



# Human Resource Development for Millennial Farmers in Increasing Local Economic Development in Rural Areas

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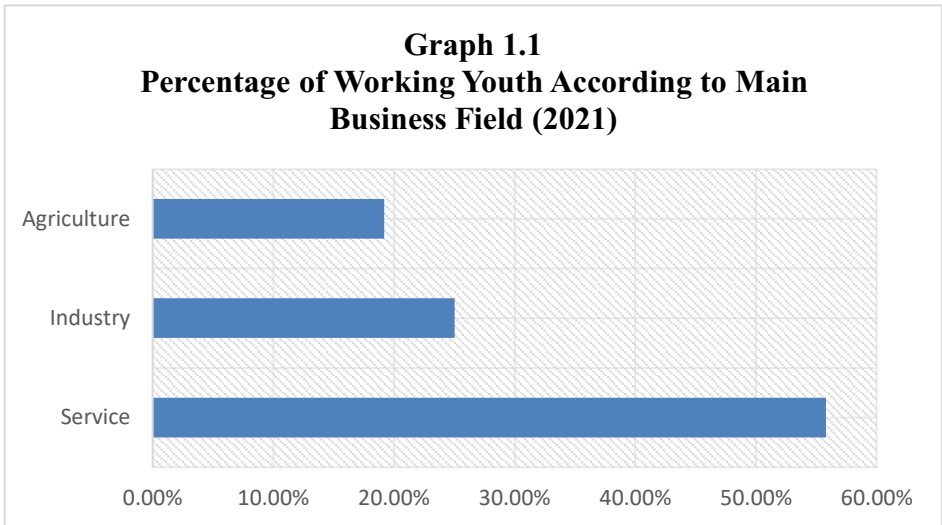
**Abstract.** This research aims to explain the development of human resources for millennial farmers in improving the local economy in the village. Researchers focused on one of the Tasikmalaya districts, West Java. This millennial farmer policy is one of West Java's flagship programs with the aim of increasing youth interest in the agricultural sector and opening up employment opportunities. This program also contributes to helping millennial farmers to develop superior agricultural products using information technology. The research method used is qualitative research through interviews, documentation and focus group discussions. The resource persons in this research were a group of millennial farmers in Tasikmalaya Regency, the Department of Agriculture and Food Security, the Department of Tourism, Youth and Sports of Tasikmalaya Regency. Apart from that, researchers also collected information on village farmers to add research information. The research results show that human resource development has been carried out by the Regency Government in collaboration with the province. If analyzed from the aspects of learning, development, training and education, the millennial farmer program is carried out through the introduction of the Millennial Farmer Program, Entrepreneurship, Cultivation, Post-Harvest and Processing Training for CPM, Instructors come from Practitioners, Academics, Off Takers, Extension Officers and Widyaiswara, Training is carried out at an accredited training institution and the training budget comes from the APBD/Off Taker or other parties. Based on the development of these resources, it contributes to the local economy in the village, especially in the agricultural sector.

**Keywords:** Millennial Farmers, Economy, Local and Village.

## 1 Introduction

Youth is an important asset in economic development in Indonesia. The development of young people who prefer to work outside the city and leave the village is a serious phenomenon that must be found for a solution. Government policies must of course be oriented towards social, economic, educational approaches and even the agricultural sector [1]. Based on data from the Central Statistics Agency, it is stated that in 2022 there will be 135.3 million people working, with a proportion of 29.9%

working in the agricultural sector or around 17% of the total population. The Central Statistics Agency (BPS) reports that more than half or 55.8% of Indonesian youth will work in the service sector in 2021. The percentage of urban youth working in service businesses is higher than in rural areas, namely 66.5% compared to 41.27%. Youth who work in industrial business fields are next at 25.02%. Meanwhile, 19.18% of Indonesian youth work in the agricultural sector.



**Source: Central Statistics Agency, 2023**

Youth's interest in the agricultural industry represents a serious challenge that must be addressed by both central and regional governments. In fact, the profession as a farmer is often avoided by young people [2]. The millennial generation who is still interested in agriculture is highly highlighted based on sustainable agricultural systems and investment [3]. Sustainable agriculture will have an impact on the welfare of families and households. In fact, this could be an ideal business opportunity if it is based on policies oriented towards youth development [4]. Concerns about local industrial development must be accompanied by strategic policies and strengthening the local economy. Rural youth are not interested in agriculture due to the placement of youth jobs as part-time or non-agricultural. For example, just being a worker in someone else's rice field [5].

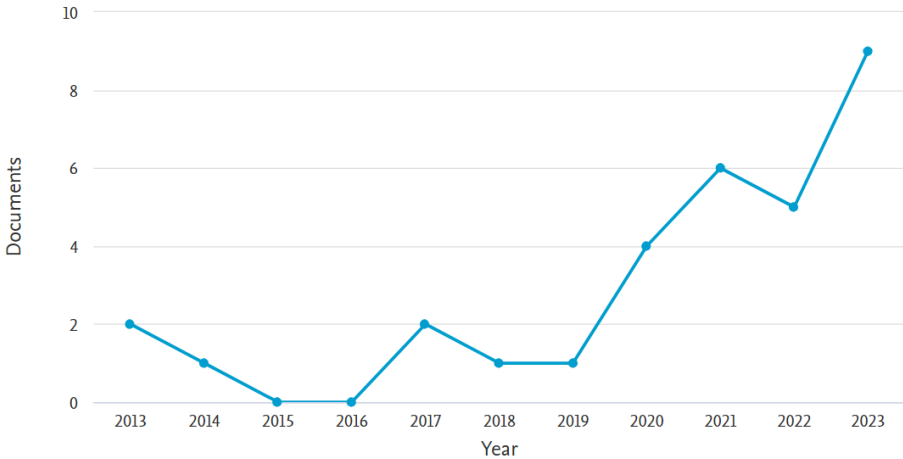
Based on issues regarding millennial farmers, researchers then searched for scientific articles sourced from the Scopus database from 2013-2023 with the keywords "millennial" and "farmer". Based on search results, it shows that articles discussing millennial farmers will increase in 2023. The number of articles is 31 documents with 9 documents in 2023. Several studies show that innovation in agricultural development helps millennial youth to reduce agricultural risks, for example in monitoring irrigation systems. an automatic and real-time based irrigation system. This means that the millennial farmer's approach is based on mastering

technology or utilizing Artificial Intelligence [6]. Other research with the theme of agricultural revolution 4.0 shows that the identity challenges of farmers in the 4.0 era are also influenced by models and potential changes in agricultural businesses which provide opportunities for millennial farmers to develop agricultural technology in order to simplify work, save energy and increase productivity [7].

**Graph 1.2**

**Number of Documents with the keywords "Millennial" and "Farmer"**

Documents by year



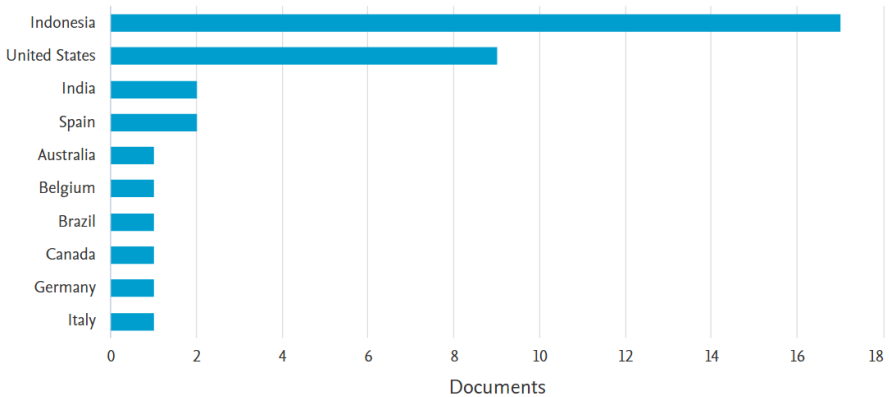
**Source: Database Scopus, 2023.**

Researchers also searched for the country of origin of the author who had studies on millennial farmers. The graph below shows that as many as 17 documents wrote articles on the theme of millennial farmers, occupying first position compared to other countries such as the US, India and Spain. These results show that the research case studies on millennial farmers are quite massive, carried out by researchers.

### Graph 1.3 Documents Counts For up to 15 Countries Regarding Millennial Farmers

Documents by country or territory

Compare the document counts for up to 15 countries/territories.



**Source: Database Scopus, 2023.**

Based on the table below, it shows that the subject areas used in research are very much based on environmental sciences and agriculture issues/perspectives. Meanwhile, the scope of economics, econometrics, finance and business, management and accounting are very minimal. For example, in the economic sector it is 3.1% while in the business and management sector it is 4.6%. Therefore, researchers are interested in analyzing human resource development in millennial farmers.

Millennial farmers are a category of farmers aged 19-39 years who are adaptive to developments in digital technology [8]–[10]. Innovation (or the ability to put new ideas into action), creativity, and empathy are crucial in today's information age [11]. Apart from that, this opportunity will contribute to reducing production costs, increasing production quantities and product competitiveness. Social and technical conditions will influence the willingness of the millennial generation to carry out technical farming skills or support product marketing through digital media.

The millennial generation's potential provides a better setting for rural development right now. To begin, younger generations are disproportionately represented in the working age population. Second, young people's prolific use of online social networks. According to studies [12] shows that the role of the younger generation in developing rural areas needs to be carried out through social engineering programs in the aspect of internet-based rural agricultural entrepreneurship.

Previous research states that, technology advancement is anticipated to support the agricultural sector in its survival, growth, and recovery from challenges, while simultaneously enhancing the implementation of the Smart Farming 4.0 paradigm. In order to enhance productivity within the agricultural sector and promote

a resurgence in the export value of agricultural goods. Participants in this community are expected to possess creativity and invention in executing the activities conducted during the empowerment of technological innovation [13]. In favour of endorsing this particular farming method, there are farmer groups and an atmosphere conducive to agricultural practises. Support from farmer groups and the environment is extended by enhancing the qualities and attributes of millennial farmers, as well as by facilitating access to agricultural infrastructure and resources [14]. This research focuses on developing human resources for millennial farmers. Several components of human resource development consist of [15].

1. Learning is the process when each person develops and acquires abilities, behavior, knowledge, attitudes and skills. This involves modifying attitudes with experience or more formal stages that can provide assistance to people learning both inside and outside the workplace;
2. Development, namely the realization or growth of a person's potential and abilities by providing educational and learning experiences;
3. Training, namely the systematic application of formal processes in helping people and imparting knowledge to obtain the skills needed so that the work carried out can run smoothly;
4. Education, namely the values, understanding and development of knowledge needed in all aspects of life compared to skills and knowledge related to several areas of certain activities.

There exist multiple attributes associated with high-quality human resources, encompassing the possession of knowledge and experience necessary for addressing both straightforward and intricate issues and problems. Professional human resources professionals must demonstrate the ability to approach problem-solving in a calm and equitable manner. Additionally, they should possess strong oral and written communication skills. Furthermore, they must exhibit discipline and effective time management abilities. Trustworthiness is a crucial characteristic for professional human resources professionals, as it lends credibility to their role. Objectivity is essential when evaluating work-related incidents or employee issues, relying on factual evidence rather than emotional considerations. Moreover, they should possess the skills to address problems in diverse situations and make decisions based on factual information. Lastly, they should be capable of providing training, development, and mentorship to others [16].

Based on research from this article, it seeks to explain (i) the Millennial Farmer Program in Tasikmalaya Regency (ii) the human resource development strategy for millennial farmers (iii) the contribution of millennial farmers to the local economy in the village.

## 2 Method

This research was conducted qualitatively through interviews with youth groups, millennial farmers, the Tasikmalaya Regency Agriculture Service and the Tourism,

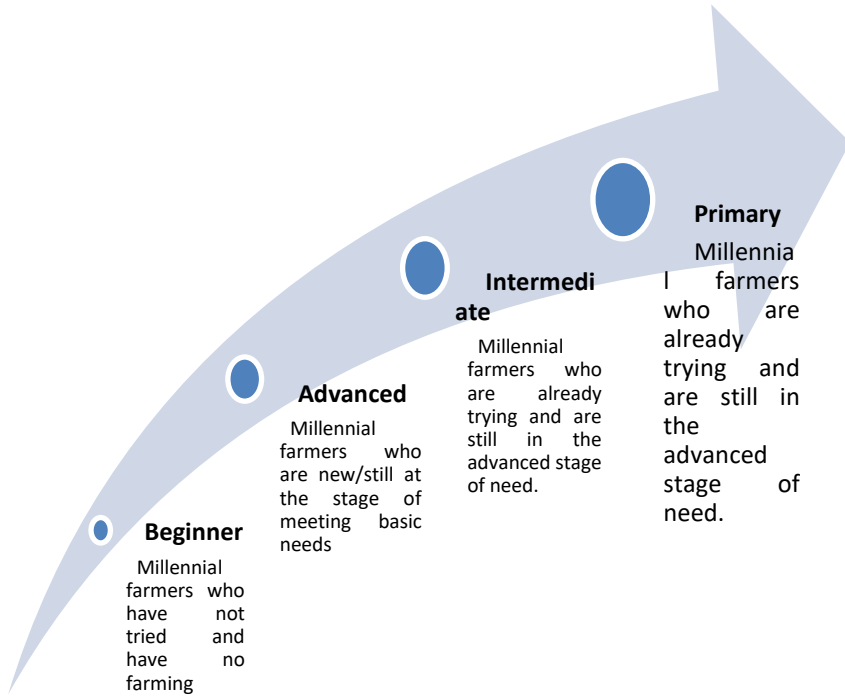
Youth and Sports Department. The main data was obtained through interviews, documentation, observation and Focus Group Discussions. Primary data was obtained through an interview and FGD process to collect information about the millennial farmer program, challenges and human resource development. Meanwhile, secondary data was obtained through monitoring and evaluation data analysis of the implementation of the millennial farmer program. The collected data is processed through data analysis and arranged systematically in several steps [14], [17]. The steps taken in research data analysis go through 3 steps. First, data reduction, defined as the process of selecting the main things, summarizing, focusing on the important things, and discarding the unnecessary. This data reduction is focused on answers to the problem formulation: (i) Millennial Farmer Program in Tasikmalaya Regency (ii) Human resource development strategy for millennial farmers (iii) Contribution of millennial farmers to the local economy in the village. Second, presenting data on human resource development for millennial farmers. Third, drawing conclusions, conclusions in qualitative research are new findings that have never existed before.

### **3 Results**

Interviews were conducted with the Tasikmalaya District Agriculture Service and youth implementing the millennial farmer program. This activity, which was initiated by the Province, was then implemented throughout the Tasikmalaya Regency area. Millennial farmer activities are a West Java Province program involving various SKPDs through the following programs:

- a. Implementation of this program is in collaboration with the Department to develop sustainable agriculture based on social, economic and ecological aspects.
- b. Efforts to develop smart agriculture starting from production to marketing
- c. Development of agricultural corporations
- d. Formation of millennial farmers
- e. Optimization of idle land for agricultural, plantation and livestock activities.

**Graph 1.5**  
**Levels in the Millennial Farmer Program**



**Table 1.1**  
**Strategic targets in efforts to solve HR problems for Millennial Farmers**

Problems	Problem Details	Solution/Follow-Up Plan
HR (millennial farmers)	<ol style="list-style-type: none"> <li>1. Low commitment/motivation (especially those who are just starting out, don't have any activities yet)</li> <li>2. Not focused</li> <li>3. Inconsistent</li> <li>4. Low technical and entrepreneurial competency</li> </ol>	<ol style="list-style-type: none"> <li>1. Change in mindset</li> <li>2. Providing motivation</li> <li>3. Training/technical guidance for technical competency/WUB</li> <li>4. Join/become a member of a farming group</li> </ol>

Capital	<ol style="list-style-type: none"> <li>1. Low/no business capital</li> <li>2. Do not understand the procedures for accessing capital/KUR</li> <li>3. KUR requirements (did not pass BI checking)</li> </ol>	<ol style="list-style-type: none"> <li>1. Technical Guidance for independent capital growth of farmer groups</li> <li>2. Technical guidance on access to capital</li> <li>3. Other sources of capital</li> <li>4. The results of the 2022 Millennial farmer data collection, there are 34 millennial farmer people who need capital (KUR), it has been coordinated and processed by BJB, 6 people have received KUR (ceiling 30 million – 472 million)</li> </ol>
Land	<ol style="list-style-type: none"> <li>1. There are smallholders who do not own land</li> <li>2. Plantation commodities -&gt; annual crops -&gt; which are possible according to the planting cycle: citronella, tobacco, vanilla</li> </ol>	Utilization of government/Dinas/BUMN/BUMD-owned land for certain commodities (short planting cycle) due to government land use regulations/schemes
Market	Complicated and unaffordable marketing	Use of technology and digital communication facilities.
Capital	<ol style="list-style-type: none"> <li>1. It is difficult to get access to capital and cooperation.</li> <li>2. Lack of consistent offtakers</li> </ol>	<ol style="list-style-type: none"> <li>1. Provide easy access to capital.</li> <li>2. Open partnerships with offtakers.</li> </ol>

Source: Processed in various sources, 2023.

The millennial farmer program at the Regency/City level is implemented by the Millennial Farmer Program Implementation Team. Duties and responsibilities at the district/city level are as follows:



1. Carry out socialization of the millennial farmer program.
2. Identify Millennial Farmer business start-ups based.
3. Collect data on land that is ready to be cultivated by millennial farmers, including provincial land, district/city land, village land, forestry land, PTPN VIII land, ATR/BPN land and privately owned land that is ready to be used within the framework of cooperation .
4. Carry out selection/recruitment of prospective Millennial Farmer Program Participants.
5. Facilitate the main facilities and infrastructure for farming, the type and volume of which are adjusted to budget availability and local regional development plans.
6. Carry out an inventory of market opportunities and off takers to ensure smooth marketing of products cultivated by Millennial Farmers assisted by marketing support implementers.
7. Carry out business start-up process assistance to participants, according to their respective business start-up proposals.
8. Carry out development and strengthening of farming business institutions.
9. Carry out marketing assistance for agricultural products produced by participants assisted by Supporting Implementers in the field of marketing.
10. Coordinate with the main implementers in the Province regarding the implementation of the millennial farmer program.

Supporting implementation is carried out by the Tasikmalaya Regency Government through several stages, including:

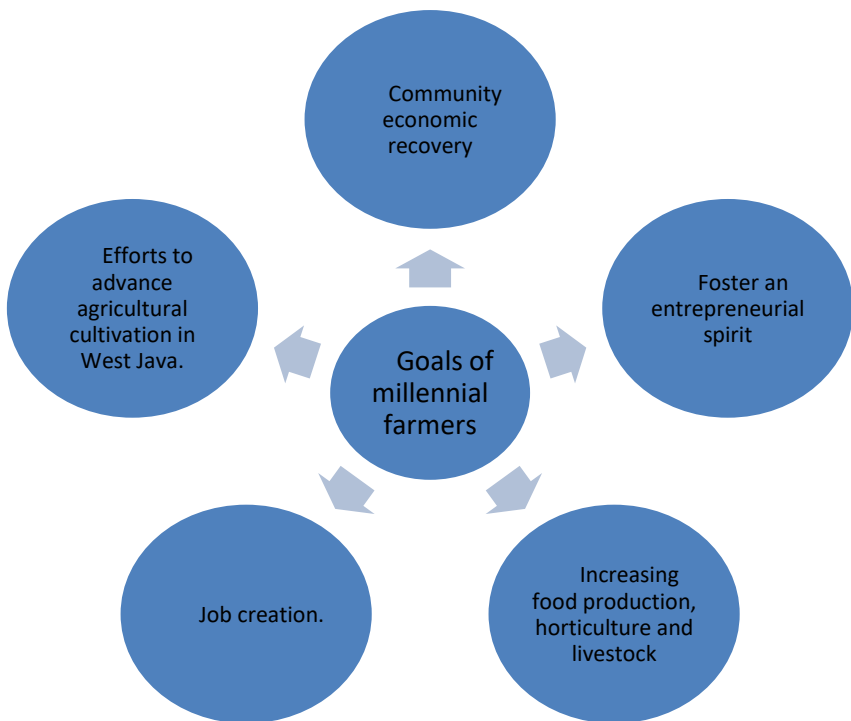
1. Planning the use of Regional Property including mapping, inventory, feasibility, determining objects and time periods that can be utilized in the Millennial Farmer Program.
2. Carry out marketing planning for Millennial Farmer Program products together with supporting implementers at the provincial level.
3. Carry out assistance for farmer business/corporate partnerships through BUMDES, cooperatives and other institutions together with supporting implementers at the provincial level.
4. Help facilitate Millennial Farmers' farming land together with the main implementers at the district/city level.
5. Facilitate supporting facilities and infrastructure for farming whose type and volume are adjusted to budget availability and local regional development plans.
6. Assist the Main Implementers at the provincial and district/city levels in the smooth implementation of the Millennial Farmer Program in the West Java Province area.

## 4 Discussion

### Millennial Farmer Program in Tasikmalaya Regency

This research focuses on looking at the development of human resources among millennial farmers in increasing local economic development in the village. One of the provinces that has created a millennial farmer program is West Java Province. This article focuses on analyzing millennial farmers in one of the districts in West Java, namely Tasikmalaya District. The Millennial Farmer Program is an initiative aimed at fostering the entrepreneurial development of young individuals in the agricultural sector. This program encompasses various areas such as agriculture, animal husbandry, fisheries, plantations, and forestry. Additionally, it involves the collaboration of corporations and other stakeholders to establish an autonomous, innovative, and environmentally conscious agricultural ecosystem. The objectives pursued by contemporary farmers belonging to the millennial generation are as follows:

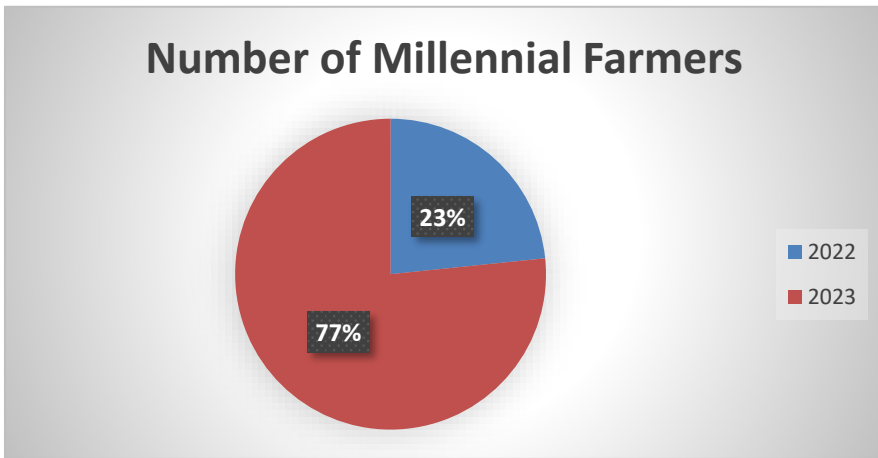
**Figure 1.1**  
**Goals of Millennial Farmers in West Java.**

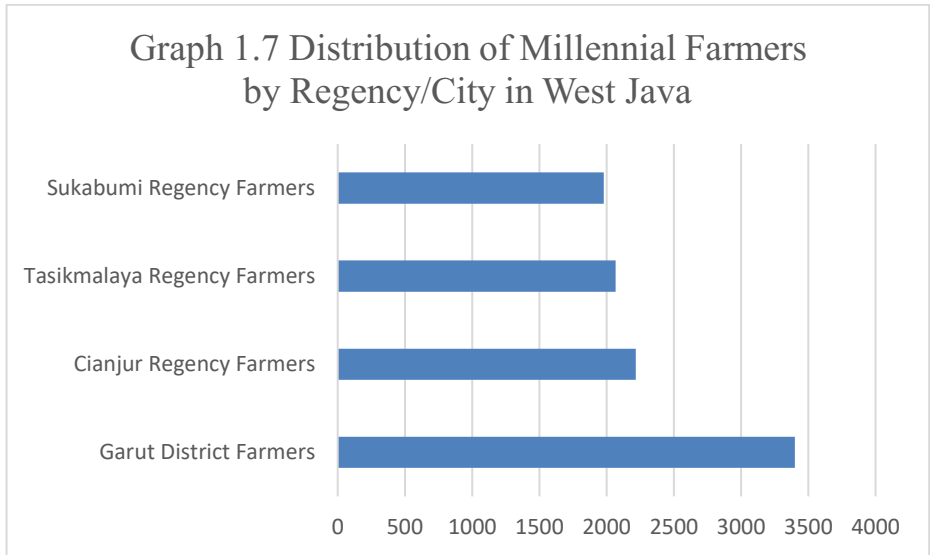


**Source: Processed from various sources, 2023.**

Based on the following data, there has been an increase in the number of millennial farmer participation. In 2022 there will be 1249 participants and will increase in 2023 to 4095 participants. Throughout the course of the Millennial Farmer Program, more than 8,000 Millennial Farmer participants have been recorded, carrying out farmer empowerment activities, such as: training, apprenticeships, marketing, etc. This millennial farmer activity accommodates several available facilities, including: training, apprenticeship, providing market access, technology access, institutional access, access to production/post-production facilities and infrastructure, insurance, land access, and business and product certification/legality.

**Graph 1.6**  
**Number of millennial farmers in West Java**





**Source: Tasikmalaya Government**

Based on the graph above, it shows that Tasikmalaya is one of the districts that has quite a lot of millennial farmer participation compared to other districts/cities. Therefore, the research focused on developing human resources for millennial farmers in Tasikmalaya Regency. In connection with the above, the West Java Provincial Government has issued West Java Governor Regulation Number: 25 of 2021 concerning Human Resource Development for Agriculture, Fisheries and Forestry through the Millennial Farmer Program in the West Java Province Region as the basis for Millennial Farmer Program activities in West Java Province, and has the Governor of West Java Decree Number: 520.05/Kep.219-Rek/2021 concerning the Millennial Farmer Program Implementation Team in the West Java Province Region as the basis for implementing Millennial Farmer Program activities in the West Java Province Region. And it has been refined with the Governor of West Java Regulation Number: 9 of 2022 concerning Amendments to the Regulation of the Governor of West Java Number: 25 of 2021 concerning Human Resource Development for Agriculture, Fisheries and Forestry through the Millennial Farmer Program in the West Java Province Region and the Decree of the Governor of West Java Number: 520.05/Kep.108-Rek/2022 concerning Amendments to the Decree of the Governor of West Java Number: 520.05/Kep.219-Rek/2021 concerning the Millennial Farmer Program Implementation Team in the West Java Province Region.

Millennial young people's interest in becoming farmers is very low. This was triggered by the poor income of farmers. Most of the farming profession is dominated by groups of farmers with low incomes [18], [19]. In addition to technology and natural resources, human capital is crucial to the success of agricultural development projects [10]. Agricultural technology can be broadly categorized into two primary

classifications, namely embodied-knowledge and information-intensive. Embodied knowledge technologies, like automatic section control, automated guidance, and light bar systems, exhibit a diminished requirement for considerable training in order to proficiently employ the technology and derive advantages from its implementation. On the other hand, technologies that heavily rely on information, such as yield monitors, precision soil sampling, and variable rate technology, provide localized data and require farmers to gain additional skills or training in order to efficiently utilize the provided data [20]. Therefore, as a response to this phenomenon in various discourses about the endless discussion of millennial farmers, it is important to emphasize agricultural competence (technical competence, managerial competence, and social competence), to understand technological literacy and financial literacy, and to express and apply these ideas to young farmers, especially novice farmers with aspirations of success. The success of an agricultural enterprise must be measured against the backdrop of its traditional nature [21].

One approach to achieve economic development is through the optimisation of high-quality products or leading commodities. Furthermore, there remains a deficiency in the availability of sufficient human resources (HR) for effectively managing the economic circulation within a given region. The empowerment of the community in economic circulation has not been able to fully fulfil its intended purposes in only one of the areas that are currently operational. Additionally, there is a lack of public awareness in the development of other business sectors. In the context of contemporary modernization, it becomes imperative to devise a strategic approach that facilitates regional autonomy and addresses challenges and impediments to implementation. This can be achieved through innovative measures aimed at enhancing the well-being and economic prosperity of the community. Such innovations should be rooted in the utilisation of local economic resources and the promotion of economic circulation [22].

**Table 1.2**  
**Characteristics of elderly and millennial farmers**

No	Elderly farmers	Millennial farmers
1	Low educational level	Better level of educational inclination.
2	Insufficient understanding of new knowledge and new technology	Respond to the use of technology and information.
3	Strong social capital within group	Wider social network to develop his farm.
4	Low level of technology implementation	Actively participate in training
5	Lack of capital	High social capital
6	Low level of learning capacity	Better learner
7	Managing farming in traditional way (low productivity and yield)	High motivation to improve their abilities in terms of business development.
8	level of land mobility	More interested in joining farmer groups
9	Limited uptake of financial incentives and abilities	Wider access of information related to farming and finance

**Source:** [8].

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. Millennial farmer strategies in agricultural and economic development in rural areas include [23]:

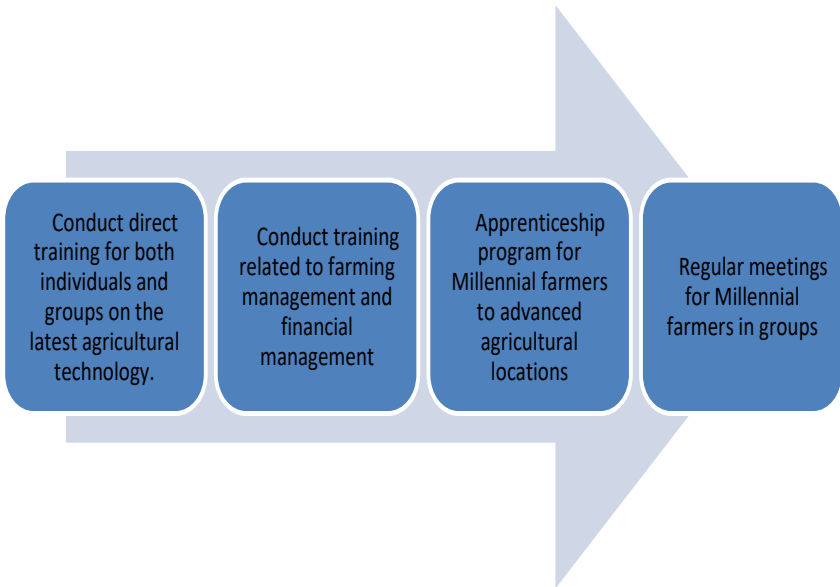
- a. As part of the programme to better farmer human resources, especially for millennial farmers, provide online-based marketing and information system training.
- b. A programme of vocational training in agriculture is established to entice young people to work in the sector. So that young people, with the support of this programme, may learn from experts and establish themselves as agricultural entrepreneurs.
- c. Educating farmers in rural areas and young people about the benefits of modern agricultural technologies. To help young people in rural regions compete on a global scale, it is important to provide them with access to innovative counselling programmes backed by seasoned mentors in the field of psychology. A secondary goal of this guidance is to instill in young people a love of learning, a strong work ethic, and a feeling of pride in the agricultural profession so that they may go out into the world and succeed

The global economy is changing quickly and becoming more digital. As a result, the agricultural sector is hit. To make this happen, we need effective internet infrastructure. Technology also has an effect on agriculture because it can mix different kinds of data from different sources to make things more productive and efficient [24]–[26].

### **Human Resource Development Strategy for Millennial Farmers**

Based on research results, the millennial farmer program must be carried out by Tasikmalaya Regency through main and supporting programs. There are 4 main focuses that have been carried out by the Tasikmalaya Regency Government.

**Graph 1.8**  
**development of millennial farmer resources**



Source: FGD results, 2023

The financing mechanism for the millennial farmer program must meet the criteria, including that Millennial farmers can access capital from banks through People's Business credit or other comparable types of credit in accordance with bank regulations. Apart from that, the requirements for Millennial Farmers to obtain financing are as follows: a. Minimum age 21 years or 18 years for those who are married and maximum 39 years when applying for credit. b. Prospective debtors/millennial farmers and their partners when applying for credit and disbursement of KUR.

In answering the problem of implementing the millennial farmer program, it is carried out based on training on the Introduction to the Millennial Farmer Program, Entrepreneurship, Cultivation, Post-Harvest and Processing Training for CPM, Instructors come from Practitioners, Academics, Off Takers, Extension Workers and Widyaiswara, Training is carried out at accredited Training Institutions and The training budget comes from the APBD/Off Taker or other parties.

Based on the theory of human resource development, it consists of [15] Learning is a process where each person develops and acquires abilities, behavior, knowledge, attitudes and skills. This is based on the categorization of millennial farmers which has been created with certain standards so that the knowledge provided is in line with the goals/targets. Second, Development, namely the realization or growth of a person's potential and abilities by providing educational and learning experiences.

This can be seen from the tiered training starting from seed management, harvesting to marketing. Third, Training, namely the systematic application of formal processes in helping people and imparting knowledge to obtain the skills needed so that the work carried out can run smoothly. Training activities not only involve the district government but also involve the West Java Provincial government. Based on interviews with various millennial farmers, it was explained that the training process prioritizes the use of technology in developing agricultural businesses. Fourth, education, namely the values, understanding and development of knowledge needed in all aspects of life compared to skills and knowledge related to several areas of certain activities. Millennial farmers are given program targets and harvest results through a collaborative process with the government and other parties.

### **Contribution of Millennial Farmers to the Local Village Economy**

After having sufficient knowledge and adequate capital, the next challenge for farmers is to safely sell the products they produce at a reasonable price. Feasible means farmers still have a margin from each production. Sometimes offtakers burden farmers by requiring them to buy seeds or fertilizer and feed from them. After harvest, unscrupulous offtakers buy farmers' products at low prices. This problem has been more or less resolved by the West Java Provincial Government. Namely by opening partnerships with offtakers who need supplies of a number of commodities that cannot be met in the field. The millennial farmer program is an inseparable part of efforts to regenerate farmers and foster an entrepreneurial spirit among the younger generation with the tag line "Living in a Village of Fortune, a Global Business City".

## **5 Conclusion**

The Millennial Farmer Program is an initiative aimed at fostering the entrepreneurial development of young individuals engaged in various sectors of agriculture, including agriculture, animal husbandry, fisheries, plantations, and forestry. The program also seeks to involve corporations and other stakeholders in order to establish an autonomous, technologically advanced, and environmentally sustainable agricultural ecosystem. The implementation of the millennial farmer program encompasses several dimensions of learning, growth, training, and education. This program introduces the Millennial Farmer Program, which includes instruction in entrepreneurship, cultivation techniques, post-harvest practices, and processing methods for Crop Production Management (CPM). Instructors are sourced from various professional backgrounds, including practitioners, academics, off takers, extension officers, and widyaiswara. The training sessions are conducted in a training institution that holds accreditation. The funding for the training program is derived from the APBD/Off Taker or other relevant entities. The utilization of these resources has a significant impact on the local economy of the community, particularly within the agricultural domain.



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