that the general sustainability indicators in Sago palm smallholder industry had an average value of 46.03 percent. This assessment was based on the value for the economic dimension of 45.56 percent, environmental dimension of 27.89 percent, social dimension of 55.65 percent, and technological dimension of 55.03 percent. Furthermore, it was found that techniques in several processing stages or use of liquid waste, cultivation skills, and technology process contributed to sustainable development. This study provided information that production factors needed to be improved for sustainability of Sago palm smallholder industry in terms of economy and environment. However, the use of solid and liquid wastes had not been optimally used. **CONCLUSION:** In the economic dimension, an improvement in production factors such as the cultivation of Sago plant is important because it only relies on plant that live naturally. Furthermore, it is important to increase the use of Sago pulp as animal feed to improve the substitution of commercial rations usage, and facilitate sustainability value of the economic dimension. Meanwhile, in the environmental dimension, there should be study and socialization on the processing or use of liquid waste. This can help in addressing air and water pollution. In the social and technological dimensions, Sago farmers need to be equipped with ... culti

کلمات کلیدی:

Animal feed, by-product, Multidimensional scaling (MDS), Sago palm smallholder industry, Sustainability assessment

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