

Problems of Small and Medium Enterprise (SME) in The Agriculture Sector in The Digital Era Towards National Food Security

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Abstract. The food crisis is a very big global problem because it is related to the livelihood of many people. This problem is closely related to agriculture. Agriculture is an activity of utilizing biological resources to meet food needs starting from land processing, planting, gathering, maintenance to harvest and post-harvest. Agriculture is the most important sector in maintaining food security or it can also be defined as a condition of fulfilling food for every household which is reflected in the availability of sufficient food, both in quantity and quality, safe, evenly distributed and affordable. Agriculture is a source of life for every country in the world. from the past until today. This can be seen from every development of human civilization where agriculture has always had a crucial role or even been the cause of a civilization that can progress and develop. Every country has different problems related to agriculture. As time progresses, the world's population increases, accompanied by the construction of housing and public facilities, on the other hand, there is less and less agricultural land due to this development. In addition there are several other problems such as the difficulty of regeneration of farmers, the distribution system and access to capital. This requires an innovation in order to adapt to the digital era to be able to solve these problems.

Keywords: Food crisis, Agriculture, Digital, Technology, Innovation.

1. Introduction

Currently the food crisis is one of the serious global problems, because without sufficient food other crises such as a humanitarian crisis occur, when a humanitarian crisis occurs it can cause a world security crisis. Based on the Global Hunger Index (GHI), Indonesia's GHI score reached 19.1 in 2020, illustrating that Indonesia is experiencing a severe hunger problem (Perdana, et.al, 2022). Of course these things happen when these problems can occur if the food crisis has reached global. This became a serious global problem, in 1945 as many as 44

countries gathered to hold the United Nation Conference on Food and Agriculture, the result of the conference was the formation of the FAO organization (Food and Agriculture organization) which aims to overcome problems in the world's food and agriculture sector. (Maletta, 2014). The global demand for food materials from agriculture has increased due to the world population growth. However, farmers face many hardships such as minimum productivity from labor, lowprofits, financial constraints and environmental problems, causing decline in agricultura production (Mishra, Singh & Rana, 2022; Sinaga, Hidayat. 2022). This forces countries in the world to always work together to maintain global food security, by maintaining food stocks so that they are not less than global food needs. The government of Indonesia supports the efforts of the FAO (Food and Agriculture Organization) to realize food and nutrition security to achieve people's welfare. Efforts for self-sufficiency or the realization of welfare in terms of food and nutrition is a unifying nation that must be realized by all parties (Nuryanti, S., 2017,).

Food security “exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (Kerri Holland, 2020). According to RI Law no. 7 of 1996 there are at least 4 pillars that must be met in order to achieve safe food security conditions. Namely (1) Availability of food both from production and export, (2) Stability of food reserves, (3) Accessibility in food distribution, (4) Quality of controlled food security. One of the important parties to maintain food security is Farmers as explained by the president of the republic of Indonesia "petani is an acronym for Buffer of Indonesian State Order" (Ir. Soekarno, 1952). This research aims to gain knowledge or new discoveries. To prove, test, or verify the truth and pre-existing knowledge about agriculture. The data collection method is carried out through direct observation, the observation method is a data collection method that is carried out to observe and review carefully and directly at the research location, From the results obtained, researchers found some information related to the problems faced by farmers. Farmers are the main actors in agricultural production activities as well as from the Indonesian people whoneed to improve their welfare and intelligent, one of the efforts to increase intelligence is carried out through agricultural extension activities (Thamrin, I Apriyanti, 2020).

2. Method

The method used in this research is descriptive, this research method is carried out with the aim of describing a certain situation as objectively as possible. The approach used in this research is quantitative. Quantitative research is a research strategy that emphasizes quantification in the collection and analysis of data It means quantitative research denotes amounting something. (MS Rahman. 2020). The source of the data obtained is from the documentation of the Central Agency on Statistics, from several articles or journals on the internet as well as from direct observation by researchers. The related data is then analyzed with the problems discussed, namely being able to find out what Micro, Small and Medium Enterprise (SME) Innovations in the agricultural sector must do so that they can adapt in the digital era.

3. Results and Discussion

Farmer Regeneration

The role of farmers as maintaining food security is very important and even becomes a paradox, in fact the farmers themselves play the main pillar in maintaining food security. according to the Central Agency on Statistics in 2021 there are 29.59% of Indonesia's population working in the agricultural sector or as many as 38.77 million people.

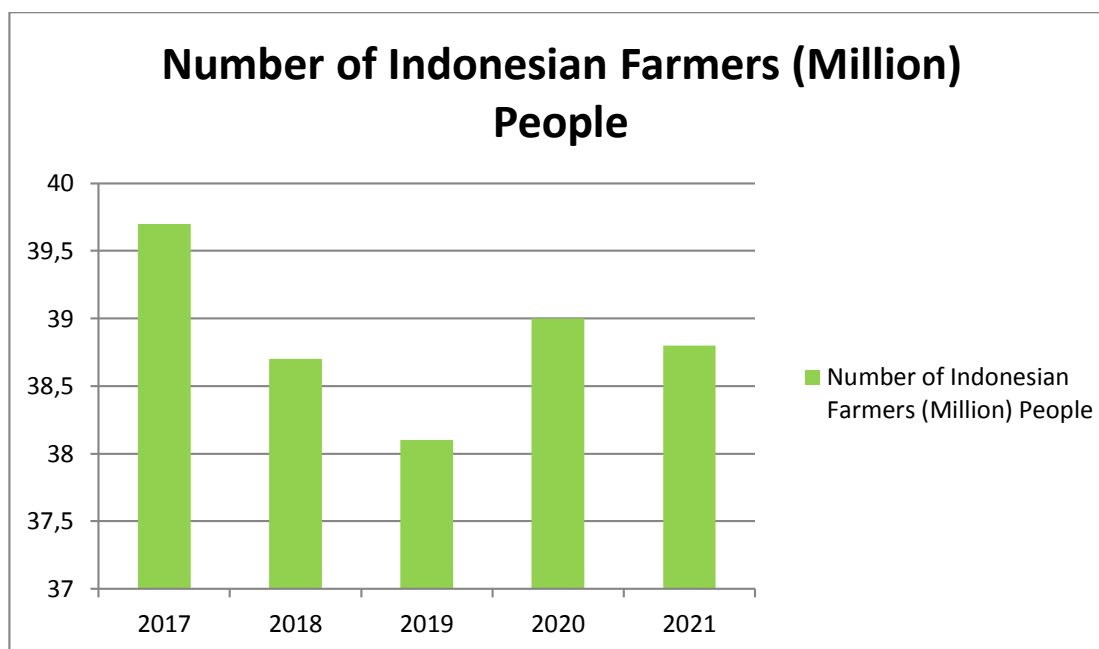


Figure 1. Number of Indonesian Farmers in the Last 5 Years

Source: Central Agency on Statistics, 2022

Figure 1. shows that the number of farmers in Indonesia is less stable, the movement has been up and down from the last 5 years, this is related to Farmer Regeneration. Based on data from the Central Agency on Statistics for 2020, as many as 64.50 Indonesians are of productive age, but only 21% work in the agricultural sector, which is smaller than other sectors, such as the manufacturing sector (24%) and the service sector (55%).

Land Availability

According to Dr. Ir. Leli Nuryati, M.Sc, (Head of the Agricultural Training Center - BPPSDMP, 2021) there are 5 main factors why the number of workers engaged in the agricultural sector tends to decrease, one of which is related to the increasingly limited availability of land along with increasing demand. One of the biggest problems resulting from this is that domestic production is not sufficient for the consumption needs of the population,

in this case the population is increasing, so that by mid-2022 it will reach 275,361,267 people. In Ngringo Village, Central Java, the difficulty in producing agricultural products caused by the condition of less fertile land up to the development of the area as the industrial base and the housing as if to accompany the process of change farm labourers to seek alternative employment outside the agricultural sector. (S Mu'adi, et.al, 2020)

The only way to meet the needs of the population that cannot be met with local production is by way of imports. Since 2000 Indonesia has been continuously importing rice. (Badan Pusat Statistik, 2021) in fact the demand is high and the production is low, the commodity value is expensive, but the profit margin for Micro, Small and Medium Enterprise (SME) in the Agricultural Sector is still low.

Distribution System

The price of Indonesian agricultural products is still less cheap when compared to imported products of the same quality because the distribution of agricultural products in Indonesia is not efficient.

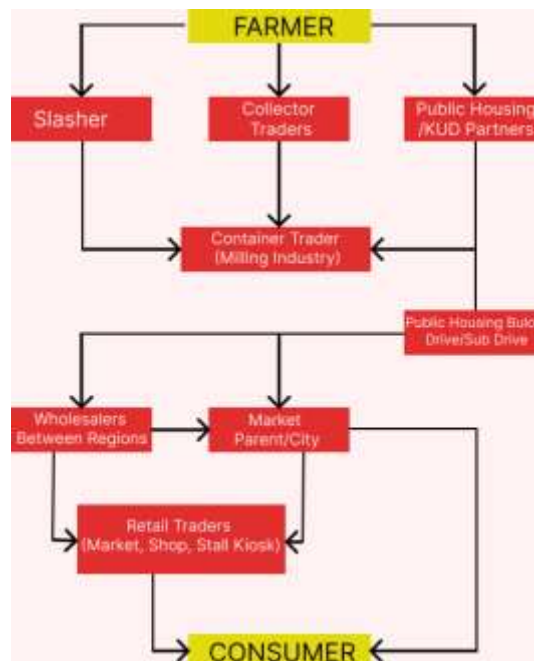


Figure 2. Agricultural Distribution System in Indonesia

Source: Hermanto & Saptana, 2018

The distribution channel is a supply chain from producers through intermediaries of goods or services through the transfer of ownership rights to goods or services that are marketed for use or consumption. Farmers' distribution channels require several intermediaries to be involved, as a result the profit margins for farmers are much lower and are inversely proportional to the

prices of their agricultural products on the market. Another classic problem is related to distribution, namely middlemen who buy farmers' products when harvesting at low prices and then sell them as intermediaries with large price markups.

Access to Capital

The existence of middlemen, or in Indonesian is known as 'tengkulak', is often viewed negatively because middlemen are usually the ones who lend capital to farmers with high interest charges and middlemen also take farmers' produce at low prices. The reason farmers work with middlemen is because these farmers do not have many choices, often middlemen are the only party farmers can rely on so they can borrow capital as well as sell their products. It is the fact that middlemen have the courage to pick them up directly by visiting farmers during the harvest season, with adequate transportation facilities. Farmers who do not have a vehicle have difficulty bringing their products to market, these middlemen can become standby buyers who are ready to buy their crops. because of this many farmers consider selling directly to middlemen rather than incurring additional costs for transportation. From middleman, the farmer can easily obtain cash advances for daily needs, emergency medical situations, or agricultural inputs, and is not restricted to bank operating hours. The tengkulak often live in the farming community and may be tied to the farmers by social and family relationships as well as economic ones. (Arsyad, M., Heliawaty, H., Kawamura, Y. and Yusuf, S., 2018.)

Farmers are also often in debt because it is these middlemen who lend money to farmers to start the agricultural process, farmers are obliged to sell their crops to middlemen who have been deducted with interest on the capital loan. It is also an irony here that on the one hand, middlemen are the ones who always help farmers to absorb the harvest, but on the other hand, they also exploit farmers with high interest rates at very low selling prices so that the profits generated are small.

Farmers seem to have no choice. One of the problems is limited access to capital or funding for farmers so that they can operate independently. Access to bank credit loans or business capital loans with certain guarantees from the bank is very difficult. Because some banks are still worried about the potential level of crop failure which in the end will hamper credit and also the risk of default due to the fact that predicting agricultural production cannot be predicted easily, it is not as easy as predicting manufacturing production. There are many factors that must be predicted from natural conditions such as floods, droughts to pests which are always a hindrance to agriculture. Farmers should be able to be more advanced and spearhead the welfare of the Indonesian people, seeing the extraordinary natural resources of the sea and land.

Problems related to food are vital issues for the livelihood of many people, innovation is needed to face challenges in the Digital Age because farmers have an important role for economic development., Small and Medium Enterprise (SME) in the agricultural sector must be able to find opportunities and find solutions to problems related to production. And must be able to innovate in order to provide their products digitally. Digital agriculture brings together new

opportunities, along with the widespread use of computer technology. (Burak, Anil and Aktas, 2017)

4. Conclusion

Farmers are the main pillar of food security for a country, food welfare can be assessed from the state of the agriculture. There are 4 main problems related to agriculture in Indonesia, namely: Farmer Regeneration, Availability of Land, Distribution System and Access to Capital. This is a challenge for Micro, Small and Medium Enterprise (SME) in the agricultural sector to innovate in order to adapt in the Digital Age. As with the main concept of innovation itself, there are ways that must be changed or improved.

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