

Millennial Farmer Strategies in Horticultural Entrepreneurship

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Abstract.

Indonesia has abundant agricultural resources and great potential in agricultural development. The existence of these agricultural resources has not been matched by the low regeneration of millennial farmers. The Ministry of Agriculture of the Republic of Indonesia through the Agriculture and Food Security Service of Gunungkidul Regency projects a Horticulture Village program to be implemented in Karangrejek Village, Kapanewon Wonosari. This program encourages millennial farmers who have their own innovations and strategies in agricultural development, especially in running farming in the horticulture sector. This paper aims to find out the strategies and innovations carried out by millennial farmers in running farming in the horticulture sector. The millennial farmer strategy is carried out when cultivating and marketing horticultural products, especially shallots and chilies. The strategies carried out in the cultivation aspect are: planting with the intercropping method, off season farming, selection of superior seeds, use of biological control agents, and use of high beds. On the marketing aspect of the results: digital media marketing, post-harvest packaging. The characteristics of millennial farmers in dealing with entrepreneurial problems are: never give up, keep trying, innovate and stay afloat in horticultural farming.

Keywords: Millennial farmer, horticulture, and agricultural entrepreneur.

I. INTRODUCTION

Indonesia as an agricultural country has abundant agricultural resource potential. Agricultural resources have an important role in national development, especially agricultural development. The problem of regenerating agricultural human resources is a big problem because the interest of the younger generation to become farmers continues to decline over time. The Special Region of Yogyakarta has quite a large productivity of horticultural commodities, but the number of farmers under 44 years of age is only 19.8%. Meanwhile, farmers aged between 45-65 years are 80.2% [1]. In its future development, the agricultural sector in the Special Region of Yogyakarta must be supported by the quality and quantity of young farmers who are more skilled in terms of knowledge and abilities. This is because the development of the regeneration of agricultural human resources is an important factor in the process of accelerating development [2].

Gunungkidul Regency is one of the districts that relies on the agricultural sector as the main contributor to the gross regional domestic product (GDP) [3]. Gunungkidul has a fairly high production of horticultural commodities. In 2021 production can reach 32,861 quintals [4]. The main products are shallots and chili peppers. In supporting sustainable development for this superior commodity, the government provides facilitation to villages in the context of developing Horticulture Villages. One of the villages that is the target or recipient of this program is Karangrejek Village. Karangrejek Village is one of the villages in Kapanewon Wonosari, Gunungkidul Regency. The existence of the Horticulture Village program is fully supported by the village government and also the farmers in Karangrejek. This support encourages millennial farmers who have their own innovations and strategies in agricultural development, especially in running farming in the horticulture sector. This paper aims to find out the strategies and innovations carried out by millennial farmers in running farming in the field of horticulture and their efforts in facing entrepreneurial challenges, especially the cultivation of shallots and chilies in Karangrejek Village, Kapanewon Wonosari, Gunungkidul Regency.

II. METHODS

This research is a qualitative research conducted descriptively to obtain information and find out the strategies and innovations carried out by millennial farmers to run farming in the field of horticulture in

Gunungkidul Regency, Yogyakarta Special Province. The research was conducted in November-December 2022. The data collected in the field was in the form of primary data and secondary data. Primary data obtained from the results of interviews, observation and documentation forum group discussion.

Respondents who were interviewed were *Ulu-ulu* Village of Karangrejek, Field Agricultural Extension of Karangrejek Village, Coordinator of BPP Wonosari, Head of Hamlet of Blimbing Hamlet, and 20 representatives of horticultural farmers. While secondary data was obtained from the existence of Karangrejek Village documents in the form of village profiles, agricultural land area, superior commodities, farmer data, agricultural conditions in the village area, and climate conditions in the region. The data collected is processed through data analysis by systematically arranged using several steps. Qualitative data processing is carried out through three steps, namely data reduction or categorization, appearance or display data, and verification or drawing conclusions.

III. RESULT AND DISCUSSION

The problem of farmer regeneration is one of the obstacles in realizing sustainable agricultural development. Continued changes in land use have reduced the number of young people interested in becoming farmers [5]. The reduction in agricultural land is due to land conversion for housing and industrial needs. The Ministry of Agriculture also continues to work on rolling out regeneration programs to accelerate farmer regeneration [6]. One of them is attention to millennial farmers. Millennial farmers are young people aged 17-39 years. Millennial farmers have a millennial spirit and are adaptive to digital technology so that they have the potential to accelerate the dissemination of technology to support increased agricultural productivity [7]. Millennial farmers are the main actors in the agricultural sector who are able to actively and creatively establish, manage, develop and institutionalize their farming businesses independently. The government through the Department of Agriculture of the Special Region of Yogyakarta continues to strive to increase the capacity of farmers and develop horticulture centers as one of the leading commodities of the Special Region of Yogyakarta [8]. One of the programs that support the development of horticultural commodity centers is the existence of Horticulture Villages in several areas in the Special Region of Yogyakarta. Karangrejek Urban Village has a population of 6,299 with 895 Farmers' households. If you describe the population according to age, it can be seen in the following table.

Table 1. Number of Residents of Karangrejek Village According to Age

No	Description Age Group (years)	Total (people)
1.	0-5	255
2.	5-9	216
3.	10-15	1098
4.	16-59	2496
5.	>60	2234
Total		6.299

Source: [9]

The table shows that 65.91% of the population in the Karangrejek Village area are of productive age, namely at the age of 16-59 years and 23.3% are under 15 years old and 2.5% are 5 years old. This means that the human resources in the Karangrejek Urban Village who are of productive age are relatively large and can support the professional potential of young farmers. However, in reality only 8% of the total number of 33.4 million farmers in Indonesia are millennial farmers. The remaining more than 90% include colonial farmers or elderly farmers. Karangrejek Village is an area that has great potential in the field of horticulture, but its development has not been optimal. Young people are more likely to choose to look for work outside the city with the intention of changing their lives for the better. In this village being a farmer is a hereditary profession from his parents. Most of the youth who farm come from farming families. In terms of mentality and entrepreneurial courage, they still tend to follow traditional methods such as their parents' farming [10]. According to the Head of the Blimbing Padukuhan Karangrejek Village, Supriyanto, the mentality and thinking of youth needs to be changed so that they dare to do business. These millennial farmers in the Karangrejek Village are very lucky because they were raised in a social environment that supports their farming business. The agricultural environment shapes them to be responsible, work strategy, independence,

initiative, problem solving and connection environment from parents [10]. Parents have an important role in building the character and mentality of millennial farmers as young entrepreneurs in the field of horticulture.

Apart from the support from the family, the current Gunung Kidul Regency government. The Gunung Kidul Regency Government always encourages and supports Karangrejek youth so that youth are active in the world of agriculture. So the government designed the Karangrejek program to become a horticultural village. Assistance for agricultural production infrastructure was also provided for the Karangrejek Urban Village. The assistance provided was in the form of seeds, fertilizers, educational training on shallot seed cultivation to agricultural tools and machinery. Farmer groups are also very supportive and embrace young farmers so they want to become entrepreneurs in horticulture farming. Farmer groups provide opportunities for millennial farmers to participate in horticultural farming program activities such as training, comparative studies, routine group meetings on horticultural cultivation techniques. With this, the group hopes to increase the capacity of millennial farmers and be able to keep up with the times in horticultural farming entrepreneurship. The development of horticultural agriculture in the Karangrejek Village is not far from the problems that are the challenges of millennial farmers. The main problems faced by Karangrejek millennial farmers are (1) the existence of plant pests that cannot be controlled optimally, (2) the high price of agricultural inputs, (3) uncertain natural weather, and (4) not all millennial farmers have the ability the same cultivation. In dealing with this problem, a strategy is needed in running horticultural farming.

Initially, young farmers still followed the cultivation methods of their parents, but as cultivation technical experience increased, many of the millennial farmers adopted innovative cultivation strategies. Using superior shallot seeds or seedlings, farmers use intercropping cropping patterns. The intercropping or rotational intercropping pattern is the planting of several types of plants on one agricultural land with the same or different planting times [11]. This strategy is carried out in achieving maximum horticultural farming. Planting with this method is done by first planting shallots through tubers and at the age of 15-20 days chili seeds are planted as intercrops. This intercropping system is generally more profitable than monoculture systems because land productivity is higher, the commodities planted can be varied, saving the use of production inputs and the risk of failure can be minimized [12]. In addition to intercropping technology, millennial farmers are used to cultivating off season farming red onion. This technology is carried out during the rainy season to obtain the maximum selling price when marketed. Another cultivation technology used by millennial farmers in cultivation is when cultivating land and caring for plants. Many of the millennial farmers make beds with different heights from the technical techniques for planting shallots in general. The technique of raising the beds is one of the millennial farmer strategies to anticipate wilt *fusarium* as a result of being submerged in water. Onion plant care does not only use chemical methods. Many of the millennial farmers have independently controlled plant-disturbing organisms using biological control agents. Several biological agents that have been frequently reproduced by millennial farmers such as *Trichoderma sp*, *Beauveria sp*, and red bacteria. In plant care, millennial farmers also use a semi-modern system by not directly abandoning the traditional system but prioritizing existing modern agricultural technology.

In the field of marketing, farmers have their own strategy for marketing their crops. Apart from following market demand, millennial farmers also expand their marketing through social media. Utilization of digital media as a marketing expansion that makes farmer groups optimistic and prioritizes young millennial farmers in Karangrejek. The community is happy if the number of millennial farmers increases in Karangrejek because young people become independent from their parents, reduce negative things in bad associations and have a positive impact on the environment and groups. Other innovations carried out by farmers emerged from community institutions such as BUMDES (Village Owned Enterprises) Karangrejek which invested in human resources in millennial farmers. This investment includes education and training to increase the capacity of horticultural farmers [13]. This farming strategy carried out by millennial farmers has brought significant results to the income of millennial farmers. The existence of full support for existing cultivation technology innovations makes millennial farmers more confident and forms their character as a farmer. Even though agriculture is not their main source of income, agriculture has a big contribution in

shaping the character of farmers as millennials who have high innovation in agriculture. It is the character embedded in the souls of these millennial farmers that makes them survive in horticultural farming. The challenges and all the obstacles that exist have motivated the enthusiasm of millennial farmers to continue to innovate in the cultivation of horticultural crops, especially shallots and chilies [14].

The character and motivation of millennial farmers in the Karangrejek Village are one of the factors they can produce quite large horticultural production. According to Ardiansyah, as a millennial farmer from the Karangrejek Urban Village, the shallots he cultivates can reach 21 tons per hectare with a selling price of Rp. 16,000.00-Rp. 20,000.00 per kilogram. The selling price of shallots may vary depending on the season and shallot market conditions. The large demand for shallots both from within and outside the region is one of the factors in increasing shallot marketing innovation. This innovation is carried out with good post-harvest handling and attracts buyers. Post-harvest handling is carried out by packing the harvest as attractively as possible to increase the selling value of shallots. The results of the packaging can be directly marketed to traders or sold through social media. Millennial farmers use social media to attract interest in the digital market. The increase in the production and marketing of horticultural commodities is then able to increase the interest of other youth to switch to the world of horticultural agriculture [15]. The strategy proposed by millennial farmers in agricultural entrepreneurship can be simplified in the following chart:

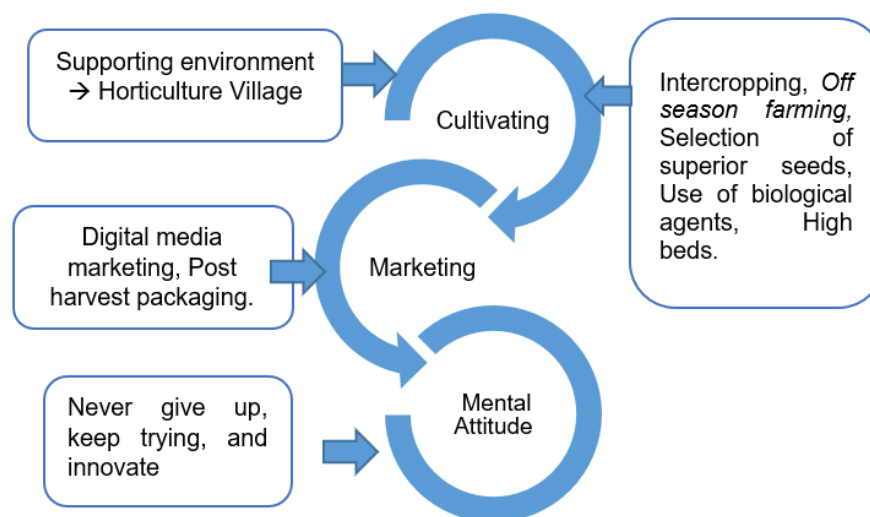


Fig 1. The Concept of Millennial Farmer Strategies in Horticultural Entrepreneurship

IV. CONCLUSION

From the results and discussion that have been explained, it can be concluded that the millennial farmer strategy in horticultural farming in the Karangrejek Village, Kapanewon Wonosari, Gunungkidul Regency, which has been carried out includes the use of the intercropping planting method, off season farming, use of superior seeds, use of biological control agents, use of high beds, marketing with digital media, and post-harvest packaging. The existence of this strategy arose because it was found that there were obstacles to farming. In addition to supporting this farming strategy, there are farmer groups and the environment that supports farming. Support from farmer groups and the environment is provided through strengthening the character of millennial farmers and providing agricultural facilities. So that the farming of millennial farmers for horticultural commodities can run optimally and be successful.

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