

Independent Palm Oil Small Holders' Plans Regarding on Behaviour

Reza Winata Aulia Hutami¹, Said Muhammad Ikhsan Zulfi Maaruf², M. Ramlir³, Mulono Apriyanto^{4*}

^{1,2,4} Department of Food Science, Faculty of Agriculture, Islamic University of Indragiri, Indonesia

³Department of Management, Faculty of Economy and Business, Islamic University of Indragiri, Indonesia

*Corresponding author: reza.wi20@gmail.com

Article History: Received: 06 June 23, Final Revision: 08 June 23, Accepted: 14 June 23, Online Publication: 30 June 23

ABSTRACT

The ISPO (Indonesian Sustainable Palm Oil) framework, which describes best practices for the production of ecologically friendly oil palm plantations, absolutely has to be put into reality. This is of the utmost importance. This study aims to analyze the behavioural intentions of independent smallholders within the Riau Regency regarding extending their sustainable palm oil enterprises. Specifically, this research will examine how these individuals plan to grow their palm oil operations. Throughout this investigation, structural equation modelling was utilized as a tool for doing descriptive and inferential analysis (SEM). The findings indicated that attitudes (general attitudes, personal attitudes, emotional values, and intelligence) and perceptions of behavioural control (experience, knowledge, media, and intervention), which in turn influence behaviour, are the primary contributors to farmers' behavioural intentions, which in turn influence farmers' actual behaviour. It is well established that farmers' behavioural intentions are unaffected by subjective norms, including age, gender, education level, income level, and religion. Farmers have started to be encouraged to work in groups by forming farmer groups and cooperatives to foster and develop oil palm. This is because ISPO certification will only be given to farmers who are members of farmer groups or cooperatives. This is because certification from ISPO will only be granted to farmers who satisfy both standards.

Keywords: Indonesian Sustainable Palm Oil (ISPO), sustainability, intention of farmer's behaviour, Theory Planned Behavior

INTRODUCTION

The production of palm oil is Indonesia's most important agricultural export and a major contributor to the economic well-being of rural populations [1]. Palm oil production is Indonesia's most important agricultural export and a major factor in the country's rural people's overall economic well-being [2]. The commodity accounts for 53.56 percent of the total contribution made by the plantation industry, which totals \$204 trillion, to the country's foreign exchange income [3]. This

foreign exchange revenue is not only gained through huge private and state-owned plantations but also through small-scale plantations or community plantations [4]. The palm oil industry in Indonesia is responsible for a total annual output of 48.68 million tonnes, of which crude palm oil (CPO) accounts for 40.57 million tonnes and palm kernel oil (PKO) accounts for 8.11 million tonnes. Big private plantations account for 29.39 million tonnes of total production, while large state

plantations provide 2.49 million tonnes (5 percent). Most of the production comes from independent oil palm farms, which equal 16.8 million tonnes (35 percent) (60 percent). Additionally, the sector contributes significantly to the region's growth by creating job opportunities and raising smallholders' general standard of living.

The relatively large contribution made by independent oil palm farmers was the impetus for the Indonesian government to make Permentan Regulation No.11/2015 concerning the Indonesian Sustainable Palm Oil Certification System (ISPO). This regulation was made in the context of the development of sustainable oil palm plantations. ISPO stands for Indonesian Sustainable Palm Oil and is a set of best practices for producing sustainable palm oil developed to comply with Indonesia's existing legal framework. This rule is anticipated to act as a kind of accelerated national development agenda and government efforts to eliminate the negative concerns associated with Indonesia's palm oil business [5]. Given that farmers' FFB (Fresh Fruit Bunches) goods will also be a part of the supply chain of palm oil processing facilities, ISPO certification is an absolute necessity for business players, including corporations, plasma, and individual smallholders.

In addition to contributing to economic growth, oil palm plantations can potentially affect the environment negatively. The public sector, the private sector, and the state hold these plantations. However, some people argue that the plantation has a detrimental influence. Some people believe that expanding large-scale oil palm plantations harms the environment, is the cause of biodiversity loss, threatens the existence of tropical forests, and contributes to climate change. Additionally, the palm oil that is produced by these plantations is thought by some to be harmful to one's health. Independent oil palm farmers need sustainable cultivation practices to increase competitiveness

and environmental sustainability.

Independent oil palm farmers must develop sustainable plantations. Empirical research by [6] Sustainable agriculture requires superior seeds, fertilizers, OPT control, and harvest/post-harvest handling.

Many issues arise as a result of the existence of independent oil palm plantations. Some of these issues include relatively low productivity in comparison to that of large companies, a lack of capital and skills, a weak bargaining position for farmers in terms of determining fruit prices, a large number of lands that do not have legal certificates, a lack of role from KUD and farmer groups, and a lack of attention to the environmental sustainability. Given these circumstances, there is a possibility that it will be difficult for independent palm oil to satisfy the standards that ISPO outlines for sustainable plantings (Indonesian sustainable palm oil). Farmers are the most important factor in deciding whether oil palm agriculture is sustainable. The inaccessibility of financing and deficiencies in information technology provide obstacles for smallholders engaged in producing sustainable oil palm. In light of this circumstance, researchers wish to investigate how independent oil palm farmers in Kempas District respond or react (behave) to attempts to promote a sustainable business as described in the ISPO framework.

This research uses the Theory of Planned Behavior (theory of planned behaviour) to understand the behavioural intentions of independent oil palm farmers related to increasing sustainable business. This theory assumes that an individual's behaviour is influenced by their intentions and has implications for agricultural policy and industrial strategy.

This study aims to analyze the behavioural intentions of independent oil palm farmers in the Sambas District to increase sustainable business.

MATERIALS AND METHODS

Independent oil palm smallholders in Kempas of Indragiri Hilir Regency are 8,719KK in 3 sub-districts [7]. Determination of samples using the Stratified Random Sampling method, in each

sub-district, respondents were taken according to the proportion of the percentage of the number of oil palm farmers in each sub-district so that for Kempas Jaya District 103 samples were taken,

Bagan Jaya District 22 samples and 25 samples in Rumbai Jaya District Data were obtained through interviews and questionnaires that had a high rate of return and required fewer answers, with a controlled, practical and relatively flexible order of

RESULTS AND DISCUSSION

Characteristics of Oil Palm Farming

Land ownership status is a legally recognized acknowledgement of land rights that is evidenced in writing in the form of certificates that the National Land Agency authorizes. These certificates are issued by the National Land Agency (BPN). The rights of land ownership held by farmers in the Sambas Regency One hundred percent of it is considered private property. The land holdings of the typical independent oil palm smallholder are less than four hectares in total. Agriculture relies on different production variables, including land as one of those components. The quantity of land available affects the amount of food grown [8].

Harvesting occurs on average once a week or four times a month for farmers. The price of FFB that farmers sell often ranges from Rp1,000 to Rp1,200 per kilogramme and is subject to significant swings. The selling price of oil palm differs at the farmer level because the marketing channels that farmers use and the distance between the site of the mill and smallholder plantings differ.

The proximity of farms and oil palm processing mills strongly influences prices paid to farmers for fresh fruit bunches (FFB). Every farmer who participated in the survey and lived in the Subah, Tebas, or Sebawi subdistricts sold their FFB crop straight to the manufacturer. The mill is located around four kilometres away from the oil palm farm where the palms are grown. Because the farmer's garden is situated near the CPO factory, this distance is considered to be quite near. Farmers with around ten years of experience under their belts are typical independent oil palm smallholders. There is a favourable correlation between farmers' knowledge, abilities, and attitudes regarding adopting agricultural innovations and the length of time they have worked in agriculture.

The features of oil palm farming are

answers. Data is processed using Microsoft Office Excel 2007 and Lisrel Software version 8.54. The data were analyzed using SEM (Structural Equation Model) with descriptive and inferential statistical approaches.

components connected to managing oil palm farming that can support agricultural operations. These elements have origins that are external to the respondents and are related to oil palm farming.

Behavioural Intentions of Independent Palm Oil Smallholders Related to Sustainable Business Improvement

Within the context of this research, the Theory of Planned Behavior (TPB) offers a constrained theoretical framework for understanding the beliefs and motives of farmers and how information might impact farmers' behavioural intentions. To better understand what motivates farmers to engage in certain activities, it is possible to review and analyze the roles that individual attitudes, societal forces, and behavioural control play. It is sensible, and before deciding to act in this manner, it will first evaluate the implications and repercussions of its conduct to boost competitiveness and satisfy the sustainability requirements of the sustainable palm oil sector. Figure 1 illustrates the findings of a study that looked at the behavioural intentions of independent oil palm producers in the Sambas District..

The t-value structural equation provides insight into the degree to which the free latent variable and the constrained latent variable are connected. The magnitude of the regression estimation coefficient indicates the extent to which the free latent variable influences the independent latent variable. The value of R² obtained in the structural model equation was 0.67, which indicates that the variables utilized in this study are responsible for determining 67 percent of farmers' behavioural intentions. The remaining 33 percent of farmers' behavioural intentions are influenced by other factors unrelated to the variables utilized in this study. Figure 1 illustrates that among the three variables determining behavioural intentions, attitude and sense of behavioural control are the

strongest predictor of independent autonomous behavioural intents. This can be shown in the

graph.

Table 1. Characteristics of oil palm farming in Sambas District

Characteristics of Farming	Frequency (People)	Percentage (%)
Land Tenure Status	150	100
Certificate of Title		
Area of Garden Ownership		
≤ 4 ha	108	72
5 – 8 ha	30	20
≥ 9 ha	12	8
Palm Oil Plantation Harvesting		
2 times per month	37	25
4 times per month	113	75
FFB Selling Price		
Rp1.000 /kg	50	33
Rp1.100 /kg	20	13
Rp1.200 /kg	80	53
Factory FFB Sales		
Location	150	100
Distance from Palm Oil Plantation to Mill		
≤ 2 km	100	67
$\leq 2,1 - 4$ km	35	23
$\geq 4,1$ km	15	10
Farm Experience		
≤ 10 years	98	66
11 – 20 years	28	19
≥ 21 years	24	16

Source: Primary Data Analyst, 2019

The Stratified Random Sampling method determined samples according to the proportion of oil palm farmers in each sub-district.

The fact that this is the case is demonstrated by the variable's value, which is inconsequential. These findings counter the perspective expressed in [9], which states that the construction of individual subjective norms is influenced by characteristics such as age, income, gender, education, experience, and knowledge and that these elements will impact the person's conduct.

Attitudes shape behaviour through internal and external stimuli [10]. Figure 1 explains that the attitude is significant towards the intention of

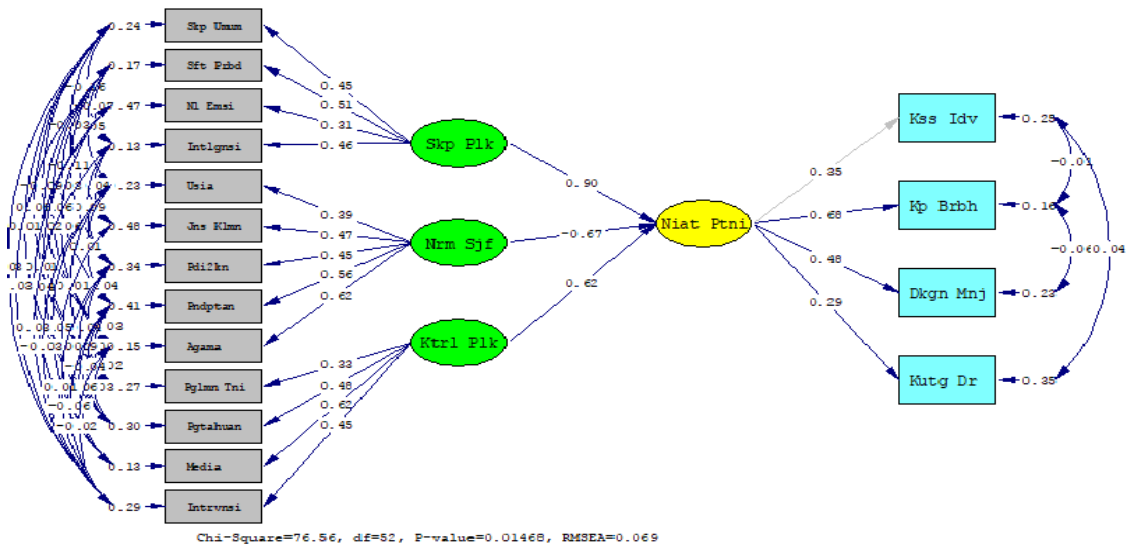
peasant behaviour. This indicates that a one percent rise in farmers' behavioural views will considerably impact the 0.90 percent increase in farmers' behavioural intentions. This attitude towards the conduct of farmers reveals that the vast majority of farmers have a very strong aim for behaviour connected to developing the environmentally sustainable business of oil palm farms.

[11] stated that a person's attitude depends on one's expectations of an object. Objects that have a positive impact will tend to be accepted by society and vice versa. Attitude is key to shaping individuals to behave positively.

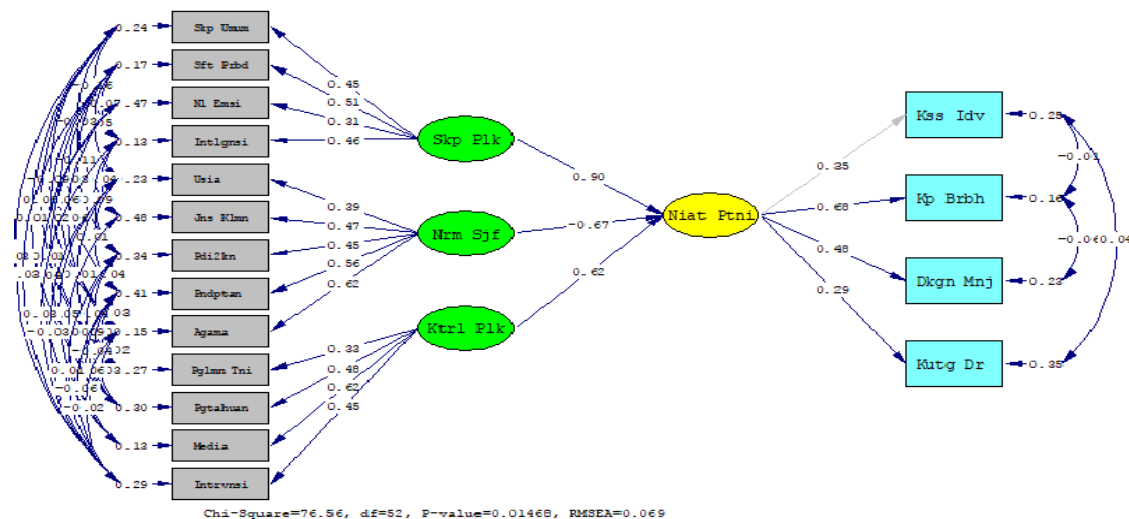
Farmers' attitudes towards the

environment have been positive, resulting in improved sustainability of production and resources. Society should have behaviour that upholds the preservation of nature because this attitude positively impacts ecological sustainability.

Ecological awareness is motivated to preserve the environment through individual intentions and behaviours [12]. Farmers benefit economically, socially, and psychologically from participating in farmer groups to increase competitiveness and sustainability[13].



a) t-value



b) Coefficient of Estimation

Fig 1. a) t-value and b) Coefficient of SDGs Model Estimation of Farmer Behavior
Source: Primary Data Analysis, 2019)

The conduct of farmers and their role in organizing and establishing sustainable oil palm farms are good indicators of farmers' emotional values. Farmers ought to receive assistance from the community to profit from the value chain [1]. Institutions, which serve as indicators of the long-term viability of oil palm plantations, are among

the factors that directly influence agricultural output and are among the aspects that directly impact agricultural production. [15]. It is necessary to fortify smallholder farmers' institutions to raise oil palm farmers' incomes and eliminate poverty. Farmers can communicate and interact with others, form partnerships with other parties, determine

markets, participate in farmer groups, coordinate across institutions, and evaluate the value of benefits to support agricultural land sustainability. This ability is known as intelligence. [3]. Farmers can identify possible markets to sell oil palm goods, including collectors who pay premium rates for these products [16].

The Effect of Subjective Norms on the Intention of Farmer Behavior

Subjective norms have an indirect impact on farmers' intentions to behave. In contrast, indicators have a significant effect [16] no relationship between behaviour and subjective norms, but a relationship between normative structure and subjective norms.[17]. This is contrary to the research of [18], which asserts that according to the rules of planned behaviour theory, demographic factors substantially impact behavioural ideas, attitudes, and subjective standards. Still, individual intentions to behave are what matters.

Age is important in determining productiveness and ability to run a farm [19]. Young farmers are more aggressive in decision-making and willing to take risks.[20].Men have more active farming knowledge than women due to their involvement in agricultural, institutional activities [21]. Men are also more involved in agricultural development programs at the village level [22].

Education is essential for sustainable agricultural development, but low levels of education in Sambas District hinder technology adoption [12]. Improving people's welfare through improved selling prices and increased productivity is necessary to support cooperatives in developing oil palm farming [23].

Religion serves an intrinsic and external function as a psychological driver of behaviour, forming subjective standards [24]. Religious commitment can help people build awareness, conformity, and self-control while equipping them to adopt relevant behaviours [25].

The direct impact of subjective norms on intention is that individuals engage in behaviour without liking it [26]. Factors that can influence the origin of behaviour also stimulate a large amount

of research to point to personal background factors such as age, income or education as predisposing individuals to actual behaviour on environmental issues [27]. The development of sustainable oil palm plantations is expected to have high productivity and stability and to prioritize a sense of equality and high local wisdom values towards the environment [28].

The Effect of Perceived Behavioral Control on Farmer's Behavioral Intentions

The belief that an individual can control their conduct originates from the individual's perception of behaviour that the individual feels is the outcome of their own wants [29]. Farming experience contributes to the perception of behavioural control and improves farmer competence [30]. Personal experience will be the basis for behaviour formation if the experience is directly related to emotional factors that are memorable for the individual [31].

Knowledge is important for farmers' behavioural intentions, as it contributes to the perception and determination of behavioural control and can lead to positive changes in farmer behaviour and innovation adoption.[32].

Media contribute to the perception of control of one's behaviour by providing new information and facilitating the flow of innovation dissemination. [28]. Access to information, inputs, finance, and markets can affect independent smallholders' business performance and improve agricultural sustainability [29]. This technology has an impact on accelerating information in the agricultural extension system, as well as improving product quality and productivity through improving the speed of farmers' access to information and market trends as well as agricultural production inputs [26].

Intervention is the involvement of outsiders to an individual's problem. Intervention occurs in the role of farmer groups to evaluate joint activities and structured group interactions, namely the role of producers and traders and related agencies in implementing quality standardization by their respective functions. Therefore, the participation of agricultural institutions such as farmer groups, the government, and agricultural extension

workers is required to assist farmers in increasing their access to domestic and global markets and organic agricultural production facilities such as organic fertilizers and organic pest killers. It is hoped that this would promote sustainable agriculture by leading to an increase in earnings garnered from organic farming [25]. The government, as an entity that has extremely broad and high authority, plays a vital role in guiding independent smallholders towards a production

system that is both sustainable and sustainable when it comes to palm oil. The government can create favourable conditions by implementing laws and regulations that will make it easier for all of the actors involved in the palm oil supply chain to collaborate to coordinate effective and efficient markets better. This will ensure that palm oil products manufactured in Indonesia continue to be recognized and competitive on the global market [28].

CONCLUSION

Attitudes and perceptions of behavioural control determine farmers' intentions, but subjective norms do not. Education about farmer

groups and cooperatives is needed for ISPO certification, and government institutions must be involved.

REFERENCES

- [1] M. Apriyanto, Partini, H. Mardesci, G. Syahrantau, and Yulianti, "The Role of Farmers Readiness in the Sustainable Palm Oil Industry The Role of Farmers Readiness in the Sustainable Palm Oil Industry," *J. Phys. Conf. Ser.*, vol. 1764, no. 1, p. 012211, 2021, doi: 10.1088/1742-6596/1764/1/012211.
- [2] Rosyani, Edison, and Asmadi, "Study on sustainability status of smallholder oil palm plantations Jambi Province, Sumatra Indonesia," *IOP Conf. Ser. Earth Environ. Sci.*, vol. 314, no. 1, 2019, doi: 10.1088/1755-1315/314/1/012055.
- [3] Marlina, M. Apriyanto, R. Novitasari, K. N. S. Fikri, and Widyawati, "ENTREPRENEURSHIP PERKEBUNAN KELAPA DI KABUPATEN INDRAGIRI HILIR," *J. Selodang Mayang*, vol. 8, no. 1, pp. 1–5, 2022.
- [4] Mulono Apriyanto, K. N. S. Fikri, V. A. Siregar, Jamri, and A. Azhar, "Penyuluhan Tentang Peremajaan Kelapa Sawit Dan Legalitas Lahan Di Kecamatan Kempas Kabupaten Indragiri Hilir," *JPM J. Pengabd. Masy.*, vol. 1, no. 1, pp. 1–6, 2020, doi: 10.31219/osf.io/7j4sy.
- [5] V. Higgins and C. Richards, "Framing sustainability: Alternative standards schemes for sustainable palm oil and South-South trade," *J. Rural Stud.*, vol. 65, no. July, pp. 126–134, 2019, doi: 10.1016/j.jrurstud.2018.11.001.
- [6] N. Sylvia, W. Rinaldi, A. Muslim, H. Husin, and Yunardi, "Challenges and possibilities of implementing sustainable palm oil industry in Indonesia," *IOP Conf. Ser. Earth Environ. Sci.*, vol. 969, no. 1, 2022, doi: 10.1088/1755-1315/969/1/012011.
- [7] Hartono, *Kabupaten Indragiri Hilir Dalam Angka 2020*. 2020.
- [8] B. Widyatmoko, "Questioning the Legitimation of Indonesian Sustainable Palm Oil Certification in Independent Smallholders Inside Company Concession Areas," *Suvannabhumi*, vol. 10, no. 1, pp. 117–147, 2020.
- [9] M. Apriyanto *et al.*, "Penyuluhan Tentang Peremajaan Kelapa Sawit dan Legalitas Lahan Di Kecamatan Kempas Kabupaten Indragiri Hilir," *Arbitr. J. Econ. Account.*, vol. 1, no. 1, pp. 1–6, 2020, doi: 10.31219/osf.io/7j4sy.
- [10] M. Apriyanto, Marlina, B. F. Susanto, A. Azhar, and K. N. S. Fikri, "Uji Kompetensi Agribisnis Tanaman Perkebunan," *J. Agro Dedik. Masy.*, vol. 3, no. 1, pp. 1–5, 2022, [Online]. Available: <http://journal.ummat.ac.id/index.php/JADM/article/view/8125%0Ahttps://journal.ummat.ac.id/index.php/JADM/article/download/8125/4474>.
- [11] M. Apriyanto and R. Novitasari, "During Fermentation, Microbiology and Biochemistry of the Cocoa Bean," *Int. J. Food Sci. Agric.*, vol. 5, no. 4, pp. 688–691, 2021, [Online]. Available: <https://www.hillpublisher.com/UpFile/20211/20211126165248.pdf>.

- [12] R. Ninsix, F. Azima, N. Novelina, and N. Nazir, "Metode penetapan titik keritis, daya simpan dan kemasan produk instan fungsional," *J. Teknol. Pertan.*, vol. 7, no. 1, pp. 46–52, 2018.
- [13] M. Apriyanto *et al.*, "Pelatihan Teknis Penanaman Padi Bagi Penyuluh Pertanian," *J-Abdi J. Pengabdi. Kpd. Masy.*, vol. 1, no. 2, pp. 73–79, 2021.
- [15] M. Apriyanto, A. Alfa, R. Z. Surya, K. N. Satriawan, and A. Azhar, "Implementasi Kebijakan dan Pemberdayaan Masyarakat terhadap Peningkatan Ketahanan Pangan," *SENTRI J. Ris. Ilm.*, vol. 1, no. 3, pp. 17–34, 2022.
- [16] Syaharuddin *et al.*, "Farmer exchange rate category: A Prediction analysis using ANN back propagation," *IOP Conf. Ser. Earth Environ. Sci.*, vol. 926, no. 1, 2021, doi: 10.1088/1755-1315/926/1/012002.
- [17] R. Novitasari and H. Mardesci, "Pembuatan Bakso Ikan Gabus dengan Pemanfaatan Tepung Sagu yang Merupakan Potensi Lokal Sumber Daya Alam Kabupaten Indragiri Hilir," *J. Teknol. Pertan.*, vol. 9, no. 2, pp. 71–78, 2020.
- [18] M. Apriyanto and Rujiah, "Analisis Tingkat Ketahanan Pangan Terhadap Kerawanan Pangan Menggunakan Metode GIS (Geographic Information System)," *J. Food Syst. Agribus.*, vol. 5, no. 1, pp. 54–61, 2021.
- [19] E. Priyono, R. Ninsix, and M. Apriyanto, "Studi Pencampuran Labu Kuning (Cucurbita Moschata) dengan Tepung Beras terhadap Karakteristik Biskuit yang Dihasilkan," *J. Teknol. Pertan.*, vol. 7, no. 1, pp. 8–20, 2018, doi: <https://doi.org/10.32520/jtp.v7i1.109>.
- [20] R. Novitasari, "Studi Pengolahan Serbuk Biji Buah Pokat (Persea Americana Mill) dengan Varians Rasa dari Teh Celup Berbagai Merk dalam Pembuatan Minuman Herbal Kemasan Botolan," *J. Teknol. Pertan.*, vol. 9, no. 1, pp. 6–13, 2020.
- [21] M. Apriyanto and R. Rujiah, "Pengaruh Perendaman Larutan Sulfit dan Pengasapan Belerang Terhadap Mutu Kopra Putih Di Kabupaten Indragiri Hilir," *J. Teknol. Pertan.*, vol. 8, no. 2, pp. 91–96, 2019, doi: 10.32520/jtp.v8i2.941.
- [22] M. Apriyanto, K. N. S. Fikri, Marlina, and A. Azhar, "The Impact of Natural Disasters on Smallholders," *Trop. Plant. J.*, vol. 2, no. 1, pp. 1–6, 2023, doi: 10.1007/s11356-020-09971-y.
- [23] M. Apriyanto, Y. Riono, and R. Rujiah, "Pengaruh Populasi Mikroba pada Re-fermentasi terhadap Kualitas Biji Kakao Tanpa Fermentasi," *AGRITEKNO J. Teknol. Pertan.*, vol. 9, no. 2, pp. 64–71, 2020, doi: 10.30598/jagritekno.2020.9.2.64.
- [24] Y. Yulianti, M. Apriyanto, A. Azhar, and K. M. S. N. S. Fikri, "Implementasi Program Aksi Ketahanan Pangan Di Kabupaten Indragiri Hilir," *Selodang Mayang J. Ilm. Badan Perenc. Pembang. Drh. Kabupaten Indragiri Hilir*, vol. 9, no. 1, pp. 16–24, 2023.
- [25] R. Novitasari, "Studi pembuatan piket cabai keriting utuh (Capsicum annum var. glabiusculum)," *J. Teknol. Pertan.*, vol. 7, no. 1, pp. 33–45, 2018.
- [26] M. Rahman and H. Mardesci, "Pengaruh perbandingan tepung beras dan tepung tapioka terhadap penerimaan konsumen pada cendol," *J. Teknol. Pertan.*, vol. 4, no. 1, pp. 18–28, 2015.
- [27] Y. Yulianti, "Analisis Nutrisi Dodol Kelapa," *J. Teknol. Pertan.*, vol. 8, no. 2, pp. 117–123, 2019.
- [28] R. Novitasari, "Pemanfaatan Limbah Kulit Pisang Menjadi Panganan Olahan Kripik Pedas," *J. Teknol. Pertan.*, vol. 2, no. 2, pp. 18–30, 2013.
- [29] S. Yuliani and H. Mardesci, "Pengaruh Penambahan Tepung Ampas Tahu terhadap Karakteristik Biskuit yang Dihasilkan," *J. Teknol. Pertan.*, vol. 6, no. 1, pp. 1–11, 2017.
- [30] I. Imaryana, H. Mardesci, and R. Ninsix, "Formulasi Pati Jagung (Zea Mays L) dengan Tepung Tapioka Terhadap Sifat Fisikokimia Bakso Ikan Gabus (Ophiocephalus Striatus)," *J. Teknol. Pertan.*, vol. 5, no. 2, pp. 47–53, 2016.
- [31] H. Mardesci and Yulianti, "Model Analisis Finansial Olahan Komoditas Kelapa (Studi Kasus pada Kecamatan Mandah Indragiri Hilir)," *J. Teknol. Pertan.*, vol. 10, no. 2, pp. 120–127, 2021.
- [32] S. Sudirman and R. Ninsix, "Pengaruh Penambahan Tepung Ampas Kelapa Dengan Tepung Tapioka Terhadap Cookies," *J. Teknol. Pertan.*, vol. 4, no. 2, pp. 30–41, 2015.