Proceedings of the 3nd International Conference on Social Science, Political Science, and Humanities (ICoSPOLHUM 2022)

Digital Skills In The Optimization Of Agricultural Technology Among Milenial 2022 (Description Study on Agricultural Students at Malikussaleh University)

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ABSTRACT

The purpose of this study is to describe digital literacy skills among millennial students and agricultural alumni in seeing the opportunities and challenges of digital farming-smart farming. Growing Millennials' interest to be ready to become agricultural entrepreneurs who are creative, innovative, professional, competitive and able to absorb agricultural sector jobs. The national labor force survey of the Central Statistics Agency (BPS), 20.62% of Indonesian youth worked in the agricultural sector in August 2020, an increase compared to the previous period in 2019 which amounted to 18.43%, and will continue to rise until 2022. The increase in the number of youth in the agricultural sector agriculture can be a momentum to expand it. As many as 85.62% of them are internet users and have the opportunity to become early adopters of digital technology in the agricultural sector. So far, the low digital literacy skills of farmers are because the majority of farmers only graduate from elementary school and high school. The average age is more than 45 years, which makes it difficult to adapt to digital technology. Helplessness when dealing with digital media technology. The increasing number of millennials interested in the agricultural sector is a hope as well as an opportunity to increase the development of the agricultural world based on digital farming-smart farming. Of course, this can be integrated into agricultural extension programs by millennials on the condition that agricultural students and alumni have adequate digital skills. That currently the modernization of agriculture is a necessity. The agricultural sector continues to move towards digital farming-smart farming. Agricultural Digitization facilitates monitoring, marketing, technology and helps accelerate the production process. Implementation of intelligent and critical use of digital media. The critical paradigm is chosen in this research, which is not only looking at what is visible but also exploring the meaning and seeing how there is what is behind a phenomenon. Based on advocacy and criticism become ideals. The assumption is, to know the world, man must make the world his own. The final result of this research is a strategy regarding the phenomenon being discussed. Primary and secondary data were obtained through observation, interviews, Focus Group Discussion and literature review. The theoretical basis, concepts and models as well as scientific contributions are Digital Skills or Digital Literacy, Digital Farming, Smart farming 4.0 and Millennials, namely Agricultural Students and alumni. Research informants consist of agricultural students and alumni, digital skills experts, agricultural academics and stakeholders deemed relevant. Data analysis used snow ball informants and cross checks, synchronization, compression, reduction, display data and conclusion. Primary data collection can be carried out, as well as validation to ensure the relevant and related data has been carried out. Secondary data support can complement the initial data that has been obtained previously. The existing data has been tested for validity and reliability. The results of the study show that students and agricultural alumni of the Malikussaleh University as millennials are active internet users with various media having the opportunity to become early adopters of digital technology in the agricultural sector towards Digital Farming and smart farming. Digitization of agriculture with the active involvement of millennials will facilitate monitoring, marketing, technology and help accelerate the production process by implementing intelligent and critical

use of digital media. The stigma of agriculture only for those with low education, seems to still exist. Need to improve understanding of digital farmingsmart farming among Millennials. The maximum implementation of smart farming is a big hope for all. Agriculture 4.0 is the implementation of smart farming or precision agriculture which is expected to be able to realize a sustainable agricultural system.

Keywords: *Obstacles Digital skills, digital farming, smart farming, millennials*
DOI: *10.29103/icospolhum.v3i.149*

1.PRELIMINARY

The world of agriculture is no exception ustomer satisfaction in The world of agriculture is no exception The world of agriculture is no exception The development of communication and information technology entering the digital era has penetrated into all lines of human life. The world of agriculture is no exception. Optimizing agricultural technology by utilizing digitalization is now a necessity. Digital literacy or skills for all groups, especially millennials, for the benefit of optimizing agricultural technology are important in improving the welfare of the community, especially farmers.

According to the National Labor Force Survey conducted by the Central Bureau of Statistics (BPS), 20.62% of Indonesian youth worked in the agricultural sector in August 2020, an increase compared to the previous period which amounted to 18.43%. The increase in the number of young people in the agricultural sector during this pandemic can be a momentum to expand it. As many as 85.62% of them are internet users and have the opportunity to become early adopters of digital technology in the agricultural sector.

FAO predicts that by 2050 the world's population will increase to 9.6 billion. This means that agricultural production must increase by 70% in order to be able to meet the needs of such a large population (Budiharto 2019). If not met, the world will be threatened with a food crisis. Another important issue is the difficulty of regeneration. Research by the Agro-Economic Research Forum, in 2020 stated that the workforce in agriculture leads to the aging farmer phenomenon where most of the farmers consist of the old age group (1).

The increase in the number of old farmers and the lack of interest of young people of productive age to engage in agriculture are thought to be due, among other things, to the assumption that income outside the agricultural sector is greater than that of the agricultural sector. There is a negative perception about agriculture which is often described as dirty and heavy work because it often interacts with mud and has to dig. Agricultural sector jobs do not require higher education requirements, while non-agricultural sectors demand higher education and have clearer career paths. The higher the level of education, the younger the tendency to have a career outside of agriculture. Contains high risks such as crop failure due to natural disasters, price fluctuations and other uncertainties (2).

Even though data from the Ministry of Agriculture for 2021 shows that farmers' digital literacy is low, for example, the majority of farmers are elementary school graduates who are on average more than 45 years old. This situation makes it difficult for farmers to adapt to new technologies. However, the increase in the number of millennials in the agricultural sector is a hope for increasing digital literacy among farmers. Of course this can be integrated into agricultural extension programs by millennials with the condition that millennials/students have adequate digital skills.

The process of adopting this technology is expected to increase the competitiveness of agriculture in the global market. However, this adoption must be accompanied by strengthening digital literacy skills. In particular, not all farmers have access to digital technology. So this adoption will be a challenge in itself even though it can be beneficial for farmers.

According to Azizah, the adoption of digital technology can reduce middlemen, which makes it difficult for farmers to have bargaining power in determining producer prices. In addition, with this technology, farmers can obtain accurate and transparent market commodity price information. In developing digital technology, digital literacy education and equitable access are also needed so that farmers are able to understand before using the technology.

On the other hand, the modernization of the agricultural sector is now a necessity. Where in the agricultural sector continues to move towards digital farming.

Considering the digitalization of agriculture, it makes monitoring, marketing, technology easier and helps accelerate the production process. Digitalization in agriculture has entered the 4.0 revolution era. Smart farming 4.0 has great potential to increase farmers' income and contribute to agricultural sustainability. Smart farming can increase accuracy in providing crop inputs and agricultural land [1]. The agricultural revolution 4.0 which consists of the internet of things, artificial intelligence, human-machine interfaces.(3)

As is known, agriculture is still the leading sector in improving community welfare in a sustainable manner. Agriculture plays a crucial role in advancing the economy. The question that arises is how to optimize the agricultural technology that is being developed. The existence of agricultural technology is expected to be able to improve the quality of agriculture, as well as make it easier for managers of the agricultural sector.

In Aceh, for example, the application of agricultural technology is still not maximized and there must be adjustments, it is still necessary to consider several factors such as natural conditions, experts who operate the tools, people's knowledge about agricultural technology tools and the use of digitalization. Of course, in this case the role of millennials becomes urgent.

Entering the post-pandemic era, of course, there will be challenges in rebuilding the economy which was stagnant during the pandemic. For this reason, it is hoped that programs to revive through millennial contributions within the independent campus can provide a new understanding of the importance of the agricultural sector in an agrarian country. The form of this program will be more optimal if it is accompanied by consistent use of technology, given the increasingly massive digitalization era.

Through an independent campus forum by utilizing technology and the agricultural sector, it will certainly produce agricultural students who understand contextually about the agricultural sector so that they can provide benefits to the wider community. As a result, the agricultural sector is a prospect for millennials to further develop their skills and capabilities in digitalization in optimizing the agricultural sector so that they can realize food security that is sovereign on its own feet.

Universities and related stakeholders must carry out educational transformation to produce graduates who can become job creators or agrotechnopreneurs. Characteristics of millennial farmers who apply smart farming, for example, farmers who are proficient in digital technology or digital farmers. On farm activities are capital-intensive activities with technology and innovation. Product processing such as innovationbased agro-industry to increase competitiveness and added value of agricultural products, and more efficient marketing by utilizing digital-based technology [2].

Smart agriculture is applied based on integrated principles between management information systems, precision technology, and cyber physical systems. The sustainability of agriculture 4.0 is very dependent on the availability of big data, the availability of internet networks, management institutions, competent human resources, government regulations, government funding support, and of course the participation of farmers. The Ministry of Agriculture has provided support to welcome the Indonesian agricultural era 4.0. All sectors have implemented digitalization, using technology and mechanization (Kompas 2020).

LITERATURE REVIEW

As the basis for the library, this research process rests on the principles of communication science, including the concept of digital skills, digital literacy, digital farming, smart farming, millennials and based on local wisdom.

Digital Skills and Digital Literacy

The development of the digital world has targeted all sides of life. Currently, there is almost no side of human life that is not affected by the digitalization process. The world of the Internet has changed lifestyles, starting from the shape of space and time on the internet which is no longer the same as the real world, because users can do it in real time. [3] argues that the existence of the internet which is said to be Computer Mediated Communication (CMC) has mediated so that they only need an internet connection to be connected to each other in the new social world (4).

Virtual interaction is indicated by things that sometimes do not exist in reality, but something that is virtual can become real even though it is not actually tangible. The public cannot be separated from the internet, it will open up great opportunities to become human beings who are increasingly shrewd and very understanding in using digital technology. The easier it is to access information, the easier the simulation process in the form of a virtual world will be.

Digital proficiency is an individual's ability to know, understand and use digital operating system hardware and software. Of course, using digital facilities is an opportunity to grow. Technological developments in this world must experience a flood of data. Everyone who has access to the internet must be able to search, can post and so on, that is a lot of data.

That is the era of big data that is experienced today, perhaps more interactively. Who plays an important role in directing, almost everyone who is literate in digital technology fills a lot. Using the internet should be able to bring benefits. So not only using it, but getting added value both intellectually, socially, culturally and economically. Must improve digital skills to be able to create more creative content that educates, cools, and spreads peace including content of local wisdom as well as the world of agriculture.

Digital literacy is the knowledge and skills of users in utilizing digital media, such as communication tools, internet networks and so on. User proficiency in digital literacy includes the ability to find, work on, evaluate,

use, create and utilize it wisely, intelligently, carefully and precisely according to its use.

Digital literacy skills are traditionally defined as the ability to use language to read, write, listen, and speak. In the following context, literacy refers to the ability to read and write at an adequate level to communicate in a literate society. According to Unesco, literacy is the ability to recognize, understand, predict, create, communicate, calculate, and change printed and written materials in various contexts.

Literacy involves a continuum line of learning that enables an individual to achieve his goal of building his knowledge and potential and participating in community development. In addition, according to the Education Center in general, literacy is an individual's ability to use all the potential skills he has in his life. Furthermore, the latest meaning of literacy is critical thinking, being able to calculate, solving problems, how to achieve goals, developing one's knowledge and potential.

Digital farming (Smart farming)

Modernization of agriculture is inevitable. The agricultural sector continues to move towards Digital Farming. Considering that digitalization of agriculture makes monitoring, marketing, technology easier and helps accelerate the production process. Digitalization in agriculture has entered the 4.0 revolution era. Smart farming 4.0 has great potential to increase farmers' income and contribute to agricultural sustainability. Smart farming can increase accuracy in providing crop inputs and agricultural land (Knierim et al. 2019). The agricultural revolution 4.0 which consists of the internet of things, artificial intelligence, human machine interface, robotic and sensor technology and 3D printing technology has encouraged the development of agricultural innovation after the increasing use of information and communication technology in agriculture.
As is the case with research from [4], in an effort to revive the agricultural sector through a review of the green revolution in the Merdeka Campus program, the role of youth resilience in the midst of turbulence. That the rapid development of communication technology requires farmers to be able to use social media in disseminating agricultural information. How do farmers use social media, in analyzing factors related to the level of utilization of social media by analyzing agricultural information processing and its relationship to the use of social media.

Research conducted by [4][5], regarding Digital Agricultural Economic Development in Supporting Food Security. That food is a basic need for human life originating from the agricultural sector.(10) The role of agriculture began to decline in line with development priorities shifting to the non-agricultural sector. One of the innovations in agriculture is the use of technology in the form of a digital agricultural economy. How to know the importance of developing a developed digital agricultural economy.

That the digital agricultural economy can provide benefits in the agricultural process. This article describes the problems, benefits, and strategies in building a digital agricultural economy and a digital agricultural economy built from the developed program. In addition, the digital agricultural economy can support food security in terms of the benefits received by users through three aspects, namely aspects of availability, access, and consumption.

To get these benefits, what steps must be mastered by our farming community? Most of our farmers (60%) are over 40 years old, must be digitally literate, meaning that farmers must at least be able to utilize internetbased information and communication technology. (8) Now the era has become the internet of things.

RESEARCH METHODS

In this research the method used is descriptive research. Extracting information from informants was carried out in depth with a perspective that represents the selected groups. In the assessment, individual and institutional informants must be considered as active subjects who can develop information based on the questions raised. , states that the research method is a procedure carried out by someone to obtain data or information to obtain answers to research problems. Qualitative research is an approach to conducting research that is oriented towards natural symptoms or phenomena[6]. [7] The qualitative paradigm is more emphasized on the issue of depth (quality) of data, and not the amount (quantity) of data. That all research that uses a qualitative paradigm aims to explain the phenomenon as deeply as possible through in-depth data collection. (11) The Data Collection Techniques, namely; initial assessment, observation, interviews, Focus Group Discussion, and study of documents or literature. While the Data Analysis and Writing Techniques, namely; snow ball informant and cross checks, synchronization, Compaction (Process of Concise and Abbreviating) and Conclusion. The data analysis technique proposed [8] is also used, namely reduction, data presentation and conclusion drawing. and study of documents or literature. (12) While the Data Analysis and Writing Techniques, namely; snow ball informant and cross checks, synchronization, Compaction (Process of Concise and Abbreviating) and Conclusion. The data analysis technique proposed [9] is also used, namely reduction, data presentation and conclusion drawing. (7) and study of documents or literature. While the Data Analysis and Writing Techniques, namely; snow ball informant and cross checks, synchronization, Compaction (Process of Concise and Abbreviating) and Conclusion. The data analysis technique proposed by Miles and Hebermen (Basrowi 2008) is also used, namely reduction, data presentation and conclusion drawing.

The subjects in this research are individuals and groups who have the potential, experience, and knowledge about the subject matter of this research. Informants were selected based on purposive techniques, with the criterion that informants were millennials in this case agricultural students, agricultural alumni, academics and practitioners or entrepreneurs in agriculture who were directly involved or knew about activities related to research topics and people who represented certain circles, so that the credibility factor and competence of informants is an important consideration in determining the choice. While the object of research is digital skills, digital literacy among millennials in understanding the challenges and opportunities of digital farming and digital smarts.

RESEARCH RESULT

Living in Millennial Digital Skills

Digital proficiency is an individual's ability to stumble know, understand and use digital operating system hardware and software. Mastery of digital technology, the internet is absolutely necessary so that users can benefit as much as possible. Digital skills are important for millennial students to understand, such as communicating digitally, managing information, creating content, how to carry out digital transactions, finding solutions, maintaining digital security, digital culture and netiquette or digital ethics.

Living in a digitalized world, which must involve digital technology and devices, so that digital skills become urgent, otherwise we will stumble across a digitalized world. It is undeniable, the development of the digital world has targeted all sides of life. At present, it seems that there is almost no side of human life that is not affected by the digitalization process, including in the realm of agriculture.

The development of digital technology has given rise to internet of things technology in agriculture which is often referred to as smart farming. This will become a new hope for Aceh's agricultural development in the future as well as a challenge in efforts to increase agricultural competitiveness in national and global markets. Indeed, nationally in terms of human resources, Indonesia will face a demographic bonus as an opportunity for the regeneration of agricultural human resources who are the millennial generation, including students.

At present the main agricultural problems faced by Aceh are human resources which are still low, technology is still conventional, product added value is still low because the main export is still in the form of raw materials and the contribution of innovation to economic growth is still small. Acceleration of technological transformation and innovation is needed as well as preparing and encouraging the young millennial generation of students, especially agricultural students, to develop smart agriculture or smart farming.

In this regard, an agricultural student majoring in Agribusiness, Malikussaleh University Muhammad Alfaris, batch 2018.

> "...indeed, currently human resources related to understanding digitalization are still lacking in Aceh and even in Indonesia in general. Coupled with the lack of young people who want to work in the agricultural profession, of course this can lead to threats to our food availability in the next decade. The technology that existed in the 4.0 era should be a big opportunity, the challenge I think is how in this digital era it can increase the interest of young people, especially us students, to pursue the agricultural profession with fast access to information and communication that young people can take advantage of to open up business opportunities in agriculture .."

For agricultural students, of course, there is great hope that in the current digital era, the world of agriculture must really take advantage of opportunities, of course for all the main groups of the government in providing various facilities and infrastructure towards smart farming agriculture.

Rian Arianto, a Batch 2018 student majoring in Aquaculture, Faculty of Agriculture, Malikussaleh University, also explained.

> "...the key is attention and support from the government, especially for research and technology development funds. We can imagine that if Aceh and Indonesia become one of the key players in agricultural research including cultivation, of course this will have a positive impact on increasing agricultural production and treatment. If the development of the agricultural and aquaculture sector is carried out in a comprehensive manner, it will certainly have an impact on increasing the country's foreign exchange and increasing the employment rate."

Indeed, according to them, the application of technology in Indonesia has not been fully utilized as well as possible by millennials, the government should focus more on millennials in terms of education and socialization of agricultural technology so that it is easy for generations to have an idea of how to take advantage of technology on an agricultural basis.

For Ismail, a 2017 Agribusiness major, admits that he understands the importance of digital skills as agricultural students in the development of the agricultural world, which is being cultivated in theory and practice.(6) For Ismail, this is reinforced by several

courses that support the digitalization of agriculture, including courses on Management and Agroindustrial Technology, agricultural product technology, agricultural communications and the economics of Resources and the Environment.

> "….I see that the use of digital technology can certainly maximize agricultural output, which has so far been relatively low. With IoT-based digital technology, farmers can find out their nutrient needs and weather conditions through sensors that are integrated with applications on smartphones. One of the issues that has surfaced in the production process is the productivity of agricultural products which is relatively low compared to other countries. This is mainly due to 90 percent of farmers still using conventional methods. "

Malikussaleh University agricultural students also admit that many courses are very relevant to technology and digitization of agriculture, for example courses such as resource and environmental economics, that technology plays a very active and significant role in agriculture and the environment. Using technology can have a significant impact on agriculture, such as accelerating production and making it more efficient.

It can be seen that the Aceh area of rice farming communities uses rice harvesting machines with the benefit of reducing harvest operational costs and accelerating harvests, so as to be able to obtain maximum profits. In addition, by using a smartphone, farmers can carry out interactions for selling crops and purchasing agricultural production equipment more effectively and efficiently. However, the lack of knowledge of farmers about the use of technology makes it difficult for many touris farmers to carry out agricultural production. attractions interrelated with a price offering package.

It is hoped that many young people who want to contribute to the agricultural profession with their technological knowledge will be able to have many positive impacts on agriculture in the future. With knowledge about agriculture and the environmental impacts caused by agricultural factory production such as waste and air pollution, it is hoped that students will be able to provide solutions using technology and digital utilization. As the younger generation, we still have to consider how important the agricultural sector is in the future.

In line with Triyono's research results, the author quotes from the UMY campus repository website thatpAccelerating the adoption of innovations and providing incentives planned by design to grow and develop millennial farmers is the focus of all stakeholders, especially the government and universities to produce competitive agropreneurs or technoagropreneurs. Namely farmers who have the ability to develop added value of agricultural products that have competitive advantages in national and global markets as well as job creators, job creators for agricultural development with a broad agribusiness perspective. Including, improvement and capacity building of infrastructure including telecommunications and agricultural institutions need to be prioritized to increase the efficiency and competitiveness of agricultural products.

The agricultural sector is one of the sectors that contributes greatly to the national Gross Domestic Product. Unfortunately, in recent years this income has decreased due to agricultural productivity which is considered sluggish due to various factors. One of them is the lack of interest of successors in agriculture. As reported from the ITB website, the majority of farmers in Indonesia are over 45 years old where young people are no longer interested in being farmers.

The use of technology is also relatively low so that practices are carried out in conventional ways. The concept of agricultural development in the Revolution 4.0 campaign is also considered to be a solution. The Agricultural Revolution 4.0 was designed by involving digital technology in the development process.

In the Focus Group Discussion (FGD) on 16 October 2022, millennials, agricultural students are ready to become field instructors in terms of agricultural digitization. In general, it is understood that digital skills are the knowledge and skills of users in utilizing digital media, such as communication tools, internet networks and so on. While the user's skills in digital literacy include the ability to find, work on, evaluate, use, create and utilize it wisely, smartly, carefully and precisely according to its use.

Attract Millennial Interest in the agricultural sector

The large use of the internet can be an advantage for the agricultural sector. As stated by Indra Setiawan, Researcher at the Center for Indonesian Policy Studies (CIPS), that the digitization of the agricultural sector needs to be accelerated in order to attract the interest of the younger generation to agricultural development. Admittedly, during the pandemic, people's interest in agriculture has increased. Planting activities at home as time fillers are increasingly being carried out by urban communities. Even the number of young people who are interested in discussing and carrying out existing practices in the agricultural sector has also increased.(16) If this interest is supported by the sophistication of digital technology, the agricultural sector can come back to life and develop. Moreover, the Central Bureau of Statistics has stated that there is an increase in the number of workers in the agricultural sector by 2,

Slightly different from opinionIndra Setiawan, for Abdurrahman, a statistician at the South Kalimantan Province BPS in an online media, said that the agricultural sector in Indonesia does not seem very attractive as a work area for millennials. This is reflected in their low participation in this sector. The results of the Inter-Census Agricultural Survey conducted by the Central Statistics Agency (BPS) in 2018 recorded only around 4.1 million people aged 25-
34 years out of a total of 33.4 million farmers.(4)

The latest BPS data from the 2021 National Labor Force Survey (Sakernas), even mentions that Indonesian farmers are dominated by elderly people. They occupy nearly half of it. The younger generation who enter the agricultural sector is not comparable to the old farmers who retire and leave the world of agriculture. As a result, not only is the average age of farmers getting older, but the number of farmers also continues to decline. This condition shows that agriculture is starting to lose interest.

Over time, millennials or people of productive age have begun to shift to the non-agricultural sector, particularly to the manufacturing and trade industry sectors. Thirty years ago, more than half of the total workers in Indonesia were involved in the agricultural sector. Shifts like this often occur in many countries that are starting to develop.(17) The level of productivity and wage rates in the industrial sector which is greater than agriculture seems to be quite a logical reason.

Even though there has been a shift, until now agriculture is still the foundation for Indonesian people to make a living. Data from BPS Sakernas, in 2021 it was recorded that around 28.33 percent of Indonesia's population aged 15 years and over worked in this business field. This number is equivalent to 37.13 million workers. (11) This figure is still relatively large. The Indonesian economy is also still driven by the agricultural sector. Its share reaches 13.28 percent in Indonesia's Gross Domestic Product during 2021. The second highest after the manufacturing sector. Therefore, Indonesia cannot be separated from agriculture. Development in the sector continues. (11)

According to Abdurrahman, there are several important notes related to agricultural development, especially in the era of disruption, digital and pandemics like today. First, farmers' education continues to be encouraged to improve and be able to accelerate. The agricultural situation in Indonesia is still faced with the relatively low level of education of farmers. Most of our farmers still have elementary school education and below. Until 2021, their number will reach 64.28 percent. The stigma of agriculture only for those with low education, seems to still exist. Those with relatively high education do not look at the agricultural sector as a work destination. Including even those who graduated from agriculture. Therefore, efforts are needed to encourage the interest of the millennial generation, including those with higher education, to build the agricultural sector in accordance with their era.

Second,related to the point of digital-based agriculture, the need to build a healthy and conducive modern agricultural climate. The modern agricultural climate can shape itself when there is a vibrant millennial farming community. But on the other hand, the government as the holder of the regulator also needs to make efforts to encourage a healthy and conducive modern business climate. Currently, the digital climate is more dominated by industrial processed products. Meanwhile, agricultural products do not yet have a market share as wide as industrial products. Agriculture is still comfortable to operate conventionally. In the future, ideally, this modern agricultural climate will be driven by millennials who are digitally literate.

Abdurrahman's opinion is reinforced by the opinion of Andini Noviani, an agricultural student at Malikussaleh University, Class of 2018. The reason why many young people are not interested in pursuing the agricultural profession is low income. One of the factors is the low level of selling prices of agricultural products and coupled with the quality of agricultural products that only meet the local market so that farmers' incomes tend to be low. So this is where the role of technology is needed to be able to overcome this problem. "….I am of the opinion that technology can be utilized effectively and efficiently if the role of education, government and society can work together well by starting to generate human resources in agriculture in the regions by conducting counseling and technology training organized by the government. I have participated in regional seminars at Samudra Langsa University in the POPMASEPI (Indonesian all
Indonesian agriculture student professional organization association) where we discussed local commodities and how to take advantage of the digital era, so that the government can control and develop the potential of local agricultural commodities. For example, with mangrove commodities we can develop them with technology and communication to develop mangrove tourism in the Langsa area, batik clothes using dyes from mangrove plants, food and drinks, with technology that makes it easier to promote tourism. It is indeed good to improve agricultural technology starting from the regions and finding superior commodities in these areas, as well as the role of the government in providing a lot of training and socialization about agriculture in the digital era."

Of course, millennials who are close to the digital world can make digital platforms the basis of their work. Maybe millennials are not involved in the field like conventional farmers. But they are involved in developing applications in the digital agriculture ecosystem. Currently, several millennial children are starting to see their role in the

digital world of agriculture, but in terms of numbers it is not too large. Therefore, it is necessary to create broadly agricultural-based digital economic actors. Modern agriculture also includes the use of technological innovations in the production process. The goal is clear, so that agricultural productivity increases. The role of agricultural graduates is very much needed at this point. In the end, it will attract the interest of educated millennials to build the agricultural sector.

Digital farming (smart farming) Millennials

The Ministry of Agriculture explained that in the digital era, modern agricultural systems can be known as agriculture 4.0 where the agricultural system here applies the Internet of Things (IoT) to support its development process. Agriculture 4.0 is a modern and precise farming system where all systems are combined with digital information technology. Digital technology in agriculture can be defined as the application of information and communication technology through devices, networks, services and applications in the agricultural sector. The purpose of its use is to assist agricultural sector actors in making decisions and utilizing resources (World Bank, 2020).

The maximum implementation of smart farming is a big hope for all students in the focus group discussion (FDG) October 16, 2022 in the City of Cafee Country cafe, Lhokseumawe City. Agriculture 4.0 as the implementation of smart farming or precision agriculture which is expected to be able to realize a sustainable agricultural system. Agriculture in the digital era does not only work conventionally by going directly to agricultural land but is broader than that. Various processes in the agricultural system will take advantage of the application of technology. The Covid19 pandemic has also accelerated the digitalization of agriculture, especially in the marketing sector. Limitations in the distribution of agricultural products give rise to various new shortcuts so that farmers can survive. This condition gave birth to optimizing the use of the internet and online systems as a medium of communication between farmers and also the marketing process. Farmers can easily communicate and carry out fast and secure transactions with consumers through internet technology.

For example, the ministry of agriculture collaborated with Telkom Indonesia to develop digital applications for agriculture. This application is called Farmer Logistics (LogTan). The LogTan application contains various kinds of data ranging from planting preparation to post-harvest. Information data can be in the form of farmer data, land area, planting plans, automatic fertilization, accuracy of harvest predictions, to postharvest distribution. Farmers can also coordinate with other farmers through digital platforms to obtain broader information for the development of agricultural products.

The implementation of smart farming in Indonesia will help farmers to run a more scalable farming system. With this smart farming system, farmers can more easily find out the needs of plants in order to achieve optimal production. Farmers can control soil moisture, temperature, pH, and wind speed using only smartphone-based technology or other digital farming tools. Even today, there are many land monitoring systems using drones for land mapping. The irrigation system in smart farming also facilitates agricultural activities because it can be set automatically when watering along with the water discharge to be flowed. All agricultural systems that are scalable using this technology become more effective and efficient because everything is recorded in the application used.

According to Lecturer at the Faculty of Agriculture Autar, that the steps that must be prepared by the farming community in facing the industrial revolution 4.0 include farmers, the government, the general public, the business world supporting each other, the availability of affordable and equitable infrastructure, the availability of signals, including extension agents, there are already androids with software that supports them as extension agents. it must be transferred to the farmer. Including the institution, BPP has supported it there, can reach signals, electricity.

FGD participants agreed that how to optimize the role of students, academics, synergize with the government, the business world and stakeholders in assisting farmers to take advantage of agricultural business opportunities in the digital era. Teruamata in wider marketing potential. Ahmad Fiki, an agricultural student from Batch 2018 revealed.

…during the rapid advancement of technology, we students and farmers are not only able to cultivate rice, vegetables, fruit, or other commodities. we can also promote the harvest more broadly through digital marketing strategies. For this reason, it is necessary to prepare a website or social media to reach the audience. Apart from that, you have to be able to install products on the marketplace so customers can order them right away."

In addition to marketing, it also produces attractive products, being a businessman in the agricultural sector also opens up opportunities for millennials to present interesting products that were previously rarely known, such as plant cultivation which will later be made as herbal medicine. There are various types of plant parts that can be used, ranging from bark, leaves, rhizomes, and fruit. Farming flexibly, agricultural businesses can not only be done by people who have large lands in mountainous areas, those who live in urban areas can also start cultivating various vegetables and fruits from home.

There are many urban farming technologies that are currently becoming increasingly popular, one of which is farming with hydroponic technology.

In addition, contributing to the need for food, in line with the increase in population, of course the agricultural sector plays an important role in ensuring that food needs are always fulfilled. This effort can be started from oneself, namely by presenting various types of food from agricultural land. It's no wonder that the agricultural business is also one of the right recommendations for those who want to run a sustainable business. Efforts to protect the environment, when running an agricultural business using sustainable business principles, can reduce pollution and other adverse effects that can harm the environment.

CONCLUSIONS

Conclusions and suggestions that can be conveyed include, firstly, understanding of digital skills, digital literacy of millennial-agricultural students at Malikussaleh University, especially related to digital farming and smart farming is still lacking. After the research process, they relatively understand that digital skills are related to the individual's ability to know, understand and use digital operating system hardware and software. Includes the ability to find, work on, evaluate, use, create and utilize wisely, intelligently, carefully and precisely according to its use.

In general, they understand that mastery of digital technology is absolutely necessary in order to get the maximum benefit from agriculture. Related to digital communication, managing information, creating content, conducting digital transactions, finding solutions, maintaining digital security, digital culture and netiquette or digital ethics.

In addition, human resources for agricultural digitalization are still lacking. Technology is still conventional, the added value of the product is still low because the main export is still in the form of raw materials and the contribution of innovation to economic growth is still small. His advice is to accelerate technological transformation and innovation as well as to prepare and encourage millennials, especially agricultural students, to develop smart farming.

Second, attracting millennial interest in getting into the agricultural sector to the fullest, with technological and digitalization capabilities. The stigma of agriculture only for those with low education seems to still exist. Those with relatively high education do not look at the agricultural sector as a work destination. Even those who graduated from the agricultural department. The suggestion is that efforts are needed to encourage the interest of the millennial generation, including those with higher education, to build an agricultural sector that is appropriate to the era. Agriculture that is converted between conventional-traditional agriculture, becomes agriculture that is literate with digital technology.

*Third,*the understanding of digital farming and smart farming among Millennials of Malikussaleh University agricultural students is only limited to knowing they do not understand in depth. Maximum implementation of smart farming is a big hope for all. Agriculture 4.0 as the implementation of smart farming or precision agriculture which is expected to be able to realize a sustainable agricultural system. Agriculture in the digital era does not only work conventionally by going directly to agricultural land but is broader than that. Various processes in the agricultural system will take advantage of the application of technology.

The suggestion is that education in the realm of digital skills in the world of agriculture is a joint effort to produce millennial farmers who have output qualified job creators, namely independent farmers who are able to open business opportunities for their colleagues and qualified job seekers, namely millennials who are skilled and master their jobs so that they can be placed anywhere. in all sectors of business and industry. Education where most of the time is used for teaching factories so that graduates will directly practice in the field.

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