

# Millennial Generation Strategy in Agricultural Development and Rural Economy with Technology

Nu'man Afif<sup>1</sup>, Ahmad Ulil Albab Al Umar<sup>2</sup>, Fatimah Malini Lubis<sup>3</sup>, Ita Soegiarto<sup>4</sup>, Pawisari<sup>5</sup>

<sup>1,2</sup>UIN Sunan Kalijaga Yogyakarta

<sup>3</sup>Politeknik LP3I Jakarta

<sup>4</sup>Sekolah Tinggi Meteorologi Klimatologi dan Geofisika

<sup>5</sup>Universitas Negeri Jakarta

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## ABSTRACT

The future of agriculture in Indonesia is currently threatened with the diminishing interest of the younger generation to engage in agriculture. Because it contributes greatly to the development of the national economy if it is supported by productive and quality human resources. The purpose of this study is to find opportunities and development prospects for agriculture and the economy in rural areas with technology by the millennial generation. This research is a type of qualitative research with basic research and data and information analysis using scientific review. In the agricultural sector we are currently facing, one of which is the workforce in the agricultural sector which is dominated by workers who are no longer productive. Village development and economy will depend heavily on productive workers, so that when there is no more young generation, agricultural needs will definitely be supplied from outside. With technology and information, people can easily find and manage an activity not in agriculture. In agriculture, technology can be applied as a means or trick to improve farming.

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### Corresponding Author:

**Ahmad Ulil Albab Al Umar**

UIN Sunan Kalijaga Yogyakarta

Jalan Marsda Adisucipto Yogyakarta Kode Pos 55281, Indonesia

Email: [ahmadulil.asfebi@gmail.com](mailto:ahmadulil.asfebi@gmail.com)

## 1. INTRODUCTION

The purpose of village development as written in Law no. 6 of 2014 concerning Villages is to improve welfare, improve the quality of human resources, and overcome poverty for rural communities through the use and management of natural resources and the environment in a sustainable manner. Therefore, efforts to develop the national agricultural sector can synergize with village economic efforts to achieve these objectives effectively and efficiently.

Indonesia has implemented various policies to increase agricultural productivity and farmer welfare. The results of the agricultural census in 2013 showed that agriculture in Indonesia had decreased by 16.32%. Susilowati (2016) reveals the factors that influence the reduced interest of young workers in the agricultural sector are the agricultural sector is considered less prestigious, the agricultural sector has a high risk because there is no stability of sustainable income, the management of many farming businesses has failed, lack of policy support for young farmers or novice farmers, the trend of perspective among youth in the modern postal era, the diversity of

businesses and industries in both the agricultural and non-agricultural sectors does not develop in the village.

In fact, agriculture can contribute to the national economy if it is supported by quality human resources, while the problem we are currently facing is that the workforce in the agricultural sector is dominated by those who are no longer productive and lack mechanization. The data can be seen in Table 1. below.

**Table 1.** Grouping of workers in the agricultural sector based on age

Age	Total Population	Percent %
<25	273.839	0,99
25-34	2.947.254	10,65
35-44	6.689.635	24,17
45-54	7.813.407	28,23
55-64	6.134.987	22,16
>65	3.822.995	13,81
Total	27.682.117	100

From the data above, we can see that very few millennials work in the agricultural sector. Most of them prefer to become employees or wander. They think that being a farmer in their village will not progress. In general, they want work that is effective and efficient. Pada era sekarang, bisnis cenderung memilih jenis yang digital. Many young people are now interested in the digital world and one of the factors that influence it is digital leadership. Digital leadership is a leadership style that can maintain employee motivation (Lubis, 2019).

This is in line with research conducted by Umi Salamah et al. (2021) that the millennial generation itself is less interested in matters relating to agriculture. As for research from Suriadi et al., (2020) also supports this statement, due to the lack of interest of the millennial generation itself. however, the research from Albert Mulkisedek et al, is different. (2021) that the millennial generation itself is still interested in agriculture.

The research of the three has its own advantages and disadvantages, as in the research of Umi Salamah et al. (2021) which is more towards the contribution of the millennial generation. Or research from Suriadi et al. (2020) which is superior in demand but only limited to one area, whereas from Albert Mulkisedek et al., also more or less the same which favors internal and external factors but only limited to an area.

Therefore the author is interested in further researching the three studies above by adding several variables such as economic development and not just settling in one area, so that this research is more thorough, so that later it will bring out novelty (renewal).

## 2. RESEARCH METHOD

This research is a type of qualitative research with a basic method (basic research) aimed at identifying opportunities and prospects for the development of agriculture and the economy in rural areas with technology by the millennial generation. The choice of this method also aims to describe how much interest the millennial generation has in the agricultural sector holistically by analyzing data and information using scientific review.

## 3. RESULTS AND DISCUSSIONS

### a. Farmers in the Eyes of the Millennial Generation

Agriculture is synonymous with dirty work, exposed to the hot sun, and less prestigious is a picture in the eyes of millennial children. Many youths reflect that they do not want to enter the world of agriculture or rice fields. The millennial generation considers that if you want to get big profits from the agricultural sector, you have to have big capital and have to be willing to take high risks. The risks they fear include limited arable land, falling vegetable prices in the market, pest attacks and crop failure. According to them, the costs incurred are not proportional to the benefits obtained. They also had to wait a long time from the planting process to the harvest time. That is the agricultural risk that makes the millennial generation less interested in the world of agriculture.

Meanwhile, these thoughts are not the main problem that makes the millennial generation not interested in the agricultural sector. However, there is a fundamental problem, namely that parents who work as farmers will not educate their children to become farmers. But on the contrary, most parents educate their children by teaching their children's thinking from an early age with thoughts that require them not to be like their parents. They must become successful people, become office workers, become civil servants, become servants of the state. Parents want their children not to be like those who work dirty in the fields, with erratic income, they want their children to be in neat uniforms, to sit in a luxurious room, and have air conditioning. That is a statement that makes the image of agriculture bad in the eyes of the younger generations.

The image of the farmer, which has been identified with parental work, is not prestigious, dirty work, less income is starting to be disputed. Already many young people from the millennial generation are interested in and try their luck in the world of agriculture. In this modern and all-digital era, generations can become young farmers who are modern, up to date, and earn big. It is proven by young farmers who can be successful and prove to the community that being a farmer is not as low as they imagine, willing to work in any field if we try really hard and accompanied by our knowledge and skills, a path to success will be opened. The millennial generation must be able to change the lifestyle of farming into a very interesting profession, especially in this day and age, the younger generation can use agricultural technology to help them grow crops.

#### **b. Technology as a Solution for Indonesian Agriculture**

Sustainable agriculture is the right choice to implement in achieving food fulfillment in Indonesia, because if sustainable agriculture in Indonesia progresses, the agricultural sector will continue with new applications that can increase productivity and success in agriculture. Technology is the key to the success of sustainable agriculture.

With the application of technology in agricultural processes, it can increase the productivity of the land that is owned, and reduce the risk of failure in farming, so that production results will increase. Some examples of the role of today's agricultural technology, such as the selection of superior seeds, the selection of quality fertilizers and can increase crop productivity, as well as the use of equipment with a touch of technology that facilitates the work of farmers. In addition, implementing sustainable agriculture also requires competent human resources (HR) in the use of technology so that every process carried out can run optimally.

However, views on technological developments in the agricultural sector are still contradictory, in fact many former farmers think that technology has taken away their jobs, all their jobs have been replaced by modern technology. In fact, the technology works well when there is good cooperation with farmers. Technology still requires the role of human resources (SDA). Of course, it is necessary to develop the understanding of ancient farmers about the technology that developed in agriculture.

In fact, the majority of farmers in Indonesia still use old, traditional techniques and only use forecasts in harvesting and weather calculations in farming. This is very different from foreign farmers who all use technology, so that overseas farmers do farming. They involve technology in weather forecasting, measurement of harvest and production periods, so as to minimize the risk of major crop failures.

For this reason, agricultural technology should be developed in agriculture. Technology in agriculture is needed by farmers in the midst of the phenomenon of decreasing land area. Some agricultural technologies that can be utilized by Indonesian farmers include:

- 1) Transplanter, is an agricultural technology recommended by the R&D of the Ministry of Agriculture which functions to provide the right and appropriate distance for planting rice. This agricultural technology adheres to the concept of the *jajar legowo* system from East Java in rice cultivation. Transplanter is believed to be able to increase rice yields by up to 30%.
- 2) Ci-agriculture, is a technology in agriculture today that develops agricultural management systems. The system can provide comprehensive analysis based on weather analysis, soil sensor information, and drones which can increase agricultural productivity.
- 3) Indo combine harvester, Indo combine harvester is technology in the agricultural sector that can make it easier for farmers to harvest. Starting from cutting, transporting, threshing, cleaning, sorting, to packaging. With this agricultural technology, farmers do not need many people to harvest rice, because this machine only requires three people to operate and has a work capacity

of four to six hours per hectare. This tool will perform better when used on land that contains a lot of water. This agricultural technology is also able to separate rice and grain with a cleanliness level of 99.5%.

- 4) Superior seed sorting machine. This technology can assist farmers in selecting superior seeds. By selecting the best and superior seeds, of course, plants with good results will also be produced. Before the existence of superior seed sorting machines, it was possible for farmers to find it difficult to determine which seeds were superior and could produce the best plants. However, with this agricultural technology, farmers do not need to worry about planting seeds of poor quality because there is already a superior seed sorting technology.
- 5) Digital farming, digital farming is a technology that can help farmers predict the weather, determine the right time and volume to apply, plant protection and fertilization, and recommendations can be made specifically for each farmer on different lands. Digital farming can also enable increased crop yields by minimizing crop failure or weather incompatibility with crop selection.

It can be concluded from the development of agricultural technologies above can provide information and help make it easier for farmers to carry out farming activities. Now farmers can easily determine and carry out farming activities without any more worries about the failure of an agricultural field. Both old farmers and millennial generation farmers can become modern farmers by applying modern techniques and mechanisms. With the implementation of industrial technology in agriculture, it is hoped that it will be able to help farmers' work become easier, more effective and efficient. With the existence of technology that helps farmers, farmers become smarter in processing crops and can increase productivity and competitiveness.

### **c. Millennial Generation Strategy in Agricultural and Economic Development with Technology**

The millennial generation is known as a generation that wants everything to be instant, fast and easy. Such characteristics are very irrelevant in the Indonesian agricultural sector. because agriculture in Indonesia has not implemented instant, fast, and easy agricultural technology. Therefore, Indonesian agriculture must have farmer regeneration. If not the younger generation, who else can help develop sustainable agriculture in Indonesia. To become a successful young farmer, one must have skills in agriculture as well as be diligent and patient.

Being a farmer may not be unthinkable for the millennial generation who have to live side by side with this all-digital change. They prefer to be people who work in an office, become civil servants, or become a servant of the state which is more prestigious than being a farmer. They think that being a farmer cannot be successful. In fact, not a few young farmers are successful from their agricultural production. An example of one of the successful young Indonesian farmers who can inspire the millennial generation is Sandi Octa Susila. The man who was born in Cianjur, West Java was successful with the horticultural farming business. Horticulture is from the Latin, hortus which means garden and culture which means farming. Horticulture can be defined as a way of cultivating plants in the garden or yard. His success in farming is of course supported by his skills in managing a business, and utilizing technology as a supporting aspect in his agriculture.

The millennial generation is the key to sustainable agricultural development. By becoming a modern farmer, the millennial generation can help improve agriculture in Indonesia. Utilizing technology can make it easier for farmers, including:

- 1) To help make practical and definite decisions,
- 2) To assist in processing agricultural land,
- 3) To minimize the risk of crop failure,
- 4) To help increase profit potential in a sustainable manner,
- 5) To assist in marketing the produce production

With the existence of agricultural technology, it is a golden opportunity for the millennial generation to take part and get involved in the world of agriculture. Today's young farmers can utilize technology and information in various agricultural activities such as planting, selecting seeds, and selling agricultural products. However, there needs to be support and assistance from the government, by facilitating the needs of novice farmers. Millennial farmer strategies in agricultural and economic development in rural areas include:

- 1) Provide online-based marketing and information system training, which is also part of the program to improve farmer human resources, especially millennial farmers.
- 2) An agricultural vocational training program is organized to attract young people to agriculture. So that with the help of this program, the younger generation has the opportunity to become entrepreneurs in agriculture under the guidance of professionals.
- 3) Introducing various kinds of today's agricultural technology tools to village farmers and millennial farmers.
- 4) Provide progressive counseling programs for young people who are supported by experienced mentors in the field of psychology and have persuasive power for young people in rural areas to be able to face global competition. In addition, the purpose of this counseling is to provide knowledge, motivation and pride in the farming profession to young people and to provide the younger generation with competitive advantages and self-confidence and a sense of pride in their profession as farmers.

#### 4. CONCLUSION

Based on the explanation above, it can be concluded that in an era that is all digital, the role of the millennial generation in helping sustainable agricultural development is very much needed. With various agricultural technological innovations, millennial farmers can use them to assist in all agricultural matters. There are several current agricultural technologies that can be utilized, such as; tranplanter, ci-agriculture, indo combine harvester, seed sorting machine, and digital farming. Apart from that, the strategies that can be carried out by millennial farmers for the advancement of Indonesian agriculture are by means of; providing training on information systems and marketing based, providing agricultural vocational training to young people, introducing various current agricultural technologies, providing progressive counseling.

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