Rubber Farmers Children's Perceptions of Continuing Business between Generations: Case Study in Banyuasin Regency, South Sumatra

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Abstract: The declining interest of young people in farming extends beyond the food sector to include the plantation sector, warranting attention. This study addresses the insufficient exploration of the aspirations of plantation sector farmers' children to pursue farming. The research focuses on analyzing the perceptions of farmers and their offspring regarding continuing rubber farming and identifying influencing factors in Ujung Tanjung Village, Banyuasin III District, Banyuasin Regency, South Sumatra. Employing a random sampling survey method, 36 school-age children were interviewed from a population of 175. Findings indicate that the children's interest in rubber farming is relatively low (average score: 53.25), influenced by factors such as land area, participation in family farming, and agricultural extension. Although a generational transition in agricultural activities is observed in the village, guidance and counseling remain crucial to address farmer children's perceptions.

Keywords: children of rubber farmers; transfer of farming; between generations

Abstrak: Menurunnya minat kaum muda untuk bertani tidak hanya terjadi di sektor pangan, tetapi juga di sektor per-kebunan, sehingga perlu mendapat perhatian. Penelitian ini membahas kurangnya eksplorasi terhadap aspirasi anak-anak petani di sektor perkebunan untuk menekuni bidang pertanian. Penelitian ini berfokus pada analisis persepsi petani dan anak petani mengenai kelanjutan usaha tani karet dan mengidentifikasi faktor-faktor yang mempengaruhinya di Desa Ujung Tanjung, Kecamatan Banyuasin III, Kabupaten Banyuasin, Sumatera Selatan. Dengan menggunakan metode survei peng-ambilan sampel acak, 36 anak usia sekolah diwawancarai dari populasi sebanyak 175 anak. Hasil penelitian menunjuk-kan bahwa minat anak-anak untuk bertani karet relatif rendah (skor rata-rata: 53,25), yang dipengaruhi oleh beberapa faktor seperti luas lahan, partisipasi dalam pertanian keluarga, dan penyuluhan pertanian. Meskipun transisi generasi dalam kegiatan pertanian diamati di desa tersebut, bimbingan dan penyuluhan tetap penting untuk mengatasi persepsi anak-anak petani.

Kata Kunci: anak petani karet; transfer usahatani; antar generasi

A. Introduction

Indonesia is a developing country with the agricultural sector as a source of livelihood for the majority of its population. The agricultural sector is one of the strongest sectors in the economy. It has a role as a buffer for national development so that government programs in agricultural development are directed at increasing farmers' income and standard of living, such as expanding employment opportunities, business opportunities and markets for the products produced. [1] Furthermore, with more advanced and efficient agricultural development, it is hoped that it will be able to increase the quality and degree of production processing and support regional development.

Rubber plants in Indonesia are one of the plantation commodities that have an important role, both from a social and economic perspective.[2] Rubber is an export commodity that is able to contribute to efforts to increase Indonesia's foreign exchange. This is because, in addition to its distribution and exploitation, it is quite extensive and spread across various regions of Indonesia and involves a lot of labor required at various stages of management or activities.[3] Indonesian rubber exports over the last 20 years have continued to show an increase. Based on data from the Central Statistics Agency (BPS), the value of natural rubber exports during January-October 2019 reached US$4.84 billion, down 26.59% annually from the same period in 2018 of US$6.5 billion. In 2021, the recorded area of rubber plantations in Indonesia will be 3,692,352 Ha.[4]

The Central Statistics Agency (BPS)[5] noted that South Sumatra was the province with the largest rubber plantations in 2019. The area reached 860

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[1] Fitri Ningsih and Sofyan Syaf, "Faktor-Faktor yang Menentukan Keterlibatan Pemuda Pedesaan pada Kegiatan Pertanian Berkelanjutan," *Jurnal Penyuluhan* 11, no. 1 (2015): 23–37, https://doi.org/10.25015/penyuluhan.v11i1.9929.

[2] Jonni Ali, Arman Delis, and Siti Hodijah, "Analisis Produksi dan Pendapatan Petani Karet di Kabupaten Bungo," *Jurnal Perspektif Pembiayaan dan Pembangunan Daerah* 2, no. 4 (2015): 201–8, https://doi.org/10.22437/ppd.v2i4.2616.

[3] Ervi Anggriyanti, Jumiati Sasmita, and Daviq Chairilsyah, "Pengaruh Beban Kerja dan Kompensasi terhadap Komitmen dan Kinerja Karyawan pada PT. Rubber Wood Industries Indo Kecamatan Siak Hulu Kabupaten Kampar," *Management Studies and Entrepreneurship Journal (MSEJ)* 3, no. 2 (2022): 834–48, https://doi.org/10.37385/msej.v3i2.392.

[4] Ali, Delis, and Hodijah, "Analisis Produksi dan Pendapatan Petani Karet di Kabupaten Bungo."

[5] BPS Sumatera Selatan, "Sumatera Selatan dalam Angka 2020," BPS Sumatera Selatan, 2021, https://sumsel.bps.go.id/publication/2020/04/27/5b5b649c2b342890ba737213/provinsi-sumatera-selatan-dalam-angka-2020.html.

thousand hectares (ha). Banyuasin Regency is one of the districts that has good potential in the food crop and plantation subsector, which includes rubber and rubber plants. Registered at the Central Statistics Agency (BPS) in 2020. The area of rubber plantations in Banyuasin Regency is 101.662 Ha. Banyuasin Regency experienced a reduction in the area of rubber plantations from year to year, namely 10.685 ha. It shows that the plantation land owned by Banyuasin Regency has reduced employment opportunities in the agricultural sector, which should provide employment opportunities for the population of productive age who are included in the workforce.

According to Anwarudin,[6] the farmer's age can influence farming activities, affecting their physical condition and thinking ability. The younger the farmer, the more physically strong they tend to be in managing their farming business, so they are able to work stronger than older farmers. Apart from that, younger farmers dare to take risks in trying innovations for the progress of their farming business. Productive age has great potential in developing farming.

The population in Banyuasin Regency who are of productive age (15 - 54 years) of 286,027 males and 279,419 females.[7] Meanwhile, the number of males of non-productive age is 19,309 people, and the number of females of non-productive age is 19,041 people. It shows that the number of people of productive age is greater than the number of non-productive people.[8] It means that a demographic bonus has occurred in the Banyuasin Regency. The significant number of rubber farmers provides the economic potential for the Banyuasin area, whereas the interest of the farmers' children in continuing the family business has begun to wane. This study is needed to explore what influences the welfare of rubber farmers' children in continuing the family business. The research findings will be valuable information for the government

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[6] Oeng Anwarudin et al., "Peranan Penyuluh Pertanian dalam Mendukung Keberlanjutan Agribisnis Petani Muda di Kabupaten Majalengka," *Jurnal Agribisnis Terpadu* 13, no. 1 (2020): 17–36, https://doi.org/10.33512/jat.v13i1.7984; Oeng Anwarudin et al., "Support of Agriculture Extension on Improving Entrepreneurship Capacity of Young Farmers," *Journal of the Social Sciences* 48, no. 2 (2020): 1855–67.

[7] BPS Banyuasin, "Jumlah Penduduk (Jiwa), 2020-2022," Badan Pusat Statistik Kabupaten Banyuasin, 2022, https://banyuasinkab.bps.go.id/indicator/12/175/1/jumlah-penduduk.html.

[8] Lalu Muh. Kabul, Julio Nedo Darenoh, and Armin Subhani, "Pengembangan Model dan Metode Perhitungan Bonus Demografi," *Geodika: Jurnal Kajian Ilmu dan Pendidikan Geografi* 4, no. 2 (2020): 138–47, https://doi.org/10.29408/geodika.v4i2.2664.

to support the sustainability of rubber farming in Banyuasin as a source of the regional economy. This research aims to analyze the perceptions of farmers and children in continuing farming and the factors that influence them in continuing rubber farming to support intergenerational agricultural transfer in Ujung Tanjung Village, Banyuasin III District, Banyuasin Regency.

B.   Method

This research was carried out in Ujung Tanjung Village, Banyuasin III District, Banyuasin Regency, South Sumatra. The determination of the research location was carried out purposively, taking into account that most of the population in Ujung Tanjung Village was of productive age and was located close to the researcher's house. Data collection at the research location was carried out from June to September 2023.

Research Methods

The method used in this research is a survey method.[9] The survey method is a research method carried out on large or small populations.. This method was applied by taking a sample of farmers of productive age in Ujung Tanjung Village from the entire population by asking the same list of questions to the sample farmers: 1) Do you help your parents when farming rubber? 2) Are you directly involved in the rubber cultivation process? 3) Have you joined a farmer's group? 4) Are you involved in managing farmer groups? 5) Are you involved with agricultural extension activities?

Sampling Method

The sampling method used in this research is a simple random sampling method based on certain criteria.[10] The sampling method in this research was carried out by taking subjects not based on strata or regions but based on certain

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[9] Paratta Promme et al., "Factors Influencing Rubber Marketing by Smallholder Farmers in Thailand," *Development in Practice* 27, no. 6 (2017): 865–79, https://doi.org/10.1080/09614524.2017.1340930.

[10] Heriyanto Heriyanto and Asrol Asrol, "Dominant Factors Affecting Economic Decisions in Rubber Farm Households in Kampar Regency, Riau Province: The Simultaneous Equation Model," *International Journal of Innovation, Creativity and Change* 10, no. 3 (2019): 185–200, https://www.ijicc.net/images/vol10iss3/10318_Heriyanto_2019_E_R.pdf.

objectives. The number of farming households (RTP) in Ujung Tanjung Village is 430 heads of families. The population of farmer children aged 15-24 years is 175. The samples taken in this research were 36 samples. The researcher determined the research sample based on the Slovin formula with an error tolerance of 0.05 percent.[11]

Collecting Data

In this research, the data collected consisted of primary and secondary data. Primary data was obtained from direct interviews in the field with farmers or observations using previously prepared questionnaire questions.[12] Meanwhile, secondary data was obtained from related agencies, references from libraries, and also sourced from literature studies that can support research.

Data Processing Methods

To answer the first research objective, namely the perception of children of farmers in continuing rubber farming in Ujung Tanjung Village, Banyuasin III District, Banyuasin Regency, using a Likert scale. It has five indicators: 1. Enjoyment, 2. Interest, 3. Willingness, 4. Involvement, 5. Enthusiasm. Community perception is measured in the form of a score, namely a score of 3 for interested criteria, 2 for less interested, and 1 for not interested.[13]

Based on the calculation results, the class interval values and criteria for measuring the perceptions of farmer children in continuing rubber farming in Ujung Tanjung Village, Banyuasin III District, Banyuasin Regency, can be seen in Table 1.

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[11] Kadriye Peker et al., "Reliability and Validity of the Turkish Version of the Rapid Estimate of Adult Literacy in Dentistry (TREALD-30)," *Acta Odontologica Scandinavica* 75, no. 3 (2017): 198–207, https://doi.org/10.1080/00016357.2016.1278079.

[12] Buncha Somboonsuke et al., "Rubber Tapping System and Tapping Labor Management of Rubber Farmers' Households: Comparison among Rubber Ecozones in Songkhla Province," *Kasetsart Journal of Social Sciences* 33, no. 1 (2012): 92–105, https://so04.tci-thaijo.org/index.php/kjss/article/view/246799/.

[13] Vina Nisa and Palupi Samputra, "Pengaruh Tanihub terhadap Minat Generasi Y Bertani dalam Penguatan Ketahanan Pangan," *Jurnal Ekonomi Pertanian dan Agribisnis* 5, no. 4 (2021): 1136–45, https://doi.org/10.21776/ub.jepa.2021.005.04.16.

Table 1
Class Interval Table for Each Indicator

No.	Class Interval Value (Total Score)	Class Interval Value (Per Indicator)	Class Interval Value (Question)	Criteria	information
1	25 < x ≤ 42	5 < x ≤ 8	1.00 < x ≤ 1.67	Not interested	There is no transfer of agricultural business between generations
2	42 < x ≤ 58	8 < x ≤ 12	1.67 < x ≤ 2.35	Less Interested	There is transfer of agricultural business between generations, but guidance is still needed
3	58 < x ≤ 75	12 < x ≤ 15	2.34 < x ≤ 3.01	Interested	There is a transfer of agricultural business between generations

To answer the second objective, related to the problem that will be studied about the perception of farmers' children to continue rubber farming (Y), influenced by land area (X1), Age (X2), Education (X3), Gender (X4), Participation in family farming (X5), Number of Members Family (X6), Family Socialization (X7), and Agricultural Extension (X8).[14]

The alleged model of this research is as follows:

$$K = In\frac{P_1}{P_0} g_1(x) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots + \beta_n X_n + e$$
$$K = In\frac{P_2}{P_0} g_2(x) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots + \beta_n X_n + e$$

Information:

K   : Interest of farmer children in continuing rubber farming

P   : Opportunity for the farmer's children to continue farming

P_0 : Farmer children who are not interested

P_1 : Farmer children who are less interested

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[14] Muhammad Affan Al Mutlik, "Tinjauan Geografis Minat Bertani Anggur di Kota Probolinggo dan Faktor-Faktor Yang Mempengaruhi," *Swara Bhumi E-Journal Pendidikan Geografi FIS Unesa* 2, no. 2 (2015): 164–70, https://ejournal.unesa.ac.id/index.php/swara-bhumi/article/view/11992.

P_2 : Interested farmer's children
α : constant
$\beta_1 - \beta_8$: Regression Coefficient
X_1 : Land area (ha)
X_2 : Age (years)
X_3 : Education (years)
X_4 : Gender (0 = female, 1 = male)
X_5 : Participation in family farming (year)
X_6 : Number of household members (people)
X_7 : Socialization from family (0 = no, 1 = any)
X_8 : Agricultural extension (0 = ever, 1 = never)
E : Interference error (standard error)

To see how much the independent variable explains the dependent variable, so that the model is closer to the real conditions, the coefficient of determination (R^2) is sought using the following formula:

$$R^2 = \frac{JKR}{JKT}$$

Next, the *Chi square test* is carried out to examine the role of the independent variable on the dependent variable simultaneously or as a whole. The hypothesis for this test is as follows:

$_0$: $\beta_1 = \beta_2 = \ldots = \beta_i = 0$
H1 : There is at least one parameter $\beta_i \neq 0$

Test Statistics :

$$G = -2In\left[\frac{\left(\frac{n_0}{n}\right)^{n_1} - \left(\frac{n_0}{n}\right)^{n_0}}{\sum n_i Y^i (1 - \pi 1)^{(1-Y_i)}}\right]$$

Information:
n_1 : Number of observations that fall into category P (K=1)
n_0 : Number of observations that fall into category P (K=0)
n : Total number of samples

The G test statistic follows the *chi-square distribution*, so that to obtain a decision a comparison is made with the $x^{2\ value}$ table, with degrees of freedom (db) = k-1, k is the number of independent variables.

If *the* test value $G \geq X^2$ farmer's children in continuing rubber farming; then if *the* test value $G < X^2$ in continuing rubber farming.

Next, partial testing is used to test the influence of each βi individually in the model obtained. Partial/individual test results will be shows whether a predictor variable is suitable to be included in the model or not. The hypothesis used for each variable is as follows:

$H_0 : \beta i = 0$

$H_1 : \beta i \neq 0$

Wald Test Statistics (W):

$$W = \frac{\beta i}{SE(\beta i)}$$

Information:

βi : Regression coefficient

SE (βi) : Error Xi

The decision rule is: If $W \geq z^{\frac{\alpha}{2}}$ or p is more than α 0.050, it means that H_0 is accepted, meaning that simultaneously partial land area, age, education, gender, participation in family farming, number of family members, socialization from the family, and agricultural counseling have no effect on the perception of farmer children. in continuing rubber farming. If $W < z^{\frac{\alpha}{2}}$ or p is less than α 0.050, it means that H_0 is rejected

Multicollinearity test is a condition where there is a strong correlation between the independent variables (X) which are included in forming the linear regression model To find out whether or not there is multicollinearity in the regression model, you can determine the tolerance value and variance inflation factor (VIF) value.[15]

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[15] Agus Agus, "Analisis Pengaruh Rasio-Rasio Keuangan Perbankan terhadap Kinerja Perbankan," *Kreatif: Jurnal Ilmiah Prodi Manajemen Universitas Pamulang* 6, no. 4 (2018): 76–87, https://doi.org/10.32493/jk.v6i4.y2018.p76-87.

C.   Result

Perceptions of Children of Rubber Farmers in Continuing Rubber Farming for Supporting the Transfer of Agricultural Businesses between Generations

The perceptions of children of rubber farmers in continuing rubber farming can be seen from five indicators, namely, indicators of pleasure, interest, willingness, involvement and enthusiasm. [16] The average score for rubber farmers' children's perception of the sustainability of rubber farming is 53.250, with the criterion of being less interested. The indicator with the highest perception score is the interest indicator, with a score of 11.390 in the less interested category. In contrast, the perception score at the lowest indicator level is the engagement indicator, with a score of 9.390 in the less interested category. To find out in more detail the perceptions of farmer children, you can look at each existing indicator (see Table 2).

Table 2
Average Score of Perceptions of Children of Rubber Farmers in Continuing Rubber Farming

No.	Indikator	Score	Criteria
1.	Pleasure Indicator	10.750	Less Interested
2.	Interest Indicator	11.390	Less Interested
3.	Willingness Indicato	11.220	Less Interested
4.	Engagement Indicators	9.900	Less Interested
5.	Spirit Indicator	10.500	Less Interested
	Average Score	53.250	Less Interested

Factors That Influence the Perceptions of Rubber Farmers' Children in Continuing Rubber Farming to Support the Transfer of Rubber Farming between Generations

After processing the data using SPSS software version 25 and Microsoft Excel, the model used to analyze the factors that influence the perceptions of

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[16] Yelfi Novita Sari, Nuraini Budi Astuti, and Devi Analia, "Strategi Penghidupan Petani Karet pada Musim Hujan di Nagari Tanjung Nonai Aur Selatan Kecamatan Simpur Kudus Kabupaten Sijunjung," *JOSETA Journal of Socio-Economics on Tropical Agriculture* 4, no. 2 (2023): 74–82, https://doi.org/10.25077/joseta.v4i2.442.

children of rubber farmers in continuing rubber farming to support the transfer of rubber farming between generations is a logistic regression analysis model. In this research, eight factors influence the interest of farmer children, including land area (X_1), age (X_2), education (X_3), gender (X_4), participation in family farming (X_5), and number of family members (X_6), socialization from family (X_7), and agricultural extension (X_8).

Land area is the area of cultivated land used for rubber farming (ha), age is the age of the farmer's children who are of productive age (years), education is the number of years of school or formal education attended by the farmer's children (years), gender is the difference between women and men are biologically differentiated when the child is born, participation in family farming is the length of time the farmer's children participate in the family farming business, the number of family members is the number of their family members from the family card, socialization from the family is an invitation or input from the related family sustainability of farmer children in continuing family farming, agricultural extension is an agricultural activity carried out by the village government for farmers.

The results of the logistic regression analysis of factors that influence the perceptions of farmer children in continuing rubber farming can be seen in Table 3.

Based on results analysis regression below, then equality logistic regression can stated as following:

Logit 1: (less interested)

$$Ln\frac{P_1}{P_0}g_1(x) = -140.584 + 4.021X_1 + 45.021X_2 - 6.159X_3 \\ - 940.408X_4 + 3.197X_5 + 79.904X_6 + 125.597X_7 \\ + 3.280\ X_8$$

Login 2: (interested)

$$Ln\frac{P_2}{P_0}g_1(x) = -0.456 + 3.264X_1 - 1.456X_2 - 1.394X_3 - 2.719X_4 \\ + 3.106X_5 + 2.809X_6 + 0.597X_7 + 2.670X_8$$

Table 3
Results Regression Logistics Influencing Factors of Perception Child Farmer
in Continue Farming Rubber

Ratings	B	Wald	Df	Sig	Exp (B)
Less interested					
Intercept	-140.584	0.003	1	0.955	
X_1	4.021	5.555	1	0.018	55.739
X_2	45.021	0.000	1	0.987	35.000
X_3	-6.159	0.000	1	0.984	1.011
X_4	-940.408	0.001	1	0.979	9.981
X_5	3.197	5.117	1	0.024	24.020
X_6	79.904	0.001	1	0.980	50.000
X_7	125.597	0.004	1	0.972	3.516
X_8	3.280	4.014	1	0.045	26.567
Interested					
Intercept	-0.456	0.052	1	0.820	
X_1	3.264	4.531	1	0.033	26.151
X_2	-1.456	0.450	1	0.502	0.233
X_3	-1.394	0.547	1	0.460	0.248
X_4	-2.719	1.750	1	0.186	0.066
X_5	3.106	2.005	1	0.157	22.326
X_6	2.809	1.865	1	0.172	16.592
X_7	0.597	0.149	1	0.700	1.816
X_8	2.670	5.469	1	0.019	14.442

Description: Signification on α level = 0.05

Coefficient determination own function For explain so far where ability variable free to variable bound with see R2 value. Results coefficient determination can seen from table *Pseudo* R-Square on Table 4.

Table 4
Pseudo R-Square

Cox and Snell	0.746
Nagelkerke	0.843
McFadden	0.634

Test the coefficient of determination (R^2) in logistic regression using Pseudo R Square. This test is carried out to see how much the independent variable is able to explain the dependent variable. Based on Table 10. Pseudo R-Square, it can be seen that the R^2 value or Nagelkerke value is 0.843. This shows

that the variable capacity of land area, age, education, gender, participation in family farming, number of family members, socialization from the family, and agricultural counseling simultaneously (together) influences the perception of farmer children in continuing rubber farming by 84.30%, while the remaining 15.70% percent are other variables outside this regression equation.

The G test is used to test the role of independent variables in the model together. The G Test value can be seen at the Model Fitting Information in Table 5.

Table 5
Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	70.950			
Final	21.593	49.356	16	.000

In the G test results, it can be seen in the model fitting information table, it can be seen that the results obtained are significant 0.000 < 0.050, and the calculated chi-square value of 49.356 is greater than the chi-square table of 26.296. Therefore, it can be concluded that H_0 is rejected and H_1 is accepted, which means that the independent variables consisting of land area, age, education, gender, participation in family farming, number of family members, socialization from the family, and agricultural counseling influence the interest of rubber farmers' children in continuing rubber farming with a significance of 0.000 and chi-square 49.356.

The Wald test is a significance test for each parameter β_i with the standard error of the parameter estimate. If $w \geq z^{\frac{\alpha}{2}}$ or p is more than α 0.050, it means that H_0 is accepted, meaning that partially simultaneously, land area, age, education, gender, participation in family farming, number of family members, socialization from the family, and agricultural extension does not affect the perception of farmer children in continuing rubber farming. Suppose $w \geq z^{\frac{\alpha}{2}}$ or p is less than α 0.050. In that case, it means that H_0 is rejected, meaning that partially simultaneously, land area, age, education, gender, participation in family farming, number of family members, socialization from the family, and agricultural extension influence the perception of farmer children in continuing rubber farming.

From logit model 1, it can be seen that the variables that influence the decision of farmers' children to continue rubber farming are land area, participation in family farming, and agricultural extension. Meanwhile, for logit model 2, it can be seen that the variables that influence the farmer's child's decision to continue rubber farming are land area and agricultural extension.

The multicollinearity test was carried out with the aim of finding out whether a correlation was found in a regression model between independent variables. This result shows that there is no linear relationship between the independent variable or independent variable, which is influenced by the dependent variable or dependent variable.

Table 6
Multicollinearity Test

Model (Constant)	Collinearity Statistics	
	Tolerance	VIF
X_1	0.658	1.521
X_2	0.313	3.198
X_3	0.265	3.769
X_4	0.659	1.518
X_5	0.562	1.780
X_6	0.759	1.318
X_7	0.511	1,958

Land Area Factor

The test results using multinominal logistic regression data analysis for the land area variable shown in logit 1 have a significant effect on the interest of farmer children in continuing rubber farming; this is shown in the significance value of $0.018 < 0.050$ and logit 2, the land area variable has a significant effect on interest. Farmer's children continue rubber farming; this is shown in the significance value of $0.033 < 0.050$. This indicates that land area is a consideration for farmers' children's interest in continuing rubber farming seen from logit one and logit 2.

Age Factor

The test results using multinominal logistic regression data analysis for the age variable shown in logit one do not have a significant effect on the interest of farmer children in continuing rubber farming; this is shown in the significance

value of 0.987 < 0.050, and logit two, the age variable does not have a significant effect on interest. Farmer's children in continuing rubber farming; this is shown in the significance value of 0.502 < 0.050. This indicates that age is not a consideration for the interest of farmer children in continuing rubber farming seen from logit one or logit 2.[17]

Educational Factors

The test results using multinominal logistic regression data analysis for the education variable shown in logit 1 do not have a significant effect on the interest of farmer children in continuing rubber farming; this is shown in the significance value of 0.984 < 0.050 and logit 2, the education variable does not have a significant effect on interest. Farmer's children continue rubber farming; this is shown in the significance value of 0.460 < 0.050. This indicates that education is not a consideration for the interest of children of farmers in continuing rubber farming seen from logit one or logit 2.

Gender Factor

The test results using multinominal logistic regression data analysis for the gender variable shown in logit one does not have a significant effect on the interest of farmer children in continuing rubber farming; this is shown in the significance value of 0.979 < 0.050, and logit two the gender variable does not have a significant effect regarding the interest of farmer children in continuing rubber farming, this is shown in the significance value of 0.186 < 0.050. This indicates that gender is not a consideration of the interest of children of farmers in continuing rubber farming seen from logit one or logit 2.

Factors of Participation in Family Farming

The test results using multinominal logistic regression data analysis for the variable participation in family farming shown in Logit 1 have a significant effect on the interest of farmers' children in continuing rubber farming; this is shown in the significance value of 0.024 < 0.050, and logit two the variable participation in

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[17] Alvita Raissa Marza, R Hanung Ismono, and Eka Kasymir, "Faktor-Faktor yang Memengaruhi Minat Pemuda Pedesaan dalam Melanjutkan Usahatani Padi di Kabupaten Lampung Tengah," *Jurnal Ilmu-Ilmu Agribisnis* 8, no. 1 (2020): 48–54, https://doi.org/10.23960/jiia.v8i1.4355.

family farming does not have a significant effect on the interest of farmer children in continuing rubber farming, this is shown in the significance value of 0.157 < 0.050. This indicates that participation in family farming is a consideration of the farmer's children's interest in continuing rubber farming in Logit 1 but is not a consideration in Logit 2.

Factor Number of Family Members

The test results using multinominal logistic regression data analysis for the variable number of family members shown in logit one does not have a significant effect on the interest of farmer children in continuing rubber farming; this is shown in the significance value of 0.980 < 0.050 and logit two the variable number of family members has no effect significantly affects the interest of farmer children in continuing rubber farming, this is shown in the significance value of 0.172 < 0.050. This indicates that the number of family members is not a consideration for the interest of farmer children in continuing rubber farming seen from logit one or Logit 2.

Socialization Factors from the Family

The test results using multinominal logistic regression data analysis for the socialization variable from the family, which is shown in Logit 1, does not have a significant effect on the interest of farmer children in continuing rubber farming; this is shown in the significance value of 0.972 < 0.050, and logit two the socialization variable from the family has no effect. Significantly affects the interest of farmer children in continuing rubber farming; this is shown in the significance value of 0.700 < 0.050. This indicates that socialization from the family is not a consideration of the interest of farmer children in continuing rubber farming seen from logit one or Logit 2.

Agricultural Extension Factors

The test results using multinominal logistic regression data analysis for the agricultural extension variable shown in logit 1 have a significant effect on the interest of farmer children in continuing rubber farming; this is shown in the significance value of 0.045 < 0.050, and logit two, the agricultural extension variable has a significant effect on interest. Farmer's children continue rubber farming; this is shown in the significance value of 0.019 < 0.050. This indicates that agricultural extension is a consideration of the interest of children of farmers in continuing rubber farming seen from logit one and logit 2.

D. Discussion

Perceptions of Children of Rubber Farmers in Continuing Rubber Farming for Supporting the Transfer of Agricultural Businesses between Generations

The total score of the happiness indicator, a score of 10.750 was obtained; it can be concluded that the rubber farmer's children's perception of the sustainability of rubber farming on the pleasure indicator falls within the criteria of less interest.[18] The total interest indicator score, a score of 11.390 was obtained; it can be concluded that the perception of rubber farmers' children regarding the sustainability of rubber farming on the interest indicator falls within the criteria of less interest.[19] The total score of the willingness indicator, a score of 11.220 was obtained; it can be concluded that the perception of rubber farmers' children regarding the sustainability of rubber farming on the willingness indicator falls within the criteria of less interest.[20] The total score for the involvement indicator, a score of 9.390 was obtained; it can be concluded that the perception of rubber farmers' children towards the sustainability of rubber farming on the involvement indicator falls into the criteria of less interest.[21] And the last result of the total score of the enthusiasm indicator, a score of 10.500 was obtained; it can be concluded that the perception of rubber farmers' children regarding the sustainability of rubber farming on the enthusiasm indicator falls within the criteria of less interest.[22]

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[18] Sakina Suzianti, Shorea Khaswarina, and Yeni Kusumawaty, "Analisis Distribusi Pendapatan Rumah Tangga Petani Karet di Desa Kuapan Kecamatan Tambang Kabupaten Kampar," *Indonesian Journal of Agricultural Economics (IJAE)* 11, no. 2 (2020): 193–209, https://doi.org/10.31258/ijae.12.2.192-209.

[19] Anggriyanti, Sasmita, and Chairilsyah, "Pengaruh Beban Kerja dan Kompensasi terhadap Komitmen dan Kinerja Karyawan pada PT. Rubber Wood Industries Indo Kecamatan Siak Hulu Kabupaten Kampar."

[20] M A Firmansyah et al., "Kesesuaian Lahan Rawa Pasang Surut untuk Tanaman Karet di Tiga Desa Eks Lahan Sejuta Hektar, Kabupaten Pulang Pisau, Provinsi Kalimantan Tengah," *Jurnal Lahan Suboptimal* 1, no. 2 (2012): 149–57, https://doi.org/10.33230/JLSO.1.2.2012.20.

[21] J. Kittitornkool et al., "Livelihoods of Small-Scale Rubber Farmers: A Comparative Study of Rubber Agroforestry Systems and Monocropping Rubber Plots in Southern Thailand," *Kasetsart Journal of Social Sciences* 40, no. 2 (2019): 420–26, https://doi.org/10.34044/j.kjss.2019.40.2.09.

[22] Sukhwinder Singh et al., "The Association between Crop and Income Diversity and Farmer Intra-Household Dietary Diversity in India," *Food Security* 12, no. 2 (2020): 369–90, https://doi.org/10.1007/s12571-020-01012-3.

The regeneration of rubber farmers is not running smoothly, and the young generation's low interest in continuing the profession of rubber farming is due to the younger generation's perception that rubber farming requires effort and physical energy that is not commensurate with the economic wages obtained from rubber farming.[23] This is actually because Indonesia still exports rubber products in the form of raw materials or semi-finished products. On the other hand, rubber prices are determined by the international market through the Singapore Commodity Index (SICOM), thus making Indonesia's position only as a recipient of fees set by the international market.[24] The global market generally sets the price of natural rubber at a meagre and cheap value. For example, in 2019, the price was only around Rp. 6,000 per kilogram. The very reasonable price of rubber has caused nearly 2.5 million small-scale rubber farmers to experience social changes and economic difficulties, which have prompted them to try to switch to other businesses that have higher economic prospects. Apart from that, rubber farmers face problems, namely decreased productivity, plant pests, and uncertain climate change.[25]

The negative perception of the younger generation to become the successors of rubber farmers with low interest is also due to the many problems they have to face as rubber farmers, which they see happen to parents and other rubber farmers, including the proportion of old rubber plantations covering large areas, marketing inefficiencies. Rubber material production system, limited capital to purchase first-class plants and other production tools such as fertilizer and herbicides, as well as limited availability of agricultural production for small-scale traditional rubber farmers.[26]

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[23] Elly Rasmikayati, Iwan Setiawan, and Bobby Rachmat Saefudin, "Kajian Karakteristik, Perilaku dan Faktor Pendorong Petani Muda Terlibat dalam Agribisnis pada Era Pasar Global," *Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis* 3, no. 2 (2017): 134–49, https://doi.org/10.25157/ma.v3i2.565.

[24] Dian Eka Putra and Agus Darwa, "Guidelines for Development of Area-Based Plantation of Rubber Commodity in Musi Rawas," *Jurnal Ekonomi Pembangunan* 19, no. 1 (2021): 75–90, https://doi.org/10.29259/jep.v19i1.13904.

[25] Miftahul Azis et al., "Economic Perspective of Indonesian Rubber on Agroforestry Development," *E3S Web of Conferences* 305 (2021), https://doi.org/10.1051/e3sconf/202130502007.

[26] Dessy Iriani Putri, Lukman M. Baga, and Burhanuddin Burhanuddin, "Performance Criteria of Rubber UKM Based on Cooperative Using Balanced Scorecard Method," *Indonesian Journal of Business and Entrepreneurship* 3, no. 1 (2017): 34–42, https://doi.org/10.17358/ijbe.3.1.34.

Factors that Influence the Perceptions of Rubber Farmers' Children in Continuing Rubber Farming to Support the Transfer of Rubber Farming between Generations

Based on research, the land area owned by rubber farmers varies from 2 to 10 hectares. This shows that the larger the land area owned by farmers, the greater the income generated in rubber farming.[27] This causes the land area to have a real influence on the perception of farmer children in continuing rubber farming.[28] Based on research, the ages of children of rubber farmers vary from 15 to 21 years. This shows that as farmers' children get older, they think that they can do other things besides farming rubber while they are still young. This causes age to have no real effect on the perception of farmer children in continuing rubber farming.[29]

Based on research, the education of farmers' children is dominated by junior high school (SMP) graduates. The higher the education achieved by the children of farmers, the more likely they are to choose work other than rubber farming. This causes education to have no real effect on the perceptions of farmer children in continuing rubber farming.[30]

The gender of farmer children is dominated by women. Female farmers' children usually think about pursuing a career in a profession other than farming. This causes women to have no real influence on the perceptions of farmer children in continuing rubber farming.[31] Participation in family farming owned by rubber farmers varies from 0 to 10 years. This shows that the longer the

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[27] Almasdi Syahza, Djaimi Backe, and Brilliant Asmit, "Natural Rubber Institutional Arrangement in Efforts to Accelerate Rural Economic Development in the Province of Riau," *International Journal of Law and Management* 60, no. 6 (2018): 1509–21, https://doi.org/10.1108/IJLMA-10-2017-0257.

[28] Florencia Palis, "Aging Filipino Rice Farmers and Their Aspirations for Their Children," *Philippine Journal of Science* 149, no. 2 (2020): 321–31, https://doi.org/10.56899/149.02.10.

[29] Kongmanee et al., "The Livelihood Adjustment of Smallholding Rubber Farming Systems (SRFS) in Southwestern Thailand: Case Study in Ranong, Krabi, Phangnga, and Phuket Provinces," *Forest and Society* 6, no. 1 (2022): 202–25, https://doi.org/10.24259/fs.v6i1.14159.

[30] Edwin Reimon Tamengge, Maryam Lamadirisi, and Y. D. A. Santie, "Ekonomi dan Pendidikan Anak Keluarga Petani Rumput Laut di Desa Nain Satu Kecamatan Wori Kabupaten Minahasa Utara," *Jurnal Paradigma: Journal of Sociology Research and Education* 2, no. 1 (2021): 52–56, https://doi.org/10.53682/jpjsre.v2i1.1241.

[31] Nela Dharmayanti, Budiastuti Fatkar, and Aisyah Ratnasari, "The Influence of the Digital Economy and Women's Empowerment on the Family Economy," *Sawwa: Jurnal Studi Gender* 17, no. 1 (2022): 47–76, https://doi.org/10.21580/sa.v17i1.11300.

farmer's children participate in the family farming business, the greater the chance of interest in rubber farming. This causes participation in the family farming business to have a real influence on the perception of the farmer's children in continuing the rubber farming business.

The number of family members owned by rubber farmers varies from 2 to 6 people. This shows that the more family members a farmer's children have, the greater the chance of interest being generated in rubber farming.[32] This causes the number of family members to have no real effect on the perception of farmer children in continuing rubber farming.[33] Socialization from families owned by rubber farmers is quite varied, ranging from those who receive it and those who do not receive socialization from their families. This shows that the socialization from the family that farmers' children receive, the greater the chance of interest in rubber farming. This causes socialization from the family to have no real effect on the perception of farmer children in continuing rubber farming.[34]

The agricultural extension services that rubber farmers have are quite varied, ranging from those who have attended agricultural extension services to those who have never participated in agricultural extension services. This shows that if the farmer's children follow agricultural counseling, the greater the chance of interest in rubber farming. This causes agricultural extension to have a real influence on the perceptions of farmer children in continuing rubber farming.[35]

Regeneration for the younger generation to continue their parents' profession of rubber farming generally fails because most of the children of rubber farmers pursue higher education by migrating far from their hometowns and the daily activities of their parents and society in general who have a profession as rubber farmers.[36] When they return to their hometown, they have

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[32] Kittitornkool et al., "Livelihoods of Small-Scale Rubber Farmers: A Comparative Study of Rubber Agroforestry Systems and Monocropping Rubber Plots in Southern Thailand."

[33] M. Lobley and J. R. Baker, "Succession and Retirement in Family Farm Businesses," in *Keeping It in the Family*, 2012, https://doi.org/10.4324/9781315591001-1.

[34] R. Yulida et al., "Communication Networks of On-Farm Rubber in Riau Province, Indonesia," *IOP Conference Series: Earth and Environmental Science* 715, no. 1 (2021): 012003, https://doi.org/10.1088/1755-1315/715/1/012003.

[35] (Anwarudin et al., 2020)

[36] Fitrah Rahmah Insani, Iwan Setiawan, and Siska Rasiska, "Determinan Partisipasi dan Peran Petani Muda dalam Pengembangan Pertanian Ramah Lingkungan di Desa Cisondari, Kecamatan Ciwidey, Kabupaten Bandung, Jawa Barat," *Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis* 4, no. 2 (2018): 153–68, https://doi.org/10.25157/ma.v4i2.1133.

new hobbies, new habits and new desires along with the knowledge and experience gained while abroad and better accessibility and information, which opens up new opportunities and new techniques far from things related to their hometowns—rubber farming.[37]

E.   Conclusion

Research findings show that the perceptions of children of rubber farmers in continuing rubber farming to support the transfer of agricultural businesses between generations show happiness in helping their parents but still express a lack of interest in continuing their parents' businesses. The next findings are factors that influence the perceptions of rubber farmers' children in continuing rubber farming to support the transfer of rubber farming between generations. These factors include age, education, gender, number of family members, and agricultural extension.

Recomendation

Farmers' children who have continued their education are expected to want to continue their family's agricultural business and have the courage to try innovations that can be used to develop agricultural businesses in their villages. For parents who are engaged in farming, it is hoped that they will be able to guide their children to continue the agricultural business they are carrying out so that the agricultural business does not end and continues from generation to generation. For the government, it is hoped that they will pay attention to the children of farmers who are not interested in continuing the agricultural business so that they can start farming by providing convincing assistance and counseling. The government must also provide scholarships and training to children of farmers who want to continue their education in agriculture. Future researchers can research the transfer of agricultural businesses between generations with different indicators and factors.

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[37] Gerson Hans Maure, "Karakteristik dan Faktor Pendorong Minat Petani Muda pada Komoditas Hortikultura di Kecamatan Alor Timur Laut Kabupaten Alor," *Ilmiah Wahana Pendidikan* 9, no. 5 (2023): 656–63, https://doi.org/10.5281/zenodo.7792409.

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