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## THE INTEREST OF GENERATION Z STUDENTS AT THE FACULTY OF AGRICULTURE, UNS, TO WORK IN THE AGRICULTURAL SECTOR AND FACTORS INFLUENCING IT

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### ABSTRACT

The predominantly aging farmers in agriculture are apparent due to the youth's low interest in the sector, where it was found that only 6 out of 100 Generation Z-ers in Indonesia are interested in working in agriculture. This study aims to map the interest of 122 Generation Z students at the Faculty of Agriculture, Sebelas Maret University (UNS), to work in the agricultural sector and investigate factors influencing their interest in working in the agricultural industry using a binary logistic regression model. The results of this study revealed that 86 students are interested in working in the agricultural sector, where perception of work in the agricultural sector ( $X_1$ ) and student environment ( $X_3$ ) influence their interest in working in the agricultural sector. Surprisingly, motivation to work in the agricultural sector ( $X_2$ ) and family environment ( $X_4$ ) did not influence their interest in working there. This study provides valuable insight into how these factors influence youth's interest in working in the agricultural sector, especially amongst Generation Z students at the Faculty of Agriculture, Sebelas Maret University. Hence, further facilitations for interested students and efforts amplifying creative agriculture development programs involving students are needed.

**Keywords:** Aging farmers, Generation Z, Interest in working in the agricultural sector, Binary logistic regression analysis

### ABSTRAK

*Sebagian besar petani yang menua di sektor pertanian disebabkan oleh rendahnya minat generasi muda terhadap sektor tersebut, di mana ditemukan hanya 6 dari 100 Generasi Z di Indonesia yang berminat untuk bekerja di sektor pertanian. Penelitian ini bertujuan untuk mengetahui minat 122 mahasiswa Generasi Z di Fakultas Pertanian Universitas Sebelas Maret (UNS) untuk bekerja di sektor pertanian dan menginvestigasi faktor-faktor yang memengaruhinya menggunakan model analisis regresi logistik biner. Hasil dari penelitian ini mengungkap sebanyak 86 mahasiswa berminat untuk bekerja di sektor pertanian, di mana persepsi terhadap pekerjaan di sektor pertanian ( $X_1$ ) dan lingkungan mahasiswa ( $X_3$ ) ditemukan sebagai faktor yang memengaruhi minat mereka untuk bekerja di sektor pertanian. Yang mengejutkan, motivasi untuk bekerja di sektor pertanian ( $X_2$ ) dan lingkungan keluarga ( $X_4$ ) tidak memengaruhi minat mereka untuk bekerja di sektor pertanian. Penelitian ini memberikan wawasan baru mengenai bagaimana faktor-faktor tersebut memengaruhi minat generasi muda untuk bekerja di sektor pertanian, khususnya di kalangan mahasiswa Generasi Z Fakultas Pertanian Universitas Sebelas Maret. Maka dari itu, diperlukan fasilitasi lebih lanjut bagi mahasiswa yang berminat dan penggiatan pembangunan pertanian kreatif yang melibatkan mahasiswa.*

**Kata kunci:** Petani yang menua, Generasi Z, Minat untuk bekerja di sektor pertanian, Analisis regresi logistik biner

## INTRODUCTION

The agricultural sector plays a strategic role in Indonesia's economy, as reflected by its various contributions, ranging from providing food supply to driving other economic sectors (Syofya & Rahayu, 2018). However, the rapid growth of the industrial sector puts agriculture in complexity, from issues

of limited farmland ownership to the relatively low state of human resources in agriculture (Rozaki, 2021), which is reflected in their low attainment of formal education (Haryanto et al., 2022; Lukmana & Fitriana, 2023). Besides that, the apparent number of aging farmers in agriculture is also predicted to increase (Ngadi et al., 2023).

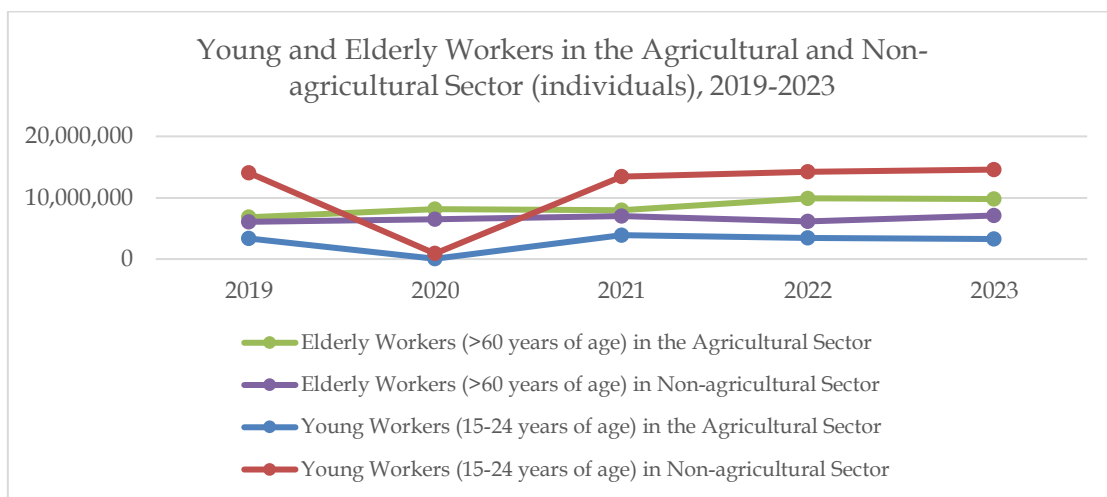


Figure 1. Young and Elderly Workers in Agricultural and Non-agricultural Sector (individuals), 2019-2023. Source: Sakernas 2019-2022, Kementerian Ketenagakerjaan Republik Indonesi

Over the last five years in the agricultural sector, young workers (aged 15-24 years) are outnumbered by elderly workers (aged >60 years). There was also a decline in young workers' proportion in the agricultural sector in 2021-2023; however, an increase in young workers' proportion in the non-agricultural sector is apparent. This phenomenon occurred due to a decline in youth's interest in working in agriculture, which is a serious issue, potentially threatening the sector's

productivity (Susilowati, 2016; Zou et al., 2018).

A survey directed toward Generation Z respondents aged 15-24 by Jakpat (2022) revealed that only 6 out of 100 Generation Z members are interested in working in the agricultural sector. Working in agriculture is considered economically less profitable and offers a high risk of failure (Marpaung & Bangun, 2023). Haryati et al. (2018) concluded that the agricultural sector's low attractiveness was the leading

cause of youth's low interest in agriculture. However, Prayoga et al. (2020) further emphasized negative views of agriculture as the motor of youth's declining interest in agriculture, where these negative views include but are not limited to the 'bleak fate' of being a farmer, dirty and a less profitable profession. However it may be, the agricultural sector remains one of the main drivers of economic growth (Loizou et al., 2019).

Slameto (2013) defines interest in individuals as 'an acceptance of the existing strong relationship between themselves and something outside of themselves,' which may include objects, activities, situations, or others; in this case study, the interest in working in the agricultural sector. These factors are believed to be involved in constructing interest in individuals, which, according to Sujanto (2018), include motives, experiences, games, responses, perceptions, and attitudes. Ariyani (2023) puts further groupings of factors involving the construction of interest, such as internal factors, which include attention, motivation, needs, curiosity, enthusiasm, and activity, as well as external factors, including the social and family environment.

Youths' agricultural contribution to applying their knowledge and skills to

plan, organize, and innovate in agriculture development is urgently needed. A question may arise whether agricultural students are interested in working in the farming sector.

As one of Indonesia's institutions in agricultural education, agricultural science, and technology development, the Faculty of Agriculture, Sebelas Maret University (UNS) aims to produce competent graduates in integrated and sustainable agriculture with a global perspective. Therefore, this study aims to identify (1) how interested Generation Z students at the Faculty of Agriculture, Sebelas Maret University, are to work in the agricultural sector and (2) investigate factors influencing their interest.

## METHODS

This study employs a descriptive method that directly describes the survey results (Ramdhan, 2021). Furthermore, the Faculty of Agriculture, Sebelas Maret University, was purposively selected as the study location, as it aims to graduate with a competent bachelor's degree in integrated and sustainable agriculture.

The desired outcome of this study is data collected from 122 students of the 2019-2021 cohort hailing from six undergraduate departments at the Faculty of Agriculture, Sebelas Maret University, using a questionnaire as the

main instrument in collecting primary data for this study. Students are selected using proportionate stratified random sampling, expecting them to respond (Sugiyono, 2015) towards factors based on Slameto (2013), Sujanto (2018), and Ariyani (2023) as perception towards work in the agricultural sector ( $X_1$ ), motivation to work in the agricultural sector ( $X_2$ ), student environment ( $X_3$ ), and family environment ( $X_4$ ). Finally, primary data gathered are then analyzed using a binary logistic regression model in IBM SPSS 25 with a confidence interval of 90% ( $\alpha = 0,10$ ), where its dependent variable ( $Y$ ) is displayed as a binary or dichotomous scale of 1 or 0, representing a particular category (Hosmer et al., 2013; Agresti, 2017). Therefore, this study formulates a model as follows:

$$\ln \frac{P}{1-P} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$$

Where

- $\ln$  : The interest of Generation Z students at the Faculty of Agriculture, UNS, to work in the agricultural sector  
1 = Interested; 0 = Not interested
- $\alpha$  = Constant
- $\beta_1$  = Regression coefficient
- $X_1$  = Students' perception of work in the agricultural sector
- $X_2$  = Students' motivation to work in the agricultural sector
- $X_3$  = Student environment
- $X_4$  = Family environment

## RESULTS AND DISCUSSION

### Insights on the Faculty of Agriculture

The Faculty of Agriculture is one of the faculties at Sebelas Maret University, which was established in 1976. According to Executive Information System Universitas Sebelas Maret (2023), as of December 2023, the faculty is a place of 3.359 active students. Over the last decade, the faculty was subject to structural changes in their undergraduate departments, which now house six undergraduate departments: Agribusiness, Agrotechnology, Agricultural Extension & Communication, Forest Management, Food Technology & Science, and Soil Science.

### Respondent Characteristics

Based on gender, most respondents of this study were female, as amount as 89 students. Students' age range spans from 19-23 years, with an average of 20.81 years.

At the time this study took place, students in their 5<sup>th</sup> semester were the largest in number 50 students, followed by students in their 9<sup>th</sup> semester 38 students. Students in their 7<sup>th</sup> semester were the fewest, with 34 students in response.

In addition to the origin of students pursuing their studies at the

Faculty of Agriculture, the province of Central Java was found to be a region of 92 students originating from the province. Students' diverse family backgrounds are also reflected in the type of work of their parents, where 11 types of work of students' parents were found during this study. The three main types of parental employment found were Civil Servants (PNS), private employees, and self-employed, where most students, 27 students, stated that Civil Servants (PNS) are their parents' type of employment.

**The interest of Generation Z students at the Faculty of Agriculture, Sebelas Maret University, to work in the agricultural sector**

The agricultural sector accommodates all economic or business activities in producing goods or services in the agriculture spectrum, including a wide range of food crops, plantations, horticulture, livestock, forest management, and as well as fisheries and aquaculture as defined in the 2020 series of the Standardised Classification of Indonesian Business Fields (KBLI).

**Table 1.** The interest of Generation Z students at the Faculty of Agriculture, UNS, to work in the agricultural sector

	Interest	Number of students	%
1	Interested to work in the agricultural sector	86	70,49
0	Not interested in working in the agricultural sector	36	29,51
	Total	122	100

Source: Primary data analysis (2023)

As derived from the wide range of economic and business activities in the agriculture spectrum, Table 1 presents the interest of Generation Z students at the Faculty of Agriculture, Sebelas Maret University, by Slameto (2013) as well as the factors in this study based on Sujanto (2018) and Ariyani (2023) Table 1 reveals

that 86 students, or 70.49% of all respondents, are interested in working in the agricultural sector. On the other hand, as many as 36 students, or 29.51% of all respondents, stated that they were not interested in working in the agricultural sector.

**Table 2.** Omnibus Tests of Model Coefficients (G Test)

		$\chi^2$	df	Sig.
Step 1	Step	19,823	4	0,001***
	Block	19,823	4	0,001***
	Model	19,823	4	0,001***

\*\*\* = Significant in  $\alpha = 0,01$  (confidence interval 99%), \*\* = Significant in  $\alpha = 0,05$  (confidence interval 95%), \* Significant in  $\alpha = 0,10$  (confidence interval 90%). Source: Primary data analysis (2023)

Table 2 shows whether all independent variables involved in this study are proven to have a significant effect on the dependent variable. The omnibus tests of model coefficients (G Test) results revealed a substantial value of 0.001\*\*\*, which is less than  $\alpha = 0.10$ .

Thus, the G Test result shows that Generation Z students at the Faculty of Agriculture, Sebelas Maret University, are interested in working in the agricultural sector, which is simultaneously influenced by all independent variables in this study.

**Table 3.** Variables in the Equation (Wald Test)

		<b>B</b>	<b>S.E.</b>	<b>Wald</b>	<b>df</b>	<b>Sig.</b>	<b>Exp(B)</b>
Step 1	X <sub>1</sub>	0,100	0,056	3,264	1	0,071*	1,106
	X <sub>2</sub>	0,023	0,047	0,245	1	0,620	1,024
	X <sub>3</sub>	0,147	0,053	7,709	1	0,005***	1,159
	X <sub>4</sub>	-0,078	0,051	2,353	1	0,125	0,925
	Constant	-5,259	2,085	6,364	1	0,012	0,005

\*\*\* = Significant in  $\alpha = 0,01$  (confidence interval 99%), \*\* Significant in  $\alpha = 0,05$  (confidence interval 95%), \* Significant in  $\alpha = 0,10$  (confidence interval 90%). Source: Primary data analysis (2023)

The result of the variables in the equation or the Wald test forms a binary

logistic regression equation, which is expressed as follows:

$$\ln \frac{P}{1-P} = -5,259 + 0,100X_1 + 0,023X_2 + 0,147X_3 - 0,078X_4$$

Perceptions of work in the agricultural sector (X<sub>1</sub>) have a Sig. Value of 0.071\* <  $\alpha = 0.10$ , significantly influencing Generation Z students' interest in working in the agricultural sector at the Faculty of Agriculture, Sebelas Maret University. As an educated young generation, most Generation Z students at the Faculty of Agriculture, Sebelas Maret University, have a perfect depiction of work in the agricultural sector and agree that the younger generation's involvement in agricultural work and development is an important part. This result is in line

with Akbar (2015), who states that perceptions are also formed through the learning process, level of knowledge, and experience. However, on average, students expressed two main obstacles to working in the agricultural sector, as a high risk and low income, both for students who are interested in working in the agricultural sector and for students who are not interested in working in the agricultural sector, in line with Dwiyana & Hasan (2021) which also revealed the same obstacles for rural youth. However, students not interested in working in the agricultural

sector have different evaluations of work in the agricultural sector. Apart from evaluating work in the agricultural sector as high risk and low income, several students who are not interested in working in the agricultural sector also consider that work in the agricultural sector is less worthy of aspiration and less capable of improving community welfare. This evaluation is not distant from the existing negative stigma amongst the younger generation regarding the profession in the agricultural sector, which is synonymous with a bleak, dirty, and brutal depiction of the profession (Perkasa et al., 2023), which limits the availability of skilled and qualified human resources in the agricultural sector. This is because non-agricultural professions are considered more economically profitable due to rapid industrialization (Adilest et al., 2023).

Motivation to work in the agricultural sector (X2) has a Sig. A value of  $0.620 > \alpha = 0.10$  means it has no significant influence on the interest of Generation Z students at the Faculty of Agriculture, Sebelas Maret University, to work in the agricultural sector. These results contradict the research of Widayanti et al. (2021) and Koesrin (2023), who revealed that high

motivation has an apparent and significant effect on the younger generation's interest in working in the agricultural sector.

This study employs Maslow's approach to motivation, which is simplified into five levels of the hierarchy of needs: (1) physiological needs, (2) safety needs, (3) social relationship needs, (4) recognition needs, and (5) self-actualization needs (Green et al., 2017), it proposes an idea where a person's motivated behavior is an effort to fulfill their needs sequentially (Osemeke & Adegboyega, 2017). However, a person fulfills their needs gradually by putting a relative priority to the 'need indicators' in the existing hierarchy, depending on the most critical need (Rojas et al., 2023).

Safety needs are the dominant indicator that influences the younger generation's interest in working in the agricultural sector (Koesrin, 2023). On average, Generation Z students at the Faculty of Agriculture, Sebelas Maret University feel that working in the agricultural sector cannot guarantee their career paths, even though they feel that the Faculty of Agriculture, Sebelas Maret University prepares them to become competent and competitive agricultural human resources.

The lack of career development is the main obstacle to Generation Z's motivation to work in the agricultural sector. Even though the agribusiness field is an attractive career stage, Kozera-Kowalska & Uglis (2021) revealed that Generation Z students feel they can quickly get jobs outside the agribusiness field, even though they have received an education that 'by definition' allows them to work in the agricultural sector because they feel that they are also prepared for work outside the agricultural sector. These results align with this study, which reveals that most Generation Z students at the Faculty of Agriculture, Sebelas Maret University, have moderate, low, and low motivation to work in the agricultural sector. This is believed to be related to income from the non-agricultural sector, where Özdemir et al. (2021) revealed that higher income from the non-agricultural sector contributes positively to increased motivation towards work in the non-agricultural sector because work in the non-agricultural sector involves higher creativity than work in the agricultural sector with less stable income.

The student environment (X3) has a Sig. Value of  $0.005^{***} < \alpha = 0.10$ , significantly influencing Generation Z

students' interest in working in the agricultural sector at the Faculty of Agriculture, Sebelas Maret University. This result is in line with Abdullah & Samah (2014), who identified that most agricultural students were encouraged by the social environment around them to become involved in agricultural entrepreneurship. Bandura (1997) also stated that other people are one of the many factors that influence a person's behavior regarding what they do, but they are not the only determining factor. A total of 36 students who stated that they were not interested in working in the agricultural sector received moderate to meager support from the surrounding student environment for working in the agricultural sector because they rarely or never discussed and asked for opinions from friends or other people within the student environment at the Faculty of Agriculture, Sebelas Maret University regarding work in the agricultural sector. In fact, on average, Generation Z students at the Faculty of Agriculture, Sebelas Maret University, often exchange ideas about the type of work they want to pursue. However, dialogues or discussions regarding work in the agricultural sector are less frequent than conversations about the



type of work they want to pursue after graduating.

The family environment (X4) has a Sig. A value of  $0.125 > \alpha = 0.10$  means it has no significant influence on the interest of Generation Z students at the Faculty of Agriculture, Sebelas Maret University, to work in the agricultural sector. This finding is in line with Arvianti et al. (2015), which revealed that the family environment does not have a significant effect on the interest of young farmers in the agricultural sector, and Taib et al. (2019), which revealed that there was no significant relationship between the family environment and students' interest in careers in the agricultural sector. The unique generational characteristics of Generation Z formed due to political, social, economic, and technological dynamics, which have a profound effect on their personality (Seemiller & Grace, 2019) happens to eliminate the influence of the family environment on career choices for Generation Z so that generational characteristics are believed to be a possible reason why the influence of the family environment no longer influence the interest of the younger generation to work in the agricultural sector (Taib et al., 2019). Arvianti et al. (2015) revealed that

income has the most significant influence on the interest of young farmers in the agricultural sector, in line with the personal expectations of Generation Z, who tend to be pragmatic regarding job choices because they value income as very important (Kirchmayer & Fratricova, 2020; Maloni et al., 2019; Moore et al., 2017). Generation Z students from the Faculty of Agriculture, Sebelas Maret University, who are not interested in working in the agricultural sector expressed the reason that most of them are not interested in working in the agricultural sector due to the perceived risk of failure, requiring significant capital and a return of investment, or simply not interested in working in the agricultural sector because they want to work in another sector. After all, it offers a higher income even though they receive support that is, on average, quite supportive from their family environment to work in the agricultural sector.

Generation Z students at the Faculty of Agriculture, Sebelas Maret University, who are interested in working in the agricultural sector also expressed the possibility of switching to work in the non-agricultural sector if opportunities open up without

considering the influence of their family environment because, in reality, urban work provides a more stable income, so it is considered as much more feasible option. (Nandi et al., 2022).

### CONCLUSION

This study concludes with a result where it was found that 86 students, or 70.49% of all respondents, are interested in working in the agricultural sector. However, 36 students, or 29.51% of all respondents, are interested in something other than working in the agricultural sector. Their perception towards work in the agricultural sector ( $X_1$ ) and student environment ( $X_3$ ) is the factor influencing Generation Z students' interest at the Faculty of Agriculture, Sebelas Maret University, to work in the agricultural sector. The results of this study recommend the Faculty of Agriculture, Sebelas Maret University to facilitate students who are interested in working in the agricultural sector through training and increasing students' capacity in modern agriculture as well as amplifying creative development programs that focus on developing innovative technology and methods by involving students as the main actors to improve perceptions towards work in the agricultural sector and creating role

models for other students in the student environment at the Faculty of Agriculture, Sebelas Maret University, to work in the agricultural sector.

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