Factors Affecting Youth Generation Interest on Agricultural Fields
(Case Study in Deli Serdang District)

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Abstract—*Indonesian agriculture has a serious problem with the decline in interest of the younger generation towards businesses in agriculture, especially food crops. This is shown in a period of 10 years there has been a decline of nearly 15% of farmer households engaged in agriculture (BPS Data 2013), but on the other hand the need for food continues to increase along with the increase in the population of Indonesia. Indonesian agriculture also faces the problem of decreasing the quality of agroecosystems, foreign product competition, productivity and land conversion. Paddy rice cultivation is becoming increasingly less attractive to the younger generation, especially for several years, due to a decline in income levels. The purpose of this study was to understand the factors that influence the interest of young people in rice farming. This research was conducted in Deli Serdang District. Determination of the research location is based on the potential area of rice cultivation. Research methods using linear regression survey and analysis methods. The results of this study indicate that internal and external factors (age, gender, education, marital status, expectations, wide land ownership, socialization and technology) have a significant influence on the interest of the younger generation.*
Keywords—*Youth generation, interest, rice farming, Deli Sedang, Sumatera.*

I. INTRODUCTION

Until now the agricultural sector still has a strategic role in national development with its role as a food provider for the population of Indonesia, which amounts to nearly 260 million people (BPS 2016). But on the other hand Indonesian Agriculture is experiencing serious challenges. Not only from the decreasing quality of agro-ecosystems, the destruction of imported products, the stagnation of production, but also the decline in the number of farmers. These conditions indicate that the agricultural sector is currently less attractive to the younger generation. Similar conditions also occur in developing economies, where the number of farmers will continue to decrease. "There is no reintegration at the age of farmers because the percentage of young farmers under 35 years of age continues to shrink. It was seen from 2003 to 2013, the number of farming families was reduced. BPS data records that within 10 years, 2003-2013, the number of farmer households decreased by 5 million. This figure is quite large and has implications for the sustainability of the agricultural sector. Because our agricultural model is a family farming model that has been proven to be able to maintain the production and sustainability of the life of farmers. In addition to the reduced number of farmers, other problems are related to the age and productivity of the farmers themselves. The age structure of farmers is old, ie 60.8% above 45 years with 73.97% to only the elementary level, and the capacity to apply new technology is low.

Agricultural problems are not only old-age farmers, but also problems related to Hard and Resources of human resources in agriculture, namely PPL (Field Agriculture Extension) and POPT (Observers of Plant Disturbing Organisms) most of which have entered old age, namely 70% over 50 years and approaching retire. This certainly affects the performance, and even the sustainability of the national agricultural system. The low level of young age groups in the agricultural sector is not a new phenomenon. We have been faced with this situation for a long time and continue to increase in degrees. There are many reasons that young people can be reluctant to return to agriculture. The main reason is of course related to the economy. Farmers are still seen as a profession that is not promising, gives no hope, does not provide big profits, businesses are at high risk due to crop failure caused by pests and diseases, natural disasters and unclear price fluctuations so farmers often experience losses, and wrestle with poverty. With this stigma, the agricultural sector is not a sector that can attract the attention of

young people. They would prefer to work as factory workers or work in the city.

Interst and participation of young people in agriculture continue to decline. There are a number of causes, such as agriculture being considered unable to sustain the future, limited access to land and capital, and a lack of other support for the younger generation. Based on data from the Agriculture Service Office of Deli Serdang District, the average worker working in the agricultural sector has been more than 45 years of age. The low level of young people in the agricultural sector causes no regeneration in agriculture. Agriculture as a supplier of food for humans is possible not to experience development because the younger generation as a generation that is rich in little ideas plunged into the world of agriculture. The imbalance in the agricultural sector will affect the decline in the amount of food produced. The interest of the young generation in the Coal Regency to work in the agricultural sector in general is still low at present, this is supported by the opinion of Herlina in Herawati (2017), which states that currently many young people have advanced cultural value orientations and choose jobs outside the agricultural sector in urban areas, to gain wealth and glory.

Some facts in Deli Serdang District show that the younger generation is starting to be reluctant to try in the field of agricultural business. This has proven that the younger generation prefers to work in the industrial sector, preferring to work in non-agricultural fields such as construction workers, porters, online motorbike taxi drivers, hair barber and so on. As an excuse for not choosing to work in the agricultural business because the selling price of agriculture is not fixed, uncertain price fluctuations that often cause losses and the assessment of the younger generation that to be able to make money from the sale of agricultural products requires a long time, lack of encouragement or support from the government for socialization the importance of young people to the world of agriculture.

Based on the description above, it is very necessary to do research with the title "Factors Affecting Interest in Young Generation Against Enterprises in the Field of Agriculture in Deli Serdang District".

The Aim of Research

From the identification of the problems that have been raised above, it can be explained that the purpose of this study is:

1. To examine the interest of the younger generation in the business in agriculture in Deli Serdang Regency.
2. To assess what factors influence the interest of the younger generation in business in agriculture in Deli Serdang Regency.

II. IMPLEMENTATION METHOD

This research was conducted for 4 months (August-December 2018) in Batang Kuis Subdistrict and Hamparan Perak District, Deli Serdang District, North Sumatra Province. This study used descriptive quantitative methods. Research conducted to collect information by compiling a list of questions submitted to respondents. In this study, surveys were used to examine the symptoms of a group or individual behavior (Sujawerni, 2014 in Herawati, 2017).

Each variable tested is independent (X) and dependent (Y) using ordinal data types and using a Likert scale. The quizaries tested are developed based on predetermined indicators. Internal Factors (X) consisting of Variables X1.1 (Education), X1.2 (Gender), X1.3 (Marital Status), X1.4 (Age), X1.5 (Desire and Hope) and X1. 6 (Needs) and External Factors (X2) consist of X2.1 (Socialization), X2.2 (Land), X2.3 (Technology) and X2.4 (Attractiveness of Other Jobs). All variables tested are cured by using a Likert Scale with 4 levels of scale and the type of data used is ordinal data. Variable Y (Interest in Young Generation) is measured based on the indicators specified. Variable measurement in this study uses a Likert scale. What will be measured is translated into a variable indicator and the indicator is used as a starting point to compile instrument items that can be statements or questions. The measurement of the variables causing the effectiveness of farmer group management can be seen in table 1 below.

Sampling was conducted on 73 randomly selected farmers from the young generation. To find out the factors that influence the interest of young people towards businesses in agriculture, multiple linear regression analysis is performed with the following mathematical formula.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + b_{10}X_{10} + \mu$$

Information :

Y: Interest in the Young Generation
X1: External factors
X1.1: Education
X1.2: Gender
X1.3: Marital Status
X1.4: Age
X1.5: Desire and Hope
X.16: Needs
X2: Internal factor (X2)
X2.1: Socialization
X2.2: Land
X2.4: Technology
X2.5: The attractiveness of another job

To determine the suitability of the analysis models of these factors used coefficient of determination (R2) and F test (overall test). The value of determination (R2) is to determine the accuracy of the model used showing the ability of the independent variable to explain its effect on the dependent variable, which is expressed by what percentage of the dependent variable is explained by the independent variables included in the regression model. R2 values range from 0-1 and if the results obtained are close to 1, the model is said to be good.

Koefisien determinasi diformulasikan sebagai berikut:

$$R^2 = \frac{SS_{REg}}{SS_{Tot}} \quad \text{or} \quad R^2 = \frac{\sum(\hat{Y} - \bar{Y})^2}{\sum(Yi - \bar{Y})^2}$$

Noted:
Y '= The results of estimating the value of the dependent variable
Y = Average value of the dependent variable
Yi = value of observation
R2 = Coefficient of Determination

The F test is used to determine the level of influence of all independent variables (X) together on the dependent variable (Y) or to find out whether the independent variable (X) together affects the dependent variable (Y).

Ftable = (k-1), (n-k): α
Information
R2 = coefficient of determination
k = Number of regression coefficients
n = Number of samples
α = Critical value

III. RESULTS AND DISCUSSIONS

Table.1: Analysis of Factors Affecting Interest in Young People Against Enterprises in Agriculture in Deli Serdang Regency.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,769[a]	,606	,416	3,46548

Predictors: (Constant), education, gender, marital status, age, desires and hopes, needs, socialization, land, technology, attractiveness of other occupations.
Source: Primary Data Analysis (2016)

Regression models can be explained using coefficient of determination (KD = R Square x 100). The greater the value, the better. Based on table 1, the value of R Square

is 0.606. So in this case the determination coefficient value obtained is 60.6%. This means that the variable X has a contribution effect of 60.6% on the Y variable and another 39.4% is influenced by other factors outside the variable X (predictors). In addition, the R value which is a symbol of the correlation coefficient is obtained at 0.769. This value is interpreted that the relationship between variables X and Y in this study is categorized as strong.

a. Simultaneous Effect Test (Test F)

F test is used to determine whether the independent variable (X) simultaneously affects the dependent variable (Y). The results of the F test are presented in the following table.

Table.2: Simultaneous Effect Test (Test F)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	83,501	10	10,538	9,435	,000[a]
	Residual	95,423	62	11,326		
	Total	178,924	72			

a. Predictors: (Constant), education, gender, marital status, age, desires and hopes, needs, socialization, land, technology, attractiveness of other occupations.
b. Dependent Variable: interest of young generation
Source: Primary Data Analysis (2016)

Based on table 2 it can be seen that the value of Fcount (9.435)> Ftable (2.62) and the significance value of 0.000 <0.05 then H0 is rejected and H1 is accepted. This means that variable X simultaneously has a significant effect on variable Y. The second hypothesis states the factors of education, gender, marital status, age, desires and expectations, needs, socialization, land, technology, attractiveness of other occupations have a significant effect on interest the younger generation of businesses in agriculture in the Deli Serdang Regency is accepted.

b. Partial effect of variable X on Y (t-test)

To test variable X partially (individually) t test is used. T test results obtained inform the regression equation model with constant coefficients and variable coefficients in the Unstandardized Coefficients B column. The regression equations obtained will be presented in the following table 3 below.

Table 3. Results of Multiple Linear Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	10,308	3,662		2,814	,006
– Formal education – (X1.1)	,322	,227	,206	2,412	**,003**
– Gender (X1.2)	-,506	**,198**	-,101	-1,856	,102
– Marital status (X1.3)	,053	,205	,028	1,304	,762
– Age (X1.4)	,355	,152	,042	1,330	,202
– And Hope (X1.5)	,218	,183	,140	2,528	**,004**
– Need (X1.6)	,201	,181	,136	1,114	,268
– Socialization (X2.1)	,179	,169	**,283**	3,063	**,001**
– Land (X2.2) – Technology (X2.3) – Other job appeal (X2.4)	,175 .217 ,347	,177 ,235 ,176	,167 **,232** ,102	2,198 2,721 1,613	**,005** **,002** ,106

a. Dependent Variable: minat generasi muda

$Y = \alpha + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + b_6 x_6 + b_7 x_7 b_8 x_8 b_9 x_9 + b_{10} x_{10}$

Y = 10,308 + 0,322 X1 + 0,506X2 + 0,053X3 + 0,355X4 + 0,218X5 + 0,201X6 + 0,179X7 + 0,175X8 + 0,217 X9 + 0,347 X10

Based on Table 3 it can be explained that of all the variables tested (X1) with 6 sub-variables and (X2) there are 4 sub-variables, the results show that 5 sub-variables have a significant effect on Y. This is evidenced by the sign value <0.005. namely the Formal Education variable (X1.1) sign value (0.003), Desire and hope (X1.5) sig value (0.004), Socialization (X2.1) sign value (0.002), Socialization (X2.1) sign value 0.005 , Land (X2.2) sign value (0.005), Technology (X2.3) sig value (0.002), while independent variables that do not have a significant effect on Y (young generation's interest) also have 5 variables namely Gender (X1. 2) Marital status (x1.3), Age (X1.4), Needs (X1.6) and other job appeal (X2.4). this can be seen in the sign value> 0.005.

1. Effect of Formal Education (X1.1) variables on Y
Based on the results of the t-test obtained the value of tcount is (2.412) <ttable (1.999), which means that the formal education variable (X1.1) has a significant

influence on the interest of the younger generation towards business in agriculture. This is strengthened by the significance value (0, 003) <(0.05). To see the magnitude of the contribution of the value of formal education variables (X1.1) to the interest of the younger generation (Y) is 20.6%. This is evidenced from the results of multiple linear regression analysis with the Standardized Coefficients Beta value of 0.206. This is because the agricultural world is not only a young man or someone who graduated from elementary school, but even those who graduated from high school and even graduate graduates also liked working in the agricultural sector. Even undergraduate graduates who are majors outside of agriculture just switch to the agricultural sector. In addition, recently the faculty or university of agriculture has been flooded with students who want to study agriculture, more and more students who want to enter the faculty of agriculture show one of their emerging interests in the agricultural sector. This is also reinforced by the opinion of Eryanto (2013), formal education is an effort to lead to the achievement of developments that can stimulate a rational, creative and systematic way of thinking.

2. Effect of gender variables (X1.2) on Y
The t-test results obtained by the value of t count as (1.856)> t table (1.999) which means that the formal education variable (X1.2) has no significant insignificant effect on the interest of the younger generation towards businesses in agriculture. This is strengthened by the significance value (0.102) <(0.05). To see the magnitude of the contribution of the value of formal education variables (X1.1) to the interest of the younger generation (Y) is 10.1%. This is evidenced by the results of multiple linear regression analysis with the Standardized Coefficients Beta value of 0.101.
Herlina (2002) suggests that youth perception of work is also influenced by gender differences. This is indicated by the perception in the community of employment in the agricultural sector as a tiring and destructive performance, so that it is inappropriate for unmarried girls to work in the agricultural sector.

3. Effect of Marital Status (X1.3) on Y
The t-test results obtained t-count value of (1.304) <ttable (1.999) which means that the marital status variable (X1.3) has no significant insignificant effect on the interest of the younger generation towards business in agriculture. This is reinforced by the significance value (0.762)> (0.05). To see the magnitude of the contribution of the value of formal education variables (X1.1) to the interest of the younger generation (Y) is 2.8%. This is evidenced by the results of multiple linear regression

analysis with the Standardized Coefficients Beta value of 0.101.

Herlina (2002), married young people have a good perception of employment in the agricultural sector when compared to youth who have never married. Youth who have never been married have the notion of working in the agricultural sector as heavy and dirty work, as well as a low social status in the eyes of society. Meanwhile, married young men are faced with demands to fulfill their family's income, so they have to work even though the work is heavy, so this is the cause of married youth who have a better perception of agricultural work than unmarried youth.

4. Effect of Age (X1.4) on Y

The t-test results obtained by the value of tcount is (1,330)> t table (1,999) which means that the age variable (X1.4) has no significant insignificant effect on the interest of the younger generation towards business in agriculture. The magnitude of the contribution of the age variable (X1.4) to the interest of the younger generation (Y) is 4.2%. This is evidenced by the results of multiple linear regression analysis with a Standardized Coefficients Beta value of 0.042. The younger generation is also active in activities outside the agricultural sector, they also wrestle outside the agricultural sector such as in the industrial sector, trade and so on. This is reinforced by the opinion of Lionberger (1960), that younger age usually has the enthusiasm to want to know what they do not know, so that they try to adopt innovations more quickly even though they have not experienced the adoption of these innovations.

Tjakrawati in Amelia (2005) factors driving the lack of involvement of young workers in the agricultural sector are caused by the assumption in the individual that states that at a young age they are looking for other jobs outside the agricultural sector which are more challenging and in accordance with their interests. They will do agricultural work later if they have collected money from working outside the agricultural sector to work in the agricultural sector in old age. In addition, they are encouraged to work outside the agricultural sector, there can be positive results they will get later.

5. Effect of Desire and Hope (X1.5) on Y

The results of statistical analysis show that the variables of desire and expectation have a significant effect on the perception of generation shown by the sign value of 0,000> 0.05. This is evidenced by the t-count (2,528)> of the t-table (1,999) at a 5% error rate. The expectation and desire variables affect the interest seen from the sign value. 0.004 <0.05 at a 5% error rate. Expectations and desires will influence the interest in farming because there

is a belief that it will succeed when planting rice and hoping to get a profit that can meet the family's living needs. Another hope is that the government helps in the success of farming.

6. Effect of needs (X1.6) on Y

The results of statistical analysis show that the need variable has a significant effect on the perception of generation is indicated by the sign value of 0.268> 0.05. This is evidenced by the t-count value (1.114 <of t-table (1.999) at an error rate of 5%. The variables of desire and hope have no effect on interest seen from the sign value 0.268> 0.005 at an error rate of 5%.

7. Effect of Socialization (X2.1) on Y

The results of statistical analysis show that the socialization variable has a significant effect on the interest of the younger generation to work in agriculture. This has proven the sign value of 0.001> 0.05. This is evidenced by the t-count value (3.063> of t-table (1.999) at an error rate of 5%. The expectation and desire variables affect the interest seen from the sign value 0.001 <0.05 at an error rate of 5%.

The socialization of farming efforts is generally obtained by youth from families, newspapers, brochures, magazines, television and radio and sometimes from extension activities organized by extension agents or related institutions. The role of families in socializing farming activities greatly influences the perception of family members that will shape the attitudes and views of the younger generation towards agriculture in general and try to plant rice in particular. In certain times the young generation is involved in farming activities because in general their parents are farmers.

Sucipto in Chandra (2008) the process of socialization is cultural development and development takes place in the form of activities involving young people in a series of learning processes and appreciation of cultural values prevailing in the community with teachings, guidance, exemplary from the family.

8. Effect of Land Area (X2.2) Against Y

To see the magnitude of the contribution value of the farming area variable (X2.2) to the interest of the younger generation (Y) is 16.7%. This is evidenced by the results of multiple linear regression analysis with the Standardized Coefficients Beta value of 0.167. From the results of statistical analysis, the effect of farming land area variables on the interest of the younger generation on business in the agricultural sector has a significant effect. This is evidenced by the value of t-count (2.198> from t-table (1.999) at an error rate of 5%. The results of this study illustrate that the extent of the effect of farming has

a significant effect on the interest of young people towards businesses in agriculture. the higher the area of farming, the greater the interest of the younger generation in the business in agriculture.

According to Luntungan's opinion (2012), farming is usually interpreted as the study of how to allocate existing resources effectively and efficiently for the purpose of obtaining high profits at a certain time. It is said to be effective if farmers or producers can allocate the resources they have as well as possible and are said to be efficient if the resource utilization results in output that exceeds input.

9. Influence of Technology (X2.3) Against Y

The results of statistical analysis show that the socialization variable has a significant effect on the interest of the younger generation to work in agriculture. This proved that the sign value was 0.002 <0.05. This is evidenced by the t-count value (2.721> of t-table (1.999). The magnitude of the effect of the Technology Variable on the interest of the younger generation is 23.2% at an error rate of 5%.

The nature of the technology used in farming will affect the interest of young people towards businesses in agriculture where the easier the technology is implemented and easy to do throughout the year and does not require large costs will be more easily accepted. The use and ownership of technology affects youth perception of agriculture. Usually technology ownership is only owned by workers who have money because this technology is expensive. Youth who do not have land eventually become farm laborers. Cultivators prefer their own land to be cultivated so that farm laborers do not have income.

10. Effect of Attractiveness of Other Jobs (X2.4) Against Y

The results of statistical analysis show that the variables of other job attractiveness have no significant effect on the interest of the younger generation to work in agriculture. This proved to be a sign value of 0.106> 0.005. This is also evidenced by the t-count value (1.613 <of t-table (1.999) at an error rate of 5%. Variables Another attraction of labor gives a 10.2% effect on interest seen from the Standardized Coefficients Beta value of 0.102 at the level 5% error.

Simamora in Andriani (2017) states that prospects are individuals, groups or organizations that are considered potential marketers and want to be involved in a business exchange. In short, prospects are prospective buyers who have a desire for a particular product or service. Datad in the field shows that the interest of the younger generation in other jobs does not affect the interest of the younger

generation so that the younger generation chooses jobs that are easily obtainable and have more understanding. also to get profit or profit.

IV. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusion

1. All variables tested are Internal (X1) with sub-variables of education, gender, marital status, age, hope and desire, needs and External (X2) with sub-variables of socialization, land area, technology and other work attractiveness Simultaneously significant impact on young people's interest in business in agriculture (Y).

2. Partially the factors of formal education, desires and expectations, socialization, land area, and technology have a significant effect on the interest of the younger generation on businesses in agriculture and the more dominant variables that influence the interest of the younger generation are the socialization sub-variables (X2.1) namely 28.9%.

B. Suggestions

To increase the interest of the younger generation in the agricultural sector is done by:

1. Socialization of rice farming through families, communities, extension workers, media and agricultural institutions.

2. The use of technology that has characteristics that are easy to implement, requires cheap (efficient) costs and can be done throughout the year.

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