

Maintaining Food Security Through Rural Agroindustry During and After the COVID-19 Pandemic

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Abstract

The COVID-19 pandemic that began to enter and spread to Indonesia in early 2020 had a very broad impact not only on public health but on various aspects of people's lives, including the agricultural sector. The interrelationships between sectors of life have caused no sector to escape the effects of this pandemic, only the scale of the impact is different. This paper describes maintaining food security through rural agro-industry during and after the COVID-19 pandemic. This paper is based on several related literatures. Food security must be realized at all levels, from the family level to the national level. Rural areas have enormous agricultural potential to be developed into an agro-industry business. The development of rural agro-industry is very promising, because in addition to sufficient agricultural potential, sufficient labor (farmers) is also available. Some obstacles to the development of rural agro-industry include the discontinuous availability of raw materials, limited access to capital, inadequate human resource skills, limited rural infrastructure such as electricity, water, road facilities. This obstacle can be overcome if the government together with the community make maximum efforts to make rural areas the basis for agro-industry development in an effort to maintain food security. If rural agro-industry is successful, it will increase economic activity in rural areas which in the end is expected to maintain food security and increase people's income.

Keywords: food security, agroindustry, COVID-19 pandemic

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1. Introduction

The Covid-19 pandemic has spread throughout the world since its first appearance in the city of Wuhan, China's Hubei Province on December 31, 2019. As of November 13, 2020, there were 457,735 positive cases in Indonesia, 15,037 deaths and 385,094 recovered. For the province of Bali, at the same time the number of positive cases was recorded at 12,583 positive cases, 11,517 people recovered and 403 people died. The Covid-19 pandemic has affected a number of business sectors in the country, including the tourism sector, which is the locomotive of Bali's economy. However, the impact on the agricultural sector is not as severe as the patritourism sector because this sector is a sector that provides food, industrial materials and pharmaceutical materials which are basic needs for people's lives. Efforts that must be made by the government and the community are to maintain the productivity of food crops in order to create a stable atmosphere of food security and avoid food crises. Food security is a condition where every individual in the community has access to food that is quite good in quantity (amount), quality and safety at affordable prices so that they can carry out their functions normally.

Anticipating or preventing a possible food crisis during and after the COVID-19 outbreak, there are several steps that the government must take in the short term. First, placing food as a right that must be guaranteed fulfillment. Furthermore, the food stock must be managed by the BULOG institution and the regional food agency whose function is to support the food stock. In addition, regions must make every effort to maintain food productivity and manage their distribution and storage in order to ensure sustainable food supply. It is also very important to maintain price stability, so that on the one hand it is an incentive and profitable for farmers (producers) and on the other hand the price is affordable for the community. Cheap food policies cannot always guarantee sustainability if the policy results in a minimum level of farmer profits. To be able to carry out the conditions as mentioned above, the participation of not only the central government and local governments, but the participation of the community is absolutely necessary. Efforts that must be made by the community are to continue to maintain solidarity and build and strengthen local food granaries. Supervise rice milling in the village, facilitate the drying of grain, especially during the rainy season, encourage direct purchases from farmers and farmer groups to shorten the marketing chain. Enthusiasm to continue to maintain an environmentally friendly farming culture. In addition, efforts to develop rural agro-industry are needed so that agricultural products have added value, longer shelf life and increase farmers' income.

2.. Disease Severity and Death Rates Due to COVID-19

Covid-19 causes respiratory tract infections and is often associated with other infections which causes the severity and death rate of the disease to increase. Zhou et al. (2020) showed that in this Covid-19 pandemic, 50%

of patients infected with Covid-19 died due to secondary infection by bacteria. The number of incidences, disease severity and death rates due to COVID-19 is more experienced by older people with other congenital diseases such as diabetes, hypertension, and heart disease (Yang et al., 2020).

Based on an analysis of the epidemiology, of the 72,314 positive cases of COVID-19 reported in China, the majority of cases (89.8%) were between the ages of 30-79 years and the proportion of elderly patients (over 60 years of age) was 44.1% (Sinclair and Abdelhafiz, 2020). The overall mortality rate was 2.3%, but this rate increased proportionately to 8% in patients aged 70-79 years, and 14.8% in patients older than 80 years. Patients who have diabetes who are infected with COVID-19 require more intensive care, namely 22.2% compared to 5.9% of patients without diabetes. The mortality rate of patients infected with COVID-19 with diabetes was also higher at 7.3% compared to patients without diabetes of 0.9%. The description above tells us that the incidence, severity of illness and death rate due to COVID-19 are strongly influenced by age and comorbidities such as diabetes and high blood pressure. Therefore, more intensive protection must be given to vulnerable age groups and those who experience other disease disorders so that they are not exposed to COVID-19. Because if this group of residents is exposed to COVID-19, it will cause the severity of the disease and the death rate to increase.

3. COVID-19 and its Impact on Agriculture

All aspects of life are affected by the COVID-19 outbreak, ranging from social, economic, cultural, religious, political and environmental aspects. At a certain level, COVID-19 has also had an impact on the agricultural sector, although not as badly as the industrial sector. Economically, there are many impacts caused by COVID-19. The Large-Scale Social Restriction Policy or even the Lockdown resulted in various economic activities having to be stopped or forced to stop. This causes economic growth in various countries to decline sharply, even growth can be negative. The shutdown of factories and other economic centers has a direct impact on unemployment. Many companies terminate employment (PHK) or at least lay off their employees for an unknown time. In Bali, due to Covid-19 as many as 52,387 workers were laid off and 748 workers experienced layoffs (PHK) from 748 companies (Bali Post, April 22, 2020). Of this number, the number of workers who have been laid off or laid off is in the first place, which is more than 50% of the total. The number of workers who were laid off was 531 (70.98%) while the number of workers who were laid off was 28,609 (54.51%).

The economic sector that is still relatively viable may be the agricultural sector in a broad sense, including horticultural crop farming, plantations, animal husbandry, and fisheries. However, the low purchasing power causes some agricultural products to experience obstacles in marketing due to the decline in consumers and industrial activities that use agricultural products as raw materials. This condition is very real for vegetable farmers in Baturiti Tabanan and Pancasari Buleleng. Under normal conditions, various types of vegetables are sold to meet the needs of hotels and restaurants in Bali, but during a pandemic all hotels are closed so that production is abundant while market absorption is very small. As a result, many farmers leave their vegetables in the fields or use them as animal feed or fertilizer.

4. Food security

The term food security has changed from year to year. Initially, food security was defined as the availability of food at the national and global levels. But at this time food security is defined as ensuring the availability of food for all socio-economic levels of society to the individual level, in accordance with the amount needed (in quantity, quality and safety) to be able to move and live a healthy life.

Indicators of measuring food security at the individual and household level are the allocation of labor and income, the level of food expenditure in total expenditure, changes in life, the state of food consumption, and health and nutritional status. Based on food security benchmarks, a strategy for food availability that covers all prerequisites can be selected. The strategy to obtain sufficient amount of food can be achieved by two approaches; food availability and ownership. Meanwhile, the new approach used for food security is sustainable, which is based on three aspects: food is a basic human need; food security must be treated as a hierarchy starting at the individual, household, regional, to global levels; empowerment of local institutions and increasing the role of the community in achieving the desired resilience (Rahman and Ariani, 2002).

Food security can be achieved through the cooperation of the government and the community, especially farmers. Empowerment of rural farmers is a real step that can be taken to increase the production of rice and other food crops in order to achieve the desired quantity and availability in a sustainable manner (Suprpta, 2005).

5. Rural Agroindustry

Agriculture is one sector that is very important for the life of rural communities and contributes greatly to the rural economy. However, the agricultural sector has not yet been able to fully provide adequate income and welfare for farmers and their families because most of the agriculture carried out to date is still in the form of agriculture as a producer of raw materials or raw materials. We all know that fresh or raw agricultural products

such as various types of vegetables, fruits have perishable properties so that their shelf life is very short. This condition causes most farmers to sell their produce immediately after harvest, although the price is often very cheap and does not match the costs incurred. Farmers are forced to release their agricultural products at low prices because if they are not sold immediately, they will be damaged, and the losses will be even greater. This is the general condition of Indonesian farmers, where farmers as owners of agricultural products have a very weak bargaining position and cannot determine the selling price of the products they produce. This condition occurs due to the lack of development of agro-industry in rural areas which should be able to process some agricultural products into processed products so that the economic value is higher and the shelf life is longer. The purpose of developing agro-industry in rural areas is to increase the added value and competitiveness of agricultural products, create economic activity and employment opportunities and improve the welfare of rural communities.

Agroindustry in rural areas can provide various positive impacts, not only economic impacts but also cultural impacts. Agro-industry does not only process agricultural products into various processed products that are more attractive, more nutritious and more durable, but also enable a shift in work culture from traditional agrarian to modern industrial work culture.

The development of agro-industry in rural areas is an effort to strengthen the agribusiness system as a whole, because the majority of rural communities depend on the agricultural sector for their lives, especially on agricultural cultivation activities (on farm). But the reality shows that on farm activities alone have not been able to provide income and a decent life for farmers. The big added value in agricultural products is actually in the downstream sub-system, namely processing and marketing of products. The development of agro-industry that can produce a variety of processed products will be able to increase the demand for agricultural products so as to increase prices and farmers' incomes. Increased income and purchasing power of farmers will have a multiplier effect on other economic activities.

Local resource-based agroindustry will be able to produce diversification of processed products that will support the diversification of food consumption by the community, so that it does not depend on one particular type of food commodity. Utilization of local raw materials will create and increase market segments for farmers' products so that prices are expected to be maintained stable and profitable for farmers. In addition, rural agro-industry will create jobs for rural communities and will be directly linked to reducing unemployment and poverty, as well as increasing rural economic growth.

6. Opportunities and Constraints for Agroindustry Development

The current population of Indonesia is 255 million, which is a potential market for various processed agricultural products. In addition, Indonesia, which has a tropical climate, has a variety of agricultural commodities that can be used as raw materials for agro-industry, ranging from fruit, vegetable, plantation, animal husbandry, forestry and fishery products (Saragih, 2018).

According to Supriyati and Suryani (2016), although the opportunities for agro-industry development are very good, there are several obstacles encountered, including:

1. Sometimes raw materials are not available continuously in quantity and quality adequate.
2. Limited appropriate technology in accordance with the needs of the commodity or region due to a weak product research and development system.
3. Weak linkages between upstream and downstream industries.
4. Inadequate quality of human resources with a weak entrepreneurial spirit.
5. Limited access to capital
6. Limited rural infrastructure such as markets, roads, electricity and clean water.

The basic principles of agro-industry development in rural areas are as follows:

1. Stimulating the competitive and comparative advantages of products/commodities in each region
2. Stimulate the improvement of human resource capabilities and grow agroindustry according to the resources in the region
3. Expanding superior commodity centers as providers of raw materials for developed agro-industry.
4. Stimulating the development of other agribusiness sub-systems
5. Stimulating the development of other related industries in rural areas.

7. Conclusion

Food security can be realized sustainably if the food agriculture system carried out by ensuring the level of prices both at the producer level and the level of consumers so that on the one hand it benefits producer farmers, and on the other hand affordable for consumers. The government has a major role in ensuring the creation of food security through various policies both related to production, distribution and consumption of food. In terms of production, the government encourages development of rural agro-industry through various facilitation and support both financing, technology and product marketing. Communities can play a role to encourage increased consumption of local products by buying direct agricultural or processed products to farmers or farmer groups. It

is in aim to shorten the chain and cost of marketing agricultural products in one side, and maintain health through the consumption of well-known local products well the production process.

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