

## Young generations perceptions of the farmers profession after the conversion of agricultural land into coal mining in Gunung Raja Village, Empat Petulai Dangku District, Muara Enim Regency, South Sumatra Province, Indonesia

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### Abstract

The present study aims to investigate two key areas of research: (1) the perception of farming among younger generations following the conversion of agricultural land to coal mining land, and (2) the factors that influence this perception. This research was conducted in Gunung Raja Village, Empat Petulai Dangku District, Muara Enim Regency, using a survey method. Sampling was carried out using a simple random sampling technique from the younger generation aged 16 to 30 years, with as many as 560 children of farmers and 402 children of non-farmers, resulting in a sample of 50 people consisting of 25 people each, children of farmers and non-children of farmers. Data were analyzed descriptively using the chi square test and contingency correlation test. The research results show that the younger generation's perception of the farming profession after the conversion of agricultural land to coal mining in Gunung Raja Village is in the medium category, with an index of 68.37%. The factors that influence the perception of the younger generation are internal factors, namely gender and education level, with a weak contingency correlation, and external factors, namely the area of land owned by families and non-agricultural employment opportunities, with a moderate contingency correlation. Based on these results, it can be seen that the presence of coal mining companies does not make the perception of the younger generation towards the farmer profession low.

**Keywords:** Farmer Profession; Land Conversion; Perception; Young Generations

### 1. Introduction

Nowadays, many people, especially the younger generation, are not interested in working in the agricultural sector. This is due to the perception that being a farmer does not provide a bright future. The loss of the next generation of agricultural workers will have an impact on limited quality resources and agricultural experts, dependence on foreign parties, and further impacts such as food crises and hunger [1]. The perception of the younger generation towards the farmer profession greatly determines their choice whether to work as a farmer or even switch to another profession.

Land use change is the impact of improving the community's economy but has a negative impact on the environment [2]. One type of conversion of agricultural land is into coal mining. The coal mining sector is one of the non-agricultural sectors that is developing in various regions, one of which is in South Sumatra. The coal potential in South Sumatra is quite large, which is 22,240.4 million tons or about 38.5% of the potential of national coal resources (57,847.7 million tons). South Sumatra's coal reserves are spread across several regions. Muara Enim Regency is a district with scattered coal shocks, which is 13,653.21 million tons, making Muara Enim Regency one of the electrical energy producing areas [3].

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The problem examined in this study is the perception of the younger generation towards the profession of farmer after the conversion of agricultural land into coal mining. Land use change is happening very quickly and has piqued the interest of the younger generation in agriculture. Land use change occurs because of a perception that considers that land is absolute private property, so that it only prioritizes personal interests without looking at its function from the other side [4]. According to research [5], which discusses the socio-cultural changes of the community after the conversion of agricultural land into mining land, Barubara mining results in socio-cultural and societal changes. One form of change is the change in livelihood from farmers to mine employees because they want to improve the family's standard of living.

According to [6] who researched about the factors that influence rural youth to work in the agricultural sector are income, land area, youth age, experience working in the agricultural sector and education level. While the pull factor is income from rice farming and land availability. In addition, there are also factors driving youth in choosing to work in agriculture, namely limited job opportunities, low education levels, and too much free time. According to [7] internal and external factors influence the perception of adolescents towards work in the agricultural sector. Those internal factors are gender and education level. External factors that influence adolescents' perceptions of farmers' work are parents, peers, and land owned.

## 2. Material and methods

The study was carried out in Muara Enim Regency's Gunung Raja Village, Empat Petulai Dangku District. The study's location was carefully chosen, taking into account the fact that it is the hub of coal mining, the only village in Empat Petulai Dangku District with a steam power plant company (PLTU), and it is a village where the greatest amount of agricultural land has been converted into coal mining. The youthful generation, 16 to 30 years old, whose parents are either farmers or not, is the subject of the study. This study employed a survey research design using a straightforward random sample procedure. The total population, including the current young generation with the age range of 16–30 years, is 962, consisting of 560 young generation farmer children and 402 young generation non-farm children. The sample consisted of 50 people, consisting of 25 young generation children of farmers and 25 people of the younger generation, not children of farmers.

Three sub-variables are used to measure the younger generation's perspective of the farming profession in Gunung Raja Village following the conversion of agricultural land into coal mining: socio-cultural, environmental, and economic. The income, timeliness of receiving income, and growth in income are covered by economic sub-variables. Environmental sub-variables discuss the influence of coal mining on agriculture, health in terms of the environment, and the work environment. The socio-cultural sub-culture discusses the assessment of the younger generation regarding work in the agricultural sector as a hereditary culture, strengthening friendships, and work that is the pride of the family. Each sub-variable is measured through 3 statements, so there are 9 statements. Three categories were used to measure each statement: disagree (TS), agree (S), and strongly agree (SS). The categories had scores of 1.2 and 3, respectively. The class interval formula is then used to divide the overall score into three categories. The results of class interval values for perceptual variables and their indicators are presented in Table 1:

**Table 1** Class Interval Value of the Young Generation's Perception of the Farmer Profession

NO.	Class Interval Value (Total Score)	Class Intervals (Per Indicator)	Class Intervals (Per Statement)	Criteria
1	$9.00 \leq x \leq 15.00$	$3.00 \leq x \leq 5.00$	$1.00 \leq x \leq 1.66$	Low
2	$15.00 < x \leq 21.00$	$5.00 < x \leq 7.00$	$1.66 < x \leq 2.32$	Moderate
3	$21.00 < x \leq 27.00$	$7.00 < x \leq 9.00$	$2.32 < x \leq 3.00$	High

The factors that influence the perception of the younger generation towards the farmer profession after the conversion of agricultural land into coal mining are divided into two, namely internal factors and external factors. Internal factors are the level of education, gender, income of parents, and occupation of parents. As for external factors consisting of the influence of the natural environment, land area, and non-agricultural job opportunities. All these factors were measured using the Chi Square test with the help of the SPSS application. Variables of factors that influence the perception of the younger generation towards the farmer profession after the conversion of agricultural land into coal mining along with scores can be seen in Table 2:

**Table 2** Influencing Factors in Category Data

NO.	Variable	Category	Score
1	Level of education	Elementary School	1
		Junior High School	2
		High School/Upper	3
2	Gender	Man	1
		Woman	2
3	Parents' Income	≤ Rp. 2.000.000,-	1
		Rp. 2.000.000<x≤ Rp. 5.000.000.	2
		> Rp. 5.000.000.	3
4	Parents' Work	Farmer	1
		Not a Farmer	2
5	The influence of the natural environment	Does Not Support	1
		Enough support	2
		Very Supportive	3
6	Family land area	Narrow ( $0 < x \leq 1$ ha)	1
		Medium ( $1 < x \leq 2$ ha)	2
		broad ( $> 2$ ha)	3
7	Non-agricultural employment opportunities	Not Available	1
		Moderately Available	2
		Highly Available	3

A contingency correlation test, or measuring the strength of the relationship between these variables, can be performed once it is established that the independent variables the aforementioned internal and external factors have an impact on the dependent variable, which is the younger generation's perception of the farming profession. The magnitude of the strength of the influence of the variables tested on the perception of the younger generation towards the farmer profession after the conversion of agricultural land into coal mining can be known by test C (contingency correlation) with the SPSS application. The closer the number 1, the stronger the degree of strength of the relationship between the variables being tested. The stronger the relationship of the influencing variable, the stronger the degree of strength of the correlation coefficient relationship, as shown in Table 3:

**Table 3** Degree of Relationship Correlation Coefficient

Correlation Value	Relationship Level
0.00-0.199	Very Weak
0.20-0.399	Weak
0.40-0.599	Medium
0.60-0.799	Strong
0.80-1.00	Very Strong

Source: [8]

### 3. Results and discussion

#### 3.1. Identity of the generation of respondents

The young generation who are the object of this study are the young generation aged 16 to 30 years in Gunung Raja Village. The number of young people who were respondents in this study amounted to 50, consisting of 25 farmer children and 25 non-farmer children. The highest age of respondents was 21–25 years old, with a value of 42.00%. The education level of the younger generation in Gunung Raja Village is at the junior high school level, which is 62.00%. Based on the percentage of parents employed, the younger generation of respondents is equally large. This is deliberately done with the aim and hope of getting more complete research results from various points of view. The income of respondents' parents is moderate, with an average of Rp. 3,738,000, with the parents' land area almost the same as an average of 1.9 hectares, both farmers and non-farmers. The characteristics of respondents can be seen in Table 4:

**Table 4** Characteristics of Respondents

NO.	Identity	younger generation		Amount (People)	Index (%)
		Farmer's Children	Not Farmer's Children		
1	Age (years)				
	16-20	11	8	19	38.00
	21-25	5	16	21	42.00
	26-30	9	1	10	20.00
2	Education				
	Junior High School	17	14	31	62.00
	Senior High School	8	11	19	38.00
3	Gender				
	Man	14	16	30	60.00
	Woman	11	9	20	40.00
4	Parents' Income				
	Low	13	4	17	34.00
	Moderate	5	11	16	32.00
	High	7	10	17	34.00
5	Parents' Work				
	Farmers	25	-	25	50.00
	Not Farmers	-	25	25	50.00
6	Family land area (ha)				
	>2	8	9	17	34.00
	1<x≤2	8	9	17	34.00
	<1	9	7	16	32.00

Source: Primary Data Processing Results, 2024

#### 3.2. The Level of Perception of the Young Generation towards the Farmer Profession After the Conversion of Agricultural Land into Coal Mining in Gunung Raja Village, Empat Petulai Dangku District, Muara Enim Regency

Perception is a direct response that varies from individual to individual. Differences in perception can occur due to differences in background, level of education, experience and understanding. A person's ability to respond and conclude

can also determine the occurrence of differences in perception. Economic, environmental and social indicators are indicators used to see a person's perception of something. According to the study's findings, the younger generation's perception of the farming job in terms of sociocultural, environmental, and economic factors falls into the medium category, with an average score of 18.46. The average indicator of the younger generation's perception of the farmer profession after agricultural land conversion can be seen in Table 5.

**Table 5** Average indicators of young generation's perception of the farmer profession after conversion of agricultural land

NO.	Indicator	Perception			Amount	Average	Index (%)	Criteria
		Low	Moderate	High				
1	Economics	18	20	12	50	6.26	69.55	Moderate
2	Environment	21	20	9	50	6.14	68.22	Moderate
3	Socio Cultural	18	25	7	50	6.06	67.33	Moderate
	Jumlah	57	65	28	150	18.46	68.37	Moderate

Source: Primary Data Processing Results, 2024

Economic indicators are indicators that assess the perception of the younger generation towards the farmer profession in terms of income. If the income obtained is uncertain and tends to be relatively small, the younger generation will not be interested in working as farmers [9]. It can be seen that the average score from the description of economic indicators on the perception of the younger generation towards the farmer profession is included in the medium criteria with an achievement of 69.55%. The younger generation views the farmer profession as quite feasible and can also turn out to be unfit to be a profession based on economic indicators. The younger generation also views that there is a decrease in income obtained by farmers after the conversion of agricultural land into coal mining.

In environmental indicators, it can be known the perception of the younger generation towards the farmer profession after the conversion of agricultural land into coal mining based on occupational health, environmental impact, and environmental quality if working as farmers. Environmental indicators are included in the medium criteria with a percentage of 68.22. These results show that the younger generation views that even though there has been a conversion of agricultural land into coal mining and coal mining activities, it does not make the younger generation's perception of the farmer profession higher. Although it is known that land use change has negative impacts as found in research [2].

Socio-cultural indicators also have three statements. It can be seen that socio-cultural indicators get an average score of 67.33% and are included in the medium criteria. Judging from the distribution of respondents' answers to the statement, it can be seen that the younger generation considers work as a farmer to be a hereditary job of 20 people and can make social interaction higher by 13 people, and work as a farmer is not a job that is the pride of a family of 17 people. However, in terms of socioculture, the younger generation still maintains a moderate opinion of the farming vocation.

### 3.3. Factors Influencing the Perception of the Young Generation towards the Farmer Profession After the Conversion of Agricultural Land into Coal Mining in Gunung Raja Village, Empat Petulai Dangku District, Muara Enim Regency

The younger generation's perception is influenced by both internal and external causes. The Chi Square test determines the impact of these elements, and the C test (Contingency Coefficient) determines the magnitude and severity of their influence. Based on the test results, it can be seen that internal factors that have a significant influence on the perception of the younger generation towards the farmer profession are gender and education level, so these variables can be tested. However, for parental income and parental occupation, it is known that they have no influence on the perception of the younger generation towards the farmer profession. External factors that have a significant effect are the land area of parents and non-agricultural work opportunities, so that the influence of the natural environment cannot be tested (contingency coefficient). The results of the test of the influence of internal factors on the perception of the younger generation in the farmer profession can be seen in Table 6.

**Table 6** Test Results of the Influence of Factors Influencing the Perception of the Young Generation on the Farmer Profession

Factor Indicators /	Category	Persepsi			N	$\chi^2$ Count	$\chi^2$ Table	Sig	Description
		Low	Moderate	High					
Internal Factors									
Gender	Man	10	7	13	30	6.63	5.99	0.03	Significant effect
	Woman	9	9	2	20				
Parents' Income	Low	9	4	4	17	2.51	9.48	0.64	No Significant effect
	Moderate	5	6	5	16				
	High	5	6	6	17				
Education	Junior High School	9	9	14	32	8.30	5.99	0.01	Significant effect
	Senior High School	10	7	1	18				
Parents' Work	Farmers	9	9	14	32	0.79	5.99	0.67	No Significant effect
	Not Farmers	10	7	1	18				
Eksternal Factors									
Natural Environment	Does Not Support	9	4	4	17	2.51	9.48	0.64	No Significant effect
	Enough support	5	6	5	16				
	Very Supportive	5	6	6	17				
Family land area	Narrow	12	3	1	16	17.57	9.48	0.00	Significant effect
	Medium	2	9	6	17				
	Broad	5	4	8	17				
Non-agricultural employment opportunities	Not Available	3	4	10	17	10.84	9.48	0.02	Significant effect
	Moderately Available	9	6	2	17				
	Highly Available	7	6	3	16				

Source: Primary Data Processing Results, 2024

Based on Table 6, the test results of the influence of sex variables on the perception of the younger generation about the farmer profession are significant. The findings of this study are consistent with research [7], which discovered that teenagers' opinions of careers in the agricultural industry are significantly influenced by gender. Based on the test results, it is also known that women have a lower degree of perception of the farming profession (4%), compared to males (26%). This significant difference shows that women have a lower perception of the farmer's profession than men. Although gender affects the perception of the younger generation towards the farmer profession, based on the C test (contingency coefficient), the value obtained is 0.342. It can be interpreted that the strength of the relationship between sex and the perception of the younger generation towards the farmer profession is weak.

Table 6 shows the test findings indicating a substantial influence of variable education levels on the younger generation's impression of the farmer vocation. This is in line with research [9], which found that the higher the level of education, the lower the perception of the farmer profession. The higher the level of education, the smaller the level of perception of the farmer profession. This is only natural because the higher the level of education, the higher the chances of getting a job other than agriculture. Based on the C test (contingency coefficient) of the correlation value obtained at 0.377, it can be interpreted that the strength of the relationship between the level of education and the perception of the younger generation towards the farmer profession is weak.

Based on Table 6, the variables of parental income on the perception of the younger generation showed no effect. The value of  $\chi^2$  count (2.515) is smaller compared to  $\chi^2$  of the table (9.488). The significance value obtained (0.642) is

greater than the established significance level (0.05) so that the C test (contingency coefficient) does not apply. Based on the results of the test, it can be seen that the size of the parents' income has no effect. Although older people with large incomes can provide a greater boost than older people with small incomes, it cannot affect the level of perception of the younger generation towards the farming profession. This is different from the results of research by [10] which states that parental income is one of the factors that positively influence the younger generation on the interest of the younger generation to work as farmers.

Based on the results of the chi square test in Table 6, it can be seen that the work of parents has no effect on the perception of the younger generation towards the farmer profession, so test c cannot be carried out. The results of this test are different from the results obtained from [11], which found that parents with jobs as farmers or not as farmers do not want their children to work as farmers, so that the perception of the younger generation towards the farmer profession is negative or low. The assumption that parents who work as farmers will have a high perception of the farmer profession for their children cannot be justified because the type of work parents do does not affect the perception of the younger generation towards the farmer profession. Young people who come from parents who do not work as farmers can still have a high level of perception of farmer profession.

Based on Table 6, it can be seen that the influence of the natural environment is categorized into 3 categories: not supportive, quite supportive, and very supportive. Based on the test, it can be seen that the natural environment has no effect on the perception of the younger generation towards the farmer profession after the conversion of stranded land into coal mining, so a C (contingency coefficient) test cannot be carried out. This means that even though there is a conversion of agricultural land into coal mining and coal mining activities that result in environmental and ecological changes, the younger generation still believes that the natural environment does not affect their perception of the farmer profession. The results of this study are different from the findings of [12] which states that the influence of the natural environment affects farmers' perceptions.

Based on Table 6, it can be seen that the area of land owned by the family has a significant effect on the perception of the younger generation in the farmer profession. The results of the test get a calculated  $\chi^2$  value (17.578), which is greater than the  $\chi^2$  table (9.488) and has a significance level (0.001) below the set level (0.05), with a C test value obtained of 0.510, indicating that there is a medium-strong correlation between land acreage and how the younger generation views becoming a farmer. The test results indicate that youngsters have a more positive opinion of farming as a job when their parents own a larger amount of land. The study's findings are consistent with previous research [13], which claims that a child's impression of farming is shaped by the amount of land their parents own. The younger generation will view farming as a more noble occupation if their parents own substantial land.

Table 6 shows that the younger generation's image of the farming profession is significantly influenced by the variable of non-agricultural career alternatives. The  $\chi^2$  count result (10.515) is bigger than the  $\chi^2$  table value (9.488), and the significance level of 0.028 is smaller than 0.05, indicating this. Based on test C, the correlation value obtained is 0.422, indicating that the strength of the relationship between non-agricultural employment opportunities and the perception of the younger generation towards the farmer profession is medium. The results of the test of the effect of non-agricultural job opportunities variables show that if non-agricultural job opportunities are not available, respondents tend to have a high perception of the farmer profession. Respondents who earn enough available and highly available non-agricultural employment opportunities tend to have a low perception of the farmer profession. What this means is that they prefer non-agricultural jobs when job opportunities exist. This shows that the conversion of agricultural land into coal mining offers job opportunities other than agriculture but does not make the perception of the younger generation low on the farmer profession because non-agricultural job opportunities such as coal mining are not as wide open as agricultural job opportunities. Industrialization in rural areas has led to the conversion of agricultural land but created new job opportunities [14] it is true but the opportunities are not as easy and open as agricultural jobs.

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#### 4. Conclusion

The perception of the younger generation towards the farmer profession after the conversion of agricultural land into coal mining in Gunung Raja Village, Empat Petulai Dangku District, Muara Enim Regency is among the medium criteria, with an achievement of 68.37 percent. Based on the results of the analysis, it means that the younger generation views the farmer profession as one that can be used as a profession and may not, even though there is a change in land use from agriculture to coal mining. There are several internal and external factors that influence the perception of the younger generation towards the farmer profession after the conversion of agricultural land into coal mining. The internal factors that have a significant influence are gender and education level, while the income level and type of work of parents have no effect. External factors that have a significant influence are the area of land owned by families and non-agricultural employment opportunities, while the natural environment is known to have no effect on the level of

perception of the younger generation towards the farmer profession after the conversion of agricultural land into coal mining.

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## Compliance with ethical standards

### *Disclosure of Conflict of interest*

No conflict of interest to be disclosed.

### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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