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Young Farmers' Entrepreneurship during the Covid-19 Pandemic

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ABSTRACT

Most entrepreneurs have witnessed their businesses fail during the Covid-19 pandemic, and young farmers are no exception. This study revealed the challenges encountered by young farmers during the pandemic and their efforts to address them. Production, capital, marketing, and their effects on income have emerged as significant challenges for them. The participants were young farmers who received business capital through the Young Agricultural Entrepreneurial Development Program (*Penumbuhan Wirausaha Muda Pertanian* or PWMP). The data were gathered by census method, and 71 young farmers completed and returned the questionnaire via electronic forms. Data were analyzed using a quantitative description. The results unveiled that young farmers encountered production, capital, and marketing issues. Young farmers combated production problems by improving creativity, cooperation, and management. Forming partnerships, developing innovative products, and seeking bank loans were all viable options for addressing the capital shortage. Additionally, marketing concerns were addressed through online marketing, building partnerships, and expanding networks. Besides capital, young farmers required opportunities, mentors, and a supportive environment to succeed as entrepreneurs. The government should establish policies supporting the efforts of young farmers during the pandemic. Moreover, young farmers necessitated training and infrastructure assistance in online marketing.

Keywords: Agricultural entrepreneurship; Covid-19; Young farmers

INTRODUCTION

Farmer regeneration is crucial in agricultural development. The sustainability of agricultural development requires a successor, specifically the younger generation. Ironically, the youth is not interested in becoming farmers. Various studies have demonstrated that almost all countries experience farmer regeneration. The same study was conducted in various countries on several continents, such as Europe (Zagata & Sutherland, 2015), Asia (Susilowati, 2016), and Africa (Food and Agriculture Organization [FAO], 2014). Data depicted that only 8.78% of farmers were under 35 years of age (BPS-Statistics Indonesia, 2018). This small percentage is due to the shift in youth's interest in non-agricultural work. The low motivation, the youth's disinterest in becoming farmers (Nurlaela, 2021), and the identity crisis of young

farmers (Widiyanti, Karsidi, Wijaya, & Utari, 2020) are problems encountered by young farmers in Indonesia. Since the regeneration crisis continues, it obviously hamper agricultural development.

One of the farmer regeneration programs launched by the Indonesian Government through the Ministry of Agriculture is the Young Agricultural Entrepreneurial Development Program (*Penumbuhan Wirausaha Muda Pertanian* or PWMP). This program provides business capital to students and alums of agricultural colleges in Indonesia. This step was taken to educate young entrepreneurs to support agriculture regeneration. This farmer regeneration program is considered effective in creating educated young farmers who will continue agricultural activities in Indonesia. In addition, this program can improve students' entrepreneurial attitudes, as Yunandar, Hariadi, & Raya (2019) researched. Similar programs aimed at motivating the youth to become farmers were also carried out in various countries on several continents, such as Africa (Agumagu, Ifeanyi-obi, & Agu, 2018), America, and Europe (Balezentis et al., 2020; May, Arancibia, Behrendt, & Adams, 2019; Zagata & Sutherland, 2015). The farmer regeneration program aims to motivate educated youth to farm modernly and possess an entrepreneurial spirit. The entrepreneurial spirit in young farmers includes being active and creative in discovering market opportunities, as described in a study by Milone & Ventura (2019) . The government emphasizes farmer regeneration programs for educated youth to enhance agriculture from traditional to modern. These young farmers are expected to develop their businesses with advanced farming management, adopt technology, and discover the right market and network. After completing their studies, these educated young farmers obtained business capital. The provision of capital was carried out in 2019. Unfortunately, the Covid-19 pandemic has hit Indonesia and the world, impacting various sectors, especially agriculture. Accordingly, educated young farmers starting entrepreneurship have experienced significant impacts as they have not learned how to anticipate and face uncertainty amid the pandemic. Although the government has made various efforts to restore the economy, the impacts of Covid-19 on farmers remain. Attempts by the government to maintain domestic economic conditions include a variety of initiatives such as business incentives, direct cash assistance, and wage assistance. However, various social assistance has not been able to boost people's purchasing power. Moreover, economic recovery takes a long time (Kithiia, Wanyonyi, Maina, Jefwa, & Gamoyo, 2020). Therefore, these young farmers have to endure uncertain conditions.

The social restriction policy can reduce the spread of the pandemic; unfortunately, various social impacts occur due to this policy implementation (Gandasari & Dwidienawati, 2020). Farmers cannot obtain production materials and normally transport their agricultural products to the city. The agricultural supply chain cannot normally run, resulting in much crop accumulation in one area and scarcity in other areas, as studied by Lopez-Ridaura et al., (2021). Social restrictions have made it difficult for farmers to obtain raw materials, carry out marketing, and develop their businesses. Inevitably, social restrictions have led to the accumulation of labor in an area, and shortages in that area, in turn, have reduced the food supply and decreased agricultural output (Kumar et al., 2021). Other global impacts include

boosting international trade rates, declining social conflicts, and high food prices in cities (Iese et al., 2021; Lin & Zhang, 2020).

Several issues have confronted young farmers during the pandemic, encompassing production, capital, and marketing (Chitrakar, Zhang, & Bhandari, 2021; Siche, 2020). The inability to afford necessary inputs like seeds, fertilizers, and agricultural facilities has caused production issues. Rising production costs have made it challenging to find labor due to mobility restrictions. Meanwhile, it is tough to make money in the capital; therefore, money gets spent there. Marketing is the main issue. Farmers are unable to distribute their agricultural products to other areas due to social restrictions. In addition, sales are also considerably decrease due to people cannot afford to purchase. This Covid-19 has rendered them particularly sensitive (Ilesanmi, Ilesanmi, & Afolabi, 2021; Workie, Mackolil, Nyika, & Ramadas, 2020). Food availability is likely to be affected if the pandemic persists. Various entrepreneurial issues, such as production, capital, and marketing, affect income.

Various efforts have been made to keep entrepreneurship going during the Covid-19 pandemic. Some young farmers cut back on production, suspend labor, and even close business. Those who survive have an unyielding spirit and keep to look for new opportunities during this pandemic. Hence, they should hone their entrepreneurial skills by developing creativity and actively seeking opportunities in this challenging time.

Entrepreneurial farmers have different characteristics from traditional farmers. They are business-minded and rapidly expanding (Lans, Seuneke, & Klerkx, 2017). Their business activities are always oriented toward networking and building cooperation (Dias & Franco, 2018), constantly innovating, improving competence, and fostering a performance culture (Kamuri, 2021). Young farmers must have creativity and innovation, mainly to keep their businesses running amid this pandemic. However, due to social restrictions, they encounter constraints such as a lack of production materials, capital, labor, and marketing. They have led to a significant decline in turnover. The impacts of Covid-19 pose a high risk to food security due to decreased purchasing power and food supply chains that cannot normally run (Rozaki, 2020).

Utilizing information technology creatively has become one solution to overcome marketing difficulties, especially during this pandemic (Galanakis, Rizou, Aldawoud, Ucak, & Rowan, 2021; Klerkx, Jakku, & Labarthe, 2019). Creative youth can take advantage of opportunities during this pandemic to become entrepreneurs. They can apply digital systems and offer services that ease people to attain social services (Scheidgen, Gümüsay, Günzel-Jensen, Krlev, & Wolf, 2021). A similar model allows young farmers to collaborate with marketing application platforms to market their products. Research demonstrates that marketing opportunities through online applications can be the choice of small and medium entrepreneurs to stay in their business (Lopez-Ridaura et al., 2021). Another effort that food entrepreneurs can make is to utilize technology in food processing and build a business chain to run during the Covid-19 period (Chitrakar et al., 2021; Scheidgen et al., 2021). Thus, the answer to conquering marketing difficulties, especially during this pandemic, is to be creative in employing information technology (Galanakis et al., 2021; Klerkx et al., 2019).

Young farmers constantly demonstrate creativity, form cooperative networks, and take steps to save their businesses. On the other hand, many creative ideas exist for online sales, e-commerce, and strengthening the local supply chain that can be employed to deal with mobility difficulties (Weersink et al., 2021). Young farmers must be active and creative in research (Agwu, Agodi, Onwukwe, & Iroh, 2015), especially amid this pandemic. They look for loans in banks providing credit relaxation and information technology to solve entrepreneurial challenges. However, the difficulty of marketing, distribution, and obtaining raw materials must be resolved to continue producing.

This study seeks to reveal the entrepreneurial challenges of young farmers and their efforts in dealing with those challenges during this Covid-19 pandemic. This research is expected to discover entrepreneurship issues and young farmers' efforts to survive in business during this pandemic. The expected novelty is the suitable approach model in entrepreneurship during the pandemic to become successful young farmers. The farmer regeneration program can produce modern young farmers with an entrepreneurial spirit.

RESEARCH METHOD

This research utilized a quantitative approach. A questionnaire was distributed through electronic form to 90 participants who received capital assistance from the Agricultural Young Entrepreneurial Development Program of the Yogyakarta-Magelang Agricultural Development Polytechnic. Out of 90 participants, 71 completed and returned the questionnaire. This research was conducted from February to June 2021 in many provinces in Indonesia, where the participants run their businesses in rural areas, as described in Table 1. This study applied a census model allowing all participants to have the same opportunity to fill out the electronic form. A closed and open questionnaire was employed to collect data. Data analysis was run by quantitative description. The business problems of educated young farmers comprised capital, production, and marketing measured by a Likert scale. Entrepreneurial problems were determined with open questions and analyzed by descriptive analysis. The variables utilized a 5-score rating scale encompassing (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. Age was measured by years. Moreover, percentages and average scores were deployed to analyze the personal characteristics of educated young farmers.

RESULTS AND DISCUSSION

Demographic of Young Farmers

Most young farmers were alums of the Agricultural Development Polytechnic. They received capital from the Ministry of Agriculture in 2019 through the Young Agricultural Entrepreneurial Development Program. After graduating from Agricultural Development Polytechnic, they returned to their hometown and established businesses together with alums from the same area. These alums were asked to involve local village youth in joining business

groups. This program has become one of the government's efforts to produce young farmers to overcome farmer regeneration. Table 1 displays the demographic of young farmers.

TABLE 1. DEMOGRAPHIC OF YOUNG FARMERS

Variable	Number of farmers	Percentage (n=71)
Gender		
Male	40	577
Female	31	42.3
Age (year)		
20-25	62	87.3
>25-35	9	12.7
Education		
Senior High School	6	8.5
University (Higher Education)	65	91.5
Parents' occupation		
Farmer	31	43.6
Entrepreneur	19	26.7
Civil servant	10	14
Private employee	6	8.4
Labor	5	7.3
Residence		
Yogyakarta	9	12.7
Central Java	43	60.5
East Java	2	2.8
West Java	2	2.8
Jakarta	2	2.8
Kalimantan	12	17
Maluku	1	1.4
Types of business		
Cultivation in horticulture (vegetables: spinach, kale, and eggplant)	36	50.7
Cultivation and marketing (rice, cassava chips, eggplant)	5	7.1
Marketing (rice, fertilizer, coffee shop)	12	16.9
Animal husbandry (cow, goat)	12	16.9
Processing (herbs, fruit juices)	6	8.4

Table 1 exhibits nearly the same number of men and women. The modern agricultural concept recognizes equal roles for both sexes. For example, physical work, initially only performed by men, can be executed by women with the help of technology (Fernando, 2020). Most (91.5%) of these educated young farmers possessed at least a bachelor's degree. They are expected to improve the quality of agricultural development in Indonesia. They are the next generation who will replace the old guard with their innovation and entrepreneurial spirit. Most of them were between the ages of 20 and 25 as they were fresh graduates or within only two years of receiving their degrees. The farmers aged 25 to 35 came from the village where the alums were invited to join. Hurlock (2010) stated that ages 21 to 40 constitute the early adulthood and productive age range.

Furthermore, most of these young farmers came from farming families (43.6%) living in Central Java (60.5%) because the polytechnic is located in Yogyakarta. Central Java is the third-largest rice producer in Indonesia after West Java and East Java. Most young farmers

preferred cultivation entrepreneurs (50.7%) over others. Exceptionally, few favored agricultural processing and marketing businesses. New farmers preferred cultivation because they continued their existing agricultural business. They were inexperienced and had no relationship in the marketing and processing business. Mostly, young farmers preferred the horticultural sector because its more profitable than food crop farmers, as disclosed in Wiyono's research (2015). Many of them began farming due to they worked on college farms. In addition, they had extremely limited experience with processing and marketing.

Young Farmers' Problems and Efforts in Entrepreneurship during the Covid-19 Pandemic

These educated young farmers joined the Young Agricultural Entrepreneurial Development Program, which has only been running for a year. The widespread Covid-19 has necessitated them to work hard to survive. The government's approach of issuing a regional limitation regulation has resulted in several business problems, covering capital, production materials, labor, and distribution or marketing. Table 2 displays the issues faced by educated young farmers during the Covid-19 pandemic.

TABLE 2. PROBLEMS OF YOUNG FARMERS DURING THE COVID-19 PANDEMIC

Indicator	Score
Production Problems	
Difficulty in buying production facilities during the pandemic	3.5
More expensive production costs during the pandemic	3.7
Interfere of social restrictions in production	3.6
Production cessation due to the fear of contracting Covid-19	3.1
Reduced operating hours during the pandemic	3.6
Reduced workers during the pandemic	3.3
Keeping produced by implementing the daily protocol	3.9
Mean	**3.53**
Financial Capital Problem	
Difficulty in obtaining financial capital during the Covid-19 pandemic	**3.9**
Marketing Problems	
Social restrictions disrupting distribution	3.9
Social distancing rules highly interfere with achieving the marketing target	3.9
Fewer buyers during the pandemic	3.9
Making various efforts to increase sales	4.1
Mean	**3.95**

Production

Young farmers experienced doubts in dealing with production problems (3.53). They also encountered difficulty obtaining raw materials for production, unlike before the pandemic. Social restrictions influenced their movement to obtain affordable fertilizers, seeds, and other production advice. Although the production facilities were available in the villages, the price and quality differed from those in cities. Disruption in transport and the general slow-down of economic activities posed significant obstacles to input acquisition at the local level (Lopez-Ridaura et al., 2021).

Young farmers experienced obstacles in technical terms such as fertilization, pest management, and irrigation since they must implement health protocols that had never been used previously (3.9). Furthermore, production costs were relatively higher during the pandemic (3.7). The lowest score was on stoppage (3.1) since they doubted whether to continue or discontinue production.

Young farmers (based on Table 1) preferred production in the on-farm sector rather than off-farm. The availability of production facilities was highly influential on the continuity of farming, including labor. Young farmers worked in their fields and were assisted by several local laborers. In Indonesia, agricultural labor was operated manually every day due to the unavailability of mechanical farming tools. Accordingly, numerous laborers were highly required at certain times, such as planting and harvesting. The lockdown measures and restrictions on movement during the Covid-19 pandemic contributed to a labor shortage for agricultural production, reducing the available labor force to cultivate agricultural land.

Educated young farmers continued their efforts to solve production issues. Figure 1 illustrates how they addressed the issues.

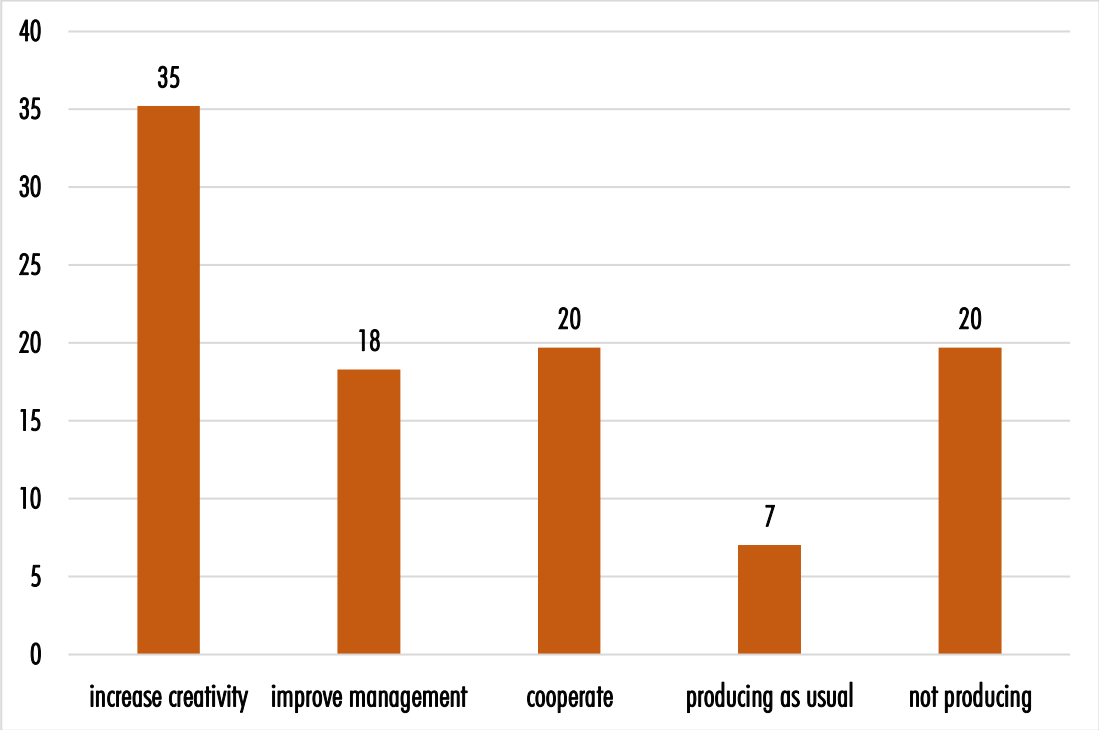

FIGURE 1. EFFORTS OF YOUNG FARMERS TO OVERCOME PRODUCTION PROBLEMS DURING THE COVID-19 PANDEMIC (%)

Figure 1 displays several efforts of young farmers in dealing with production problems, encompassing increasing creativity (35%), such as planting using the intercropping method, adding product variety, and looking for new alternative products more acceptable to the market. Furthermore, they also collaborated with other parties, such as cooperatives (20%). The study of Zhuo, Ji, & Ding (2020) discovered similar findings. Meanwhile, 18% of young farmers favored improving management by making savings; as in research by Nguyen, Ngo, & Tran (2021), a small proportion (7%) continued to produce as usual. Moreover, 20% of young

farmers temporarily discontinue production during the pandemic and tried other work alternatives outside the agricultural business. Given that the number is relatively large, it is necessary to determine why they came up with such a decision.

Capital

The capital problem has emerged as a relatively big obstacle (3.9). Most young farmers encountered difficulty earning capital during this pandemic. Their efforts were to make savings and reduce production due to the decline in income. Figure 2 demonstrates the efforts made by educated farmers to overcome the capital challenge.

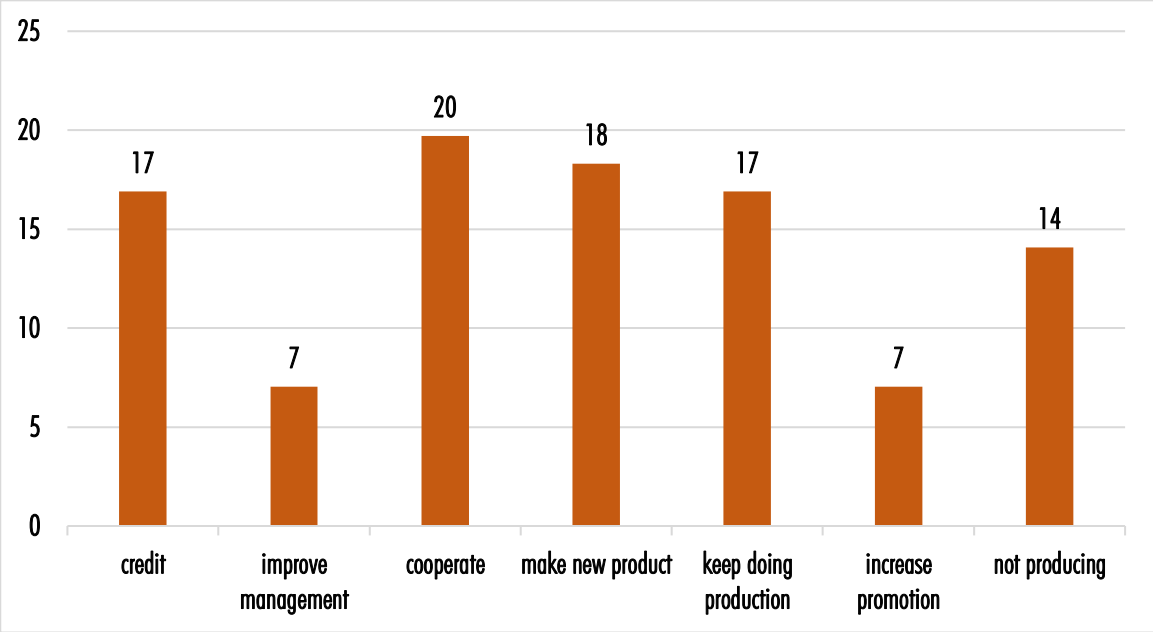

FIGURE 2. EFFORTS OF YOUNG FARMERS IN OVERCOMING THE CAPITAL PROBLEM DURING THE COVID-19 PANDEMIC (%)

Following Figure 2, young farmers favored cooperating with other parties to make up for their limited capital (20%). As Chen & Liang (2020) disclosed, young farmers were able to work together more effectively than older ones. The cooperation involved borrowing or selling goods and collaborating with many partners. However, access to capital was a problem for some of them. Consequently, they had to stop production because they ran out of capital (7%). These young farmers only depleted the existing stock of production facilities. Therefore, policymakers need to solve the problem of obtaining additional capital to sustain production during the pandemic, encourage cooperatives, and issue and advocate policies to promote crop production (Zhuo et al., 2020). Data in the field indicated that the average entrepreneurial income was IDR 1,684,114.46 per month (USD 112) during the pandemic. Young farmers hoped the pandemic would end soon and they could increase their sales.

Marketing

Marketing turned out to be the biggest problem in agricultural entrepreneurship (3.95), especially in Young Agricultural Entrepreneurial Development activities, as Bhattarai & Mariyono (2016) discovered. For small farmers like these educated young farmers, not having

access to the right market was a significant challenge. Post-harvest distribution and highly volatile prices were two of the leading causes of this issue. Young farmers took various measures to increase income but had not succeeded (4.1). As a result of a lack of supplies to hotels and industries, fewer buyers made purchases.

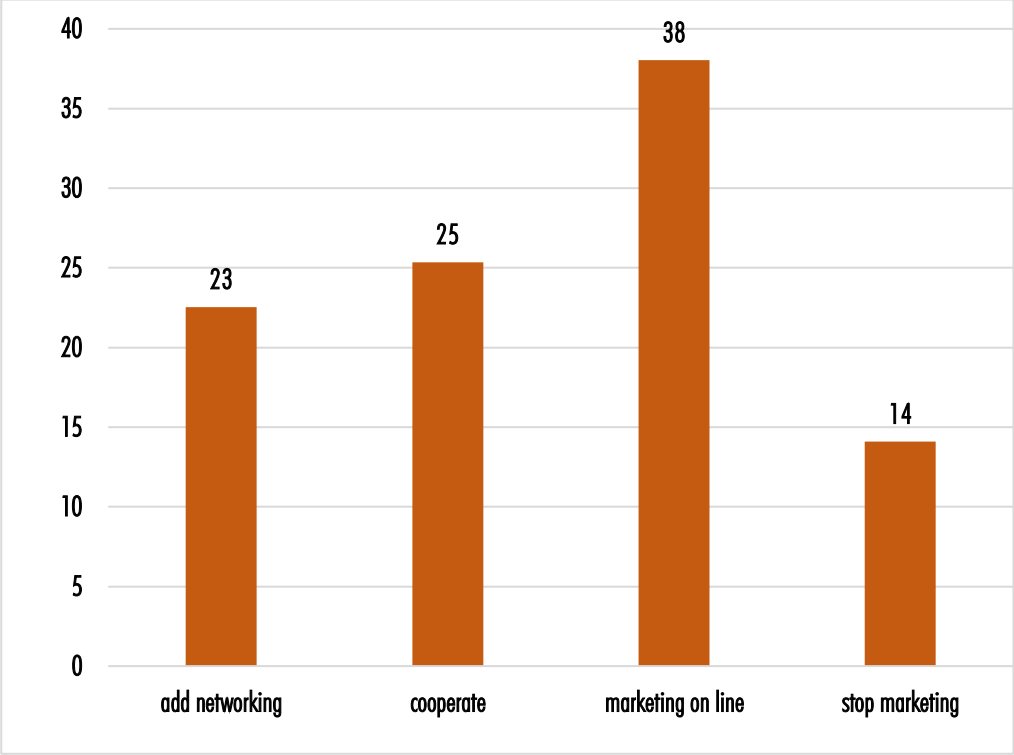

FIGURE 3. EFFORTS OF YOUNG FARMERS IN OVERCOMING MARKETING PROBLEMS DURING THE COVID-19 PANDEMIC (%)

Figure 3 shows that more than 38% of young farmers reported utilizing social media, such as WhatsApp, Facebook, and Instagram, to solve marketing problems. Information technology was one of the breakthroughs in reducing entrepreneurial problems due to Covid-19. A study revealed that information technology effectively introduced agricultural technology, supporting modern agriculture (Klerkx et al., 2019). Besides, marketing through an online model could also be an option amid social restrictions, as Epler & Leach (2021) researched.

The Covid-19 crisis has forced companies to examine suppliers, assess which ones are most likely to be affected and which are vital to ongoing business operations, and urgently reduce any risks these connections pose (FAO, 2020). Farmers could connect directly with consumers and obtain better prices. They could gather information and utilize it to boost their farming yield. FAO also explained in its research that African farmers could increase their income by utilizing information technology (FAO, 2017). However, the ability of farmers to employ new media should be improved since most still served the offline market in the local area; thereby, adapting online was tricky. Establishing an excellent online sales system calls for the proper information and training. As a result, 14% farmers gave up on the challenges they encountered due to social restrictions while marketing their products or services.

Discussion and Implication

Production, marketing, and capital problems were not the only obstacles in business during the pandemic. Young farmers faced a harder time dealing with unforeseen issues. When times were tough, many stopped their businesses and waited for better conditions. Supply to hotels, catering, and stalls stopped. Sales were intended for individual households only. A few switched to other products, and many had not yet made a profit because they were only getting started. In addition, matters related to indirect influences, such as government policies associated with Covid-19, became more influential in determining business decisions (Organisation for Economic Co-operation and Development [OECD], 2020; Zhuo et al., 2020).

According to Lopez-Ridaura et al. (2021), farmers with high external input and less control over the supply chain stream would significantly impact production in the Covid-19 era. The challenges in financial capital and marketing are similar in other countries (Zhu, Kara, & Zhu, 2019), and they do not depend on the Covid-19 situation. In Indonesia, the additional capital was unable to solve entrepreneurial problems for young farmers; thus, requiring other ways, such as finding opportunities, mentors, and a supportive environment (Grubbström & Joosse, 2021). Despite the lack of available funds in other countries, farmers utilized accessible financial and labor resources within their families and bank loans to carry on dairy farming (Alam, Schlecht, & Reichenbach, 2022). The problem of capital was not only related to the large number but the ease of access, which was crucial. Among young farmers who received capital assistance from the government not needing to be returned, until this research was carried out, many still had not optimally made the most of their capital for business development. Due to the uncertainty of the market, entrepreneurs were reluctant to utilize their capital. It contradicts the findings of previous research Chavez (2016), unveiling that entrepreneurs must also take significant risks to reap enormous profits.

The recommendations to help farmers in their recovery after Covid-19 are collective action and farmer organization (Lopez-Ridaura et al., 2021). Government training programs for marketing knowledge and skills to improve their competitiveness are also suggested, as is coordination with financial institutions to provide low-cost loans (Zhu et al., 2019).

CONCLUSION

Even though the Covid-19 pandemic has affected many people, young farmers have kept up their business operations. A rising issue has been associated with production, capital, and marketing. Marketing appeared to be the biggest problem faced by entrepreneurs since its process was highly constrained due to social distancing. Young farmers undertook various initiatives to overcome entrepreneurial issues. Production was overcome by increasing creativity and production methods, such as adding agricultural products which highly demanded by other collaborating parties. Young farmers who had not maximized the provided capital gained low profits. Young farmers who have greater capability to deal with capital problems attain higher profits. Capital problems were handled by collaborating with investors

or fellow entrepreneurs. Additional capital could not solve young farmers' entrepreneurial problems, thereby requiring other ways, such as finding opportunities, mentors, and a supportive environment. Meanwhile, the marketing problems of most young farmers were alleviated by utilizing new media. During this pandemic, the government is expected to employ new media to support marketing and young farmers' business policy.

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