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Creative Economy Presence of Starch-Based Bio Plastics Fruit with Rice Straw Cellulose Reinforcement, Polyvinyl Alcohol And Bio-Compatible Zinc Oxide

Prof. Dr. Dian Damayanti
Universitas Pertahanan Republik Indonesia

Abstract

Creative economy presence of starch – based bio plastics fruit with rice straw cellulose reinforcement, polyvinyl alcohol and bio- compatible zinc oxide Quantitative research methods. The results survey of 915 respondents was carried out the majority of the respondents were female (56.8%) and aged between 21 and 37 years old (41.1%) and 38 and 53 years old (38.6%), respectively. Most consumers had a bachelor's degree (52.3%) with a monthly income of more than 1113 USD (54.1%). When buying takeaway food, the largest proportion of the respondents use plastic cutlery (spoons, forks, and knives) and throw it into the bin (61.9%), followed by those who do not use plastic cutlery but keep it for next time (13.2%). Only 12.3% of total respondents prefer not to receive plastic cutlery. Average net monthly income of workers by occupation in Indonesia IDR 1,807,000[1].

bio plastics from cassava base material, local cassava varieties in Indonesia approximately have good physical and chemical characteristics as they fulfil the national standard quality requirements for moisture, starch, and HCN content, while ash and acidity values are slightly higher and slightly lower for whiteness. The production yield of cassava flour is about 20.16% or equivalent to 9.67 ton of cassava flour with a capacity of 48.00 ton of fresh cassava tubers per year. The cassava bioplastic industry is profitable based on a net profit of IDR 49,565,888,- or about 3,440 USD per day, revenue cost ratio of 1.52, net profit margin of 34.15%, return on investment of 51.81%, and payback period of 1.02 years. The price of a 21×35 cm bio plastic bag is around IDR 50 thousand per 50 pieces (IDR 1,000/piece). Meanwhile, the price of Sparta crackle bags - PBID's most expensive HD plastic packaging brand - size 24×48 cm is only IDR 15 thousand per 125 pieces (IDR 120/piece)[2].

We conducted a survey of 915 respondents and found that consumer acceptance of bioplastic products from cassava accounts for 48.6% of all respondents, but few are willing to pay extra for them. We also found that the development of cassava-based bioplastic not only positively contributes to economic aspects but also generates beneficial long-term impacts on social and environmental aspects. Considering cassava supply, bioplastic production, and potential consumer acceptance, the development of bioplastics from cassava in Indonesia faces several barriers and is growing slowly, but is needed to drive the sustainable cassava value chain. This study provides guidelines for businesses and the government to adopt bioplastics from cassava.

Keywords: Government, Businesses, Economy Creative, Bio plastic, Development

[1] https://www.bps.go.id/id/statistics-table/1/MjIzNyMx/rata-rata-pendapatan-bersih-berusaha-sendiri-menurutprovinsi-dan-lapangan-pekerjaan-utama--2024.html

[2] https://esg.idx.co.id/rise-of-esg-investments