Various Problems of Aceh Farmers in The North East Beach Area in Agricultural Business During Covid-19 Pandemic

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Abstract: The Covid-19 pandemic is an economic, social and environmental issue that had a significant impact on people's lives, including to farmers in the North East Region of Aceh. In this situation, people who work as farmers must survive and overcome them with agricultural activities, however various of agricultural business problems that occur must be resolved. Research conducted in 9 districts/cities in the North East Region of Aceh involving 540 farmer respondents found that there were 13 problems that befell farmers in their agricultural businesses during the Covid19 period. The first ranking problem is the difficulty of getting subsidized fertilizers, low and unstable prices of agricultural products are in the middle or average rank, while the difficulty of obtaining new land for the development of agricultural businesses is a problem in the 13th rank. The resolution of these problems is certainly very helpful for farmers to carry out agricultural businesses during the Covid-19 pandemic in the North East Region of Aceh.

Keywords: Covid19, farmers' problems, Acehnese farmers.

Introduction

In Surah Al-A'raaf verse 96 Allah SWT states that: "If the inhabitants of the lands had believed and were pious, We would surely have bestowed upon them blessings from the heavens and the earth, but they deny Our signs, then We will punish them for what they have done." The punishment in question can be accepted in the hereafter, or in the world as a calamity in the form of hunger, death, lack of wealth, disease outbreaks and so on. Although the description of disease outbreaks is not specifically described, but essentially there is a common thread or relationship that explains the Covid-19 pandemic that is happening in the world as a disaster that is intended in the letter (Najikh, 2021).

In December 2019 Wuhan, the capital city of China's Hubei Province, was detected a type of infectious disease caused by acute respiratory syndrome coronavirus 2 (Sars-CoV-2) known as Covid-19, and since then this disease has spread globally in almost 200 countries in the world, including Indonesia. In connection with the global spread, on January 30, 2020, the World Health Organization (WHO) declared Covid-19 as a International Public Health Emergency (PHEIC), and on March 11, 2020 as a chronic pandemic (Supriatna, 2020; WHO, 2020). Covid-19 as a deadly and infectious disease will give symptoms of flu, fever, dry cough and respiratory problems in people who are exposed to it, and its spread occurs through saliva from coughs and sneezes of people exposed to the disease (Wiersinga et al., 2020).

As an effort to break the chain of spread of Covid-19, WHO has urged affected countries to slow down the spread of the virus by restricting travel, face-to-face, restrictions on

distribution and community activities. However, this restriction has an impact on the weakening of the global economy through the weakening of the performance of product supply and consumer demand (Guan et al., 2020), and cause social impacts, including in the agricultural sector (A'dani et. al., 2021). Agriculture as an economic sector that accommodates a lot of rural workers is one of the sectors that are at low risk of the Covid-19 pandemic compared to the industrial sector, but the agricultural sector has the largest share of labor impact with 29.6% (ILO, 2020). This condition also occurs in the north eastern region of Aceh Province.

The north east coast of Aceh which consists of 9 districts/cities has an area of 20,654.34 Km^2 or 36.38% of the area of Aceh Province, with 310,787 total workers in the agricultural sector or 32.48% of the 958,612 workers in this region (Aceh Bappeda, 2021). This information shows that the agricultural sector has a very important role for the community and regional economy, Disruption of the agricultural system will result in disruption of the regional economy.

As a form of global disaster, the Covid-19 pandemic has an impact on income levels and disrupts the fulfillment of community needs at large (Nainggolan et al., 2021). In the agricultural sector, this pandemic has an impact on the disruption of the marketing of agricultural products, a decrease in income and losses to farmers in Malawi, in Uganda small farmers cannot continue their agricultural business due to limited access to production inputs (Francesconi, et al., 2021). The pandemic conditions resulted in a drastic decline in Indonesia's CPO exports and a decrease in the income of oil palm farmers in Padang Lawas Regency, North Sumatra (Noviani and Ardiani, 2020). Likewise for rice farmers in the suburbs of Bekasi and Jakarta where the Covid-19 pandemic affected the sale of grain, labor and distribution of subsidized fertilizers which resulted in farmers experiencing difficulties and losses due to the low price of grain. As a result, farmers have made several adaptations to survive during Covid-19 by reducing the workforce to become family workers, reducing rice grain sales, doing side jobs as traders, reducing fertilizer doses, and asking for government assistance (Faradina and Sukayat, 2021).

Research conducted in China to explore the impact of Covid-19 on the agricultural economy and its countermeasures shows that: (1) In the first phase of Covid-19, it has an impact on China's agricultural economy in eight aspects: production, product supply, livestock production, farmers' income and employment, development of economically valuable crops, product sales models, agricultural tourism development, and product trade; (2) The Chinese government implements the emergency response to the impact of Covid-19 by improving agricultural production and farmers' jobs, providing financial support, stabilizing product production and supply, promoting product sales, providing subsidies, providing technological guidance and field management, providing assistance to poor farmers to reduce poverty; 3) The order of emergency response carried out by the government is not all in line with the sequence of impacts that occurred, this shows that to recover China's agricultural economy from the impact of Covid-19 requires policies that are more in line with the impacts (Pan, et al., 2020).

Responding to the Covid-19 pandemic conditions that occurred nationally and globally, farmers continue to carry out their agricultural business to meet the needs and the household economy with various limitations and problems. Referring to overcoming the impact of Covid-19 on agriculture in China and the conditions that occur nationally in Indonesia, It can be concluded that various information about the problems faced by farmers are needed in

developing their agricultural business. This is important as an initial step in planning assistance programs for farmers in dealing with and recovering the economy due to the Covid-19 pandemic. This research was conducted to find various problems faced by farmers in agricultural businesses during the Covid-19 period in the north east coast of Aceh, so that the handling of the agricultural sector affected by Covid-19 can be carried out on target.

Methods

Research Time and Location

This research was conducted in May-August 2021 in the North East Coast Region of Aceh which consists of the districts of Aceh Besar, Pidie, Pidie Jaya, Bireuen, North Aceh, Lhok Seumawe City, East Aceh, Langsa City and Aceh Tamiang. This area was chosen as the research location considering the impact of the Covid-19 pandemic, connectivity as an entry point for the transportation of people and goods from North Sumatra, as well as being a buffer zone for the production of agricultural materials in Aceh.

Population and Sample

The population of this study were all farmers in 9 districts/cities in the North East Region of Aceh. Sampling was carried out by proportional cluster random sampling with sample distribution as shown in Table 1.

Table 1. Distribution of Samples Number.

No	Districts/Cities	Subdistricts Number	Village Number	Subdistrict Samples	Village Samples	Farmers Population	Farmers Samples
1	Aceh Besar	23	604	4	30	26.742	300
2	Pidie	23	731	9	4	70.166	40
3	Pidie Jaya	8	222	3	3	25.324	30
4	Bireuen	17	609	3	3	72.729	30
5	Aceh Utara	30	852	4	4	741	40
6	Lhok Seumawe	4	68	2	2	Ttd	20
7	Aceh Timur	24	513	5	5	63.445	50
8	Langsa	4	66	3	3	7.428	30
9	Aceh Tamiang	12	213	3	3	4421	30
	Amount	145	3.878	36	57	310.787	570

Note : Ttd = Not Recorded

Research Data

The research was conducted descriptively using primary and secondary data. Primary data were obtained from respondents' answers to questions on agricultural problems they faced, farmers are asked to state freely or openly the agricultural problems they face during the Covid-19 pandemic, where 1 question is scored with 1 score. For primary data needs, documentation and observation are also carried out. Secondary data was obtained through literature review, and data collection at related institutions.

Analysis Method

The analysis was carried out descriptively by tabulating the respondents' answer scores. The answers are ranked based on the highest - lowest score, Then the answer scores are averaged as the median value of farmers' answers to agricultural problems faced by farmers during the

Covid-19 pandemic. The scoring results are analyzed based on the facts that occur, supporting theories and research results that occur in other places.

Results and Discussion

Respondent Description.

Research respondents are a description of the population or farming community in the North East region of Aceh. This description is needed in connection with the research carried out that will discuss various problems faced by farmers who carry out agricultural systems. Agricultural systems that produce agricultural products are inseparable from the factors of production owned by farmers. including individual characters that are inherent in the personality of farmers and underlie the behavior of farmers in various work situations and other situations (Damihartini and Jahi, 2005). The description of the research respondents who are the primary data sources for the study is as shown in Table 1.

Table 1. Recearch Respondent Description.

No	Description	Amount	Persentace	No	Description	Amount	Persentace
Respondent Area				**Respondent's Age (Years)**			
1	Aceh Besar	300	52,63%	1	< 20	11	1,93%
2	Pidie	40	7,02%	2	20 – 30	86	15,09%
3	Pidie Jaya	30	5,26%	3	31 – 40	146	25,61%
4	Bireuen	30	5,26%	4	41 - 50	241	42,28%
5	Aceh Utara	40	7,02%	5	51- 60	75	13,16%
6	Lhok Seumawe	20	3,51%	6	>60	11	1,93%
7	Aceh Timur	50	8,77%		**Amount**	570	10,00%
8	Langsa	30	5,26%				
9	Aceh Tamiang	30	5,26%				
	Amount	570	100,00 %				
Jenis kelamin				**Family Dependents (Person)**			
1	Male	478	83,86%				
2	Female	92	16,14%	1	< 3	93	16,32%
	Amount	**570**	**100,00 %**	2	3 – 5	131	44,04%
Agricultural products meet family needs				3	6 – 8	15	26,49%
1	Could	130	22,81%	4	>8	75	13,16%
2	Can Not	440	77,19%		**Amount**	**570**	**100,00%**
	Amount	**570**	**100,00 %**				
Activities Other Than Farmers				**Level of Education**			
1	Only Farmers	279	48,95%	1	SD	106	18,60%
2	Entrepreneur/Trade	113	19,82%	2	SLTP	167	29,30%
3	Civil Servant	130	22,81%	3	SMU/SMK	239	41,93%
4	Keuchik	25	4,39%	4	Diploma	11	1,93%

5	Sekdes	11	1,93%	5	S1	45	7,89%
6	Fisherman / Other Business	12	2,11%	6	S2	2	0,35%
	Amount	**570**	100,00 %		**Amount**	570	100,00%

Experience in Agriculture (Years)		**Sector**	
1	< 10	54	9,47%
2	10 – 15	109	19,12%
3	16 – 20	263	46,14%
4	>20	144	25,26%
	Amount	**570**	100,00 %

Source : Recearch Data (2021).

Table 1. shows that 52.63% of respondents or the most are in Aceh Besar District, 42.28% aged 41-50 years or the highest age group, 83.86% male dominated, 77.19% of respondents cannot meet household needs from agricultural activities, 44.04% have a family of 3-5 people, 48.95% only work as farmers or no side work, 41.93% graduated from high school / vocational school, and 46.14% have 16-20 years of farming experience. This data shows that in general the respondent farmers have the capacity to provide information on their agricultural problems.

The number of respondent farmers aged 41-50 years is a productive age which is in the range of 15-64 years (UU No. 13 Years of 2003). A person's age is one indicator that can be used to measure productivity (Soekartawi, 2001) where with increasing age farmers will reduce their physical and thinking abilities (Isyanto, 2011). Likewise with a greater number of men, where male farmers devote more of their time and energy so that they are more productive in farming (Sujaya, et al., 2018). The highest level of education of farmers is at the high school / vocational level, this level allows farmers to manage their farming business well (Damihartini and Jahi, 2005), moreover with the support of long experience so that farmers are more skilled in farming (Sujaya, et al., 2018)

Conditions of the North East Coast of Aceh.

The North East region of Aceh is a coastal area of Aceh Province which borders the Malacca Strait, has lowland land in the coastal area to the ranks of the Bukit Barisan bordering the Central Region of Aceh. Geographically, this area is located at 04^0 09' 21.08" - 05^0 45' 9.07" North Latitude and 95^0 55' 43.6" - 98^0 14' 45.41" East Longitude with an area of 20,654.34 Km2 or 2,065,434 Ha. or 36.38% of the province of Aceh which covers an area of 5,677,081 Ha as shown in Figure 1.

Figure 1. Research Locations for the North East Region of Aceh

As an agricultural area, this area has various types of soil, including Ultisols 42.65%, Inceptisols 36.71%, Entisol-Inceptisols 16.48%, Entisols 2.10% and Andisols 2.05% (Bappeda Aceh, 2021). In general, these types of soil are suitable for agricultural use, but their management must be adjusted to the nature of the soils (Hardjowigeno, 2007; Hanafiah, 2012). In addition to the support of soil types, as an agricultural area this area is also supported by climatic conditions for agricultural development. Based on the Oldeman climate type grouping, this area has the following climate types: 1) Aceh Besar types A, B, C, and D; 2) Pidie types C and D; 3) Pidie Jaya type D; 4) Bireuen type D; 5) North Aceh type D; 6) City of Lhok Seumawe type D; 7) East Aceh type C and D; 8) Langsa City type D; and 9) Aceh Tamiang types C and D (Bappeda Aceh, 2021). The Oldeman climate type grouping is based on the occurrence of wet months or rainfall > 200 mm/month. The climate of ype A has wet months of more than 9 months, type B 7 – 9 months, type C 5 – 6 months, type D 3 – 4 months and type E less than 3 months (Harahap et. al., 2021).

Various Problems of Farmers in Agricultural Business Development

As agribusiness actors, farmers are very aware of various factors that affect their farming activities. If there is a factor that encourages an increase in their income, the farmer will maintain or implement that factor (Sormin et al., 2012), and vice versa if there is a factor that becomes an obstacle, the farmer will leave or find a solution.

Based on this principle, solving agricultural development problems in an area needs to involve the opinions of farmers as agricultural subjects, starting with finding out the problems faced by farmers in solving these problems. The results of research on the problems faced by farmers in the North East Aceh Region regarding agricultural conditions and development during the Covid-19 pandemic, sorted by problem or importance score, are as shown in Table 2.

Table 2. Problem and Farmer Interest Score in Business Development Agriculture.

No	Description of Problem and Farmer Interest	Score
1	It is difficult to get subsidized fertilizer	71
2	The need for improvement of irrigation channels, pumps irrigation and optimization of agricultural land	60
3	Agricultural development carried out must be fully assisted starting with capital, superior seeds, production inputs and proper program supervision	55
4	Expensive and difficult to get superior seeds, production inputs and agricultural machinery	53
5	Plants that are developed must be in accordance with the conditions of the land, are well known to the farmers, not difficult to maintain, profitable and have economic value.	45
6	The government assistance program must be in accordance with the planting time/schedule, the availability of a clear market and a favorable price	39
7	Farmers must be assisted in the management of agricultural pests, both small and large pests	37
8	Agricultural products always have low prices, are unstable and harm farmers.	37
	Average Score	**36,31**
9	Farmers need assistance with quality extension workers	29
10	It is difficult to get access to capital so that farmers are not trapped in debt to moneylenders	24
11	Road infrastructure must be improved	11
12	Flood disasters that always happen	8
13	It is difficult to get new land for agricultural business development	3

Source : Recearch Data, 2021.

Based on Table 2. there are 13 problems faced by farmers in agricultural business activities and development in the North East Region during the Covid-19 pandemic. Eight problems have a score above the average value (score 36.31), namely the difficulty of getting subsidized fertilizer (score 71) to the problem of low and unstable prices of agricultural products that are detrimental to farmers (score 37). The five problems have a score below the average (score 36.31), namely the need to assist farmers with qualified extension workers (score 29) to the difficulty of obtaining new land for agricultural business development (score 3). All of this is a big problem for farmers and needs to get a solution from the government.

The problem of scarcity or difficulty in obtaining subsidized fertilizer is the problem with the highest ranking for farmers in the North East Region of Aceh. The condition of fertilizer scarcity also occurs in other places such as corn farmers in Kendal Regency, Central Java, where farmers often have difficulty getting fertilizer at the time of planting and even if there is an expensive price. Finally, farmers use improvised fertilizers so that maximum production is not achieved (Nugroho, 2015). The purpose of fertilization is to increase crop production, but with high fertilization costs it will reduce agricultural business income (Stewart, 2020). Fertilizer as an input to agricultural production is an important factor in maintaining and

increasing agricultural production, but fertilizer is also an input with a large portion of costs so that the government's role in providing adequate fertilizer subsidies is necessary.

Based on data reported by Tribunnews.com (March, 2021) Aceh Province gets 68,960 tons of subsidized urea fertilizer, but with the need for urea fertilizer for rice plants in Aceh of 300 Kg/Ha (Ministry of Agriculture, 2020) with a rice harvest area of 320,752 Ha (BPS Aceh, 2021) it will require 96,226 tons of fertilizer. This means that only for rice commodities, there is still a shortage of 27,226 tons of subsidized urea fertilizer. not to mention for the needs of other crops, vegetables, and fruits that are cultivated by farmers, as a result subsidized fertilizers become a contested material and there is always a scarcity.

The next serious problem for farmers is the disruption or difficulty of irrigation water so that the need for repairing irrigation channels, provision of pumping for rainfed rice fields and optimization of agricultural land. For agricultural businesses, especially lowland rice, water is the main factor, where the lack of available water will reduce production and even thwart the agricultural business.

The water requirement to produce 1 kg of rice is estimated to be ± 2,500 liters from rain or irrigation. This requirement is for all uses including evapotranspiration, seepage and percolation water (Bouman (2009), where this amount is 2-3 times greater than the needs of other secondary crops (Materu et.al., 2018). So to meet this water demand, irrigation infrastructure and channels must be in good condition, and for rainfed rice fields it must be equipped with pumps to meet the shortage of irrigation water.

Two problems with middle rankings but still above the average ranking faced by farmers in agricultural business are the need for assistance in handling agricultural pests, both small and large pests, and the price of agricultural products which is always low and unstable, which is detrimental to farmers. Pest attacks on agricultural businesses are a very disturbing problem for farmers. In addition to increasing production costs, pest attacks also cause damage to production which has an impact on decreasing quality, quantity and economically harming farmers (Carroll et al., 2017). A variety of plant-disturbing organisms, both small and large pests, were found in agricultural activities from the vegetative to generative phases that disturbed farmers in the north east of Aceh. The results of research conducted by Sayuthi et. al., (2020) agricultural crop pests in the form of insects, gold snails, birds, rats and wild boars are pests that are very detrimental to farmers, especially for rice plants in Aceh. In dealing with these pests, especially large pests, farmers are already having difficulties, so they need special assistance from the government.

The condition of the price of agricultural products which is always low and unstable is also a problem for farmers in carrying out agricultural businesses. Low selling prices of agricultural products tend to reduce farmers' income and increase the number of poor farmers (Susilastuti, 2018). Furthermore, unstable product prices are related to product market developments which make it difficult for farmers to estimate their business plans. Farmers will determine the current planting area based on past prices, the higher the price of past agricultural products, the more extensive farmers currently plant, and vice versa (Xie and Wang, 2017). The problem of low and unstable prices of agricultural products which results in farmers' poverty needs the government's role in overcoming it.

The problem of ranking 13th or lowest according to farmers that affects their agricultural business is the difficulty of farmers in obtaining new land for agricultural business development. Economically, to obtain a large income with low price barriers, it can be done by increasing the number of products (Santi et al., 2019). Furthermore, to increase agricultural business products, it can be done through intensification by adding input factors or extensification by increasing land area (Susilastuti, 2018). The problem of the difficulty of obtaining new land for agricultural business development for farmers in the North East region is related to population growth which continues to grow by 13.78 – 15.90% in the 2010-2020 period (Bappeda Aceh, 2021), granting plantation business permits to companies, and forest areas in Aceh which reach 61.62% of the total area of Aceh (Kepmenhut No. 865 of 2014) where most of them are in the north east region of Aceh. This condition of forest land use regulations makes it difficult to add new areas for agriculture, unless the government changes the status of forest areas to forest with the status of other use areas that can be designated for agricultural activities.

Various problems faced by farmers in the north east region of Aceh in their agricultural business, coupled with the atmosphere of the Covid-19 pandemic which has reduced agricultural performance, need to be resolved or a solution is sought. Solutions, especially those carried out by the government, need to refer to the problems faced by farmers so that there is a synchronization between government programs and the wishes of farmers in solving the problem.

Conclusion

The impact of the Covid-19 pandemic that occurred globally and nationally was also felt by farmers in the north east region of Aceh, this was marked by declining incomes and the difficulty of increasing agricultural production. In their farming activities, increasing production and income, farmers experience various problems which are the impact of the Covid-19 pandemic and the accumulation of previous problems. There are 13 agricultural problems faced by farmers, in the first rank is the difficulty of obtaining subsidized fertilizers, the mid or average score is low and the price of agricultural products is always unstable, and the lowest score is the difficulty of obtaining new land for agricultural business development.

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