

FARMER SURVIVAL MECHANISM DURING THE PANDEMIC: A CASE STUDY OF THE TENGGER TRIBAL COMMUNITY, EAST JAVA

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Abstract

The Covid-19 pandemic has had a multidimensional impact on the community, especially the vulnerable, namely smallholder farmers in Indonesia. Currently, the challenges farmers face are not limited to land ownership, seasonality, erosion, price factors, marketing networks, and the quality of agricultural products. However, it is also disturbed to meet basic needs, resulting in decreased welfare. This study aims to uncover and analyze the mechanism of farmer survival and welfare improvement carried out by Tengger Tribe smallholders in the Bromo mountains, Probolinggo Regency. The case study method was used to explain the mechanism of improving the welfare of smallholder farmers. The research informants were determined based on specific considerations and criteria: six farmers based on land area ownership and crop type— data collection with observations, interviews, and field notes. The findings of this study show that there are several survival mechanisms during a pandemic. First, smallholder farmers with narrow land do not always depend on agricultural products but also diversify their jobs such as entrepreneurship, improving social marketing networks, and supporting services for tourism activities in Gunung Bromo. Second, the mechanism for enhancing welfare carried out by smallholder farmers is intensification by increasing production and reducing consumption. Farmers deploy production factors such as labor, capital, intercropping planting methods, and the use of manure. Meanwhile, reducing the consumption of smallholder farmers in the Tengger Tribe limits the most basic types of food goods to reduce shopping in the market to only a few types of essential goods. Through these rational choices, smallholder farmers in the Tengger Tribe were able to survive the storm of the Covid-19 Pandemic.

Keywords: Survival mechanism; Farmer; Pandemic

Abstrak

Pandemi Covid-19 memiliki dampak multidimensional bagi masyarakat, khususnya kaum rentan yaitu petani gurem di Indonesia. Saat ini tantangan yang dihadapi petani tidak sebatas pada faktor kepemilikan lahan, musim, erosi, faktor harga, jaringan pemasaran dan kualitas hasil pertanian. Namun, guna memenuhi kebutuhan dasar juga mengalami gangguan, sehingga kesejahteraan yang menurun. Tujuan penelitian ini untuk mengungkap dan menganalisis mekanisme survival petani dan peningkatan kesejahteraan yang dilakukan oleh petani gurem Suku Tengger di pegunungan Bromo Kabupaten Probolinggo. Metode studi kasus dipilih untuk menjelaskan mekanisme peningkatan kesejahteraan petani gurem. Informan penelitian ditentukan berdasarkan pertimbangan dan kriteria tertentu yaitu enam petani yang didasarkan kepemilikan luas lahan dan jenis tanaman. Pengumpulan data dengan observasi, wawancara dan catatan lapangan. Temuan penelitian ini menunjukkan bahwa terdapat beberapa mekanisme survival di masa pandemi. Pertama, petani gurem dengan lahan sempit tidak selalu menggantungkan pada hasil pertanian, tetapi juga melakukan diversifikasi pekerjaan seperti wirausaha, meningkatkan jaringan sosial pemasaran, serta jasa pendukung kegiatan pariwisata di Gunung Bromo. Kedua, mekanisme peningkatan kesejahteraan yang dilakukan petani gurem adalah intensifikasi dengan cara memperbesar produksi dan mengurangi konsumsi. Petani mengerahkan faktor produksi seperti, tenaga kerja, modal, metode tanam tumpang sari, dan penggunaan pupuk kandang. Sementara itu, cara mengurangi konsumsi petani gurem di Suku Tengger membatasi jenis-jenis barang makanan yang paling pokok, sehingga mampu menekan belanja di pasar sampai pada beberapa jenis barang esensial saja. Melalui pilihan-pilihan rasional ini, petani gurem di Suku Tengger mampu bertahan dari badai Pandemi Covid-19.

A. INTRODUCTION

During the Covid-19 pandemic, the agricultural sector positively impacted Indonesia's economic growth. According to data from the Central Statistics Agency (BPS) for 2020, this agricultural sector contributed 13 per cent to the Gross Domestic Product (GDP), which was due to positive growth of 1.75 per cent (Magdalena 2021). However, the growth in the agricultural sector has not been accompanied by the welfare of farmers, especially small-scale farmers (poor) in rural areas. The majority of small-scale farmers still live below the poverty line. First, the causes of farmer poverty are scattered agricultural land and narrow land ownership. Second, low agricultural productivity. The condition of the low level of agricultural productivity is because the old age group and low education dominate the majority of workers. Third, agricultural production prices fall during the main harvest (Suharto 2021).

In order to improve the welfare of small-scale farmers in rural areas, the government is implementing the Rural Agribusiness Development Program (PUAP Program). This program is under the coordination of PNPM-Mandiri. The PUAP program aims to reduce unemployment and poverty by optimising agribusiness enterprises that match the potential of each region in rural areas. The form of PUAP program activities is the distribution of farming capital assistance, marketing services, management of agricultural production and savings and loan activities (Akhmadi 2016). However, the government's program to develop agribusiness corporations to accumulate capital has placed small-scale farmers as victims. So family welfare in the form of fulfilling nutrition and family health for small-scale farmers decreases, even placing them in a cycle of poverty which is passed down to the next generation (Simanjuntak and Erwinsyah 2020). Apart from government programs, small-scale farmers must implement mechanisms to improve family welfare. Farmers as a group of people are always

marginalised by capitalists and the government, especially small-scale farmers (Dewi 2007).

Small-scale farmers have a relatively low level of social welfare. This condition is caused by farming that still applies conventional models; financial management relies on loans, so farmer productivity is low (Erwin 2014). Some literature describes the efforts of farmers to improve family welfare by small-scale farmers. For example, Susanti (Susanti 2017) explains farmers' response due to the increasing population amid limited land. Meanwhile, Erwin (Erwin 2010) explains the efforts to increase the welfare of farmers by expanding the market share of agricultural products, the organisational structure of agriculture, and the movement from a profit-sharing system to a leasing system.

Furthermore, planting with an intercropping system is carried out by farmers to minimise losses of plant commodities (Putri and Suryanto 2012). Pitoyo explained (Pitoyo and Alfana 2015) efforts to improve the welfare of poor farmers in rural areas differently. Pitoyo is more focused on diversifying sources of income, for example, increasing the capacity of cacao trees and cattle (Sholekhah, Sabardila, and Setiawaty 2021). This additional income from non-agriculture is an option for small-scale farmers to meet the economic needs of their families (Raditasani and Wahyuni 2020). However, Setyaningsih (Setyaningsih 2012) explain different things about the survival strategy of farmer households. Setyaningsih's main focus is saving expenses, seeking loans, and cooperating with relatives or neighbours. In rural areas, the social network structure is important for the mechanism of poor farmers in improving family welfare. This social network structure helps in difficult times and provides a sense of security in society (Septiarti 1997). This condition emphasises that the implementation of welfare improvements is carried out in accordance with the local socio-cultural context (Sumarti 2007).

A different approach is explained by Azizah (Azizah, Budimansyah, and Eridiana 2017) regarding efforts to improve welfare in the socio-economic field of farmers. Azizah focuses on active and passive strategies and social networks built by farmers. Irwanto also explained the same thing (Febri Irwanto, Abdi, and Kurniawan 2020) about the efforts made by farmers to improve the family economy. Farmers use social relations to get additional livelihoods. One example of social relations carried out by small-scale farmers is asking for help from family or neighbours to borrow money (Inda 2020). Fundamentally, efforts to improve welfare have been made by farmers to balance income and avoid the risk of loss during harvest. This narrative is a form of better hope in meeting the economic needs of families, especially small-scale farmers who live in rural areas (Azhar 2019).

In the mountainous area of Bromo, to be precise, in Dusun Krajan, most people are small-scale farmers. For small-scale farmers, agricultural produce is not sufficient for their daily needs. In addition, in the dry season, when entering the month of July, the crops in the farmers' fields have finished harvesting. The lack of access to springs causes most farmers to no longer be able to cultivate their fields. Meanwhile, daily needs require farmers to switch to pursuing side jobs that can be done with their resources. Therefore, between July and November, farmers obtain income from several sources. However, in conditions of shortage, small-scale farmers in Dusun Krajan were able to meet household needs.

The researcher deliberately chose Krajan Hamlet, Sapikerep Village, as the research location, for several reasons, namely: (1) the researcher understood the social situation in Krajan Hamlet well; (2) there are cases of welfare improvement carried out by small-scale farmers with small agricultural land; (3) small-scale farmers carry out job diversification and agricultural intensification which is unique to small-scale farmers in Krajan Hamlet during the Covid-19 pandemic.

B. METHODOLOGY

This research was conducted using a case study design. This follows the research focus on contemporary phenomena in real-life contexts (Yin 2013). As a case in point, researchers focus on the intensification and diversification of small-scale farmers in the Bromo mountains during the Covid-19 pandemic. So, it is comprehensively disclosed the strategies carried out by small-scale farmers during the Covid-19 pandemic in Krajan Hamlet, Sapikerep Village, Mount Bromo. Research informants were determined purposively as many as six farmers, namely farmers who have narrow land, namely small-scale farmers.

The research data were obtained from three sources, both primary and secondary, namely: (1) the words of the selected informants recorded in field notes or recorded using a cell phone; (2) recorded and photographed farmer activities and (3) written sources in the form of documents and the Sapikerep Village Monograph. Research data were collected through in-depth interviews and observation. The schedule for the interview was agreed upon in advance with the informant. In-depth interviews are conducted in an ordinary and natural setting, like everyday life. In addition, conducting interviews needs to considering the right time and atmosphere. If the interview is conducted at the farmer's house, the right time is in the evening after sunset when their family is relaxing. If it is done in the moor, the right time for a midday break is around 12.00 WIB. Data analysis in this study used a qualitative descriptive technique with the Miles, Huberman, Saldana model, which was carried out when the data collection took place and after completing data collection within a certain period (Miles, Huberman, and Saldana 2014). At the time of the interview, the researcher analysed the farmers' answers. If the farmer's answer is unsatisfactory, the researcher will continue the question until credible data is obtained. Data analysis activities include data reduction, data presentation and conclusion.

C. RESULT AND DISCUSSION

This research reveals that during the Covid-19 pandemic in Dusun Krajan, small-scale farmers carried out a mechanism to improve welfare to establish a family economy. Mechanisms for improving social welfare are based on rational choices by small-scale farmers. The dynamics of farmers in Krajan Hamlet, Sapikerep Village, Wonokitri District, and Probolinggo Regency are explained to reveal the mechanism used by small-scale farmers so that a comprehensive explanation is obtained.

1. *Dynamics of the Tengger Tribe Farmers in the Bromo Mountains*

Farmers of the Tengger Tribe in the Bromo Mountains mostly use agricultural products to meet the economic needs of their families (Ifa et al. 2019). Based on land ownership and agricultural scale, farmers in Dusun Krajan fall into the category of "small-scale/poor" farmers. Even though it is included in the category of small-scale farmers, agricultural products in Dusun Krajan are one of the vegetable producers in the Tengger mountain area for market share in several cities in East Java. Agricultural commodities are commercial vegetables such as potatoes, cabbage, green onions, tomatoes, carrots and ucet (Anon 2019).

In producing vegetables in a certain quantity and quality, small-scale farmers in Dusun Krajan combine several production factors, including; land, capital and labour. The average land ownership is 0.55 hectares. So, farmers try to achieve a decent living level by choosing a strategy in accordance with their resources and potential. Apart from land, capital is one of the factors for the sustainability of farmers. For poor farmers, farmers ask the owner of capital for help to enter into a "maro" agreement. However, the problem is that it is easier for owners of capital to spend money on people they know well, such as permanent workers working on their land or farmers with a good reputation.

Farmers' income from growing vegetables is obtained during the harvest season. Farming households take on second jobs to raise cash before selling their crops. Some of the community's crops are sold to wholesalers, marketed themselves by travelling around, and purchased directly by tourists from the Bromo mountains (Sazjiyah 2020). When the crops have been sold, the income received by the farmers is insufficient because the land cultivated is less than 0.5 hectares. Income from side jobs is an important addition and can be considered the main source of income for small-scale farmers' households. The various side jobs carried out by farmers in their spare time are a form of effort to minimise the danger of unemployment. Small-scale farmers have made several efforts to deal with the impact of the Covid-19 pandemic.

2. Job Diversification

The findings of this study, during the Covid-19 pandemic, small-scale farmers in the Bromo Mountains did not only depend on farming activities. Small-scale farmers diversify their jobs, including work related to agriculture (off-farm) and non-farm. The first off-farm job was as a farmhand, as explained by Mr Imran (45 years):

"Apart from cultivating my own land, I also work as a farm labourer. I do this work while waiting for the planting season. Because farmers with large land cannot do it themselves, Sis. So there is a mutual need for each other". (Interview with Imran, 2020)

The interview excerpt above shows a mutually beneficial interaction between farmers with large plots of land and farm workers. On the one hand, farmers with large land areas have money but need labour. On the other hand, farm workers have labour but need money to meet family needs.

Aside from being agricultural labourers, work related to agriculture (off-farm) is carried out by small-scale farmers, namely animal husbandry. Typically, small-scale farmers in Dusun Krajan raise cattle, goats, chickens and ducks. Livestock activities are carried out on the sidelines of agricultural work or casual labour. Family members carry out this work with a flexible division of tasks.

Meanwhile, the work of small-scale farmers outside of agriculture (non-farm) includes selling meatballs. Pak Martadi sells meatballs produced by other people with a wage system. So, Mr Martadi's basic income comes from wages of between Rp. 30,000;00 up to Rp. 50,000;00 on condition that the trade runs out. Ms Martadi's income will be less than the above if he cannot sell all the meatballs. As he says:

"I got a commission from Sul. I get a commission of between thirty and fifty thousand if I can sell all the meatballs. The commission is less than that if I cannot sell all the meatballs. Sometimes, I take additional profit if the buyer is not from the neighbouring villages. The normal price for my neighbours is six thousand". (Interview with Martadi, 2020)

Based on this explanation, small-scale trading is an alternative channel for farmers to obtain income to finance their family's economic needs during difficult times due to the impact of the Covid-19 pandemic. Because the wages earned are classified as conditional wages, the amount of wages is in accordance with the number of meatballs sold. Then, to obtain sufficient income, the meatball seller sells merchandise at a higher price than it should be. It can be said that fluctuating wages allow meatball vendors to perform actions contrary to rural morals even though they are economically profitable.

Second, improve the social network for marketing agricultural products. One of them is Supar (41 years). Before

becoming an itinerant vegetable seller, he had other side jobs, including carrying shoulder bags, being a farmhand, and the occasional motorbike taxi. Third, support services for tourism activities in the Mount Bromo tourist area. For example, motorcycle taxi services and horse rental. Motorcycle taxi drivers are busy getting customers on Saturday and Sunday. On weekends the tourist area of Mount Bromo is crowded with visitors. In addition to motorbike taxis, some residents use motorbike taxis on horses in the sea of sand to serve tourists. Income from horse rental services is not entirely a private right because it still has to be shared with the broker who is in charge of finding customers.

3. Agricultural Production Intensification and Minimizing Consumption

Intensification of agricultural production by poor farming families in Dusun Krajan; First, agricultural labour is usually done in cooperation. Small-scale farmers start cultivating their land early. Farmers do this to anticipate offers of labour jobs from rich farmers so that work on their fields is completed first.

Second, agricultural capital. The capital money is obtained from wages for odd jobs, profits from small businesses and selling pets. If the source is insufficient, the farmer owes the employer where he works. The debt is generally returned in the form of daily labour—for example, farmers who owe Rp. 100,000;00 to his employer will pay four work days because the prevailing daily wage is Rp. 25,000;00.

Third, the cropping pattern with an intercropping system. One of the advantages of the intercropping system is as told by Pak Pulis (60 years), a farmer who cultivates his land with potatoes, leeks and chillies, regarding his reasons for implementing intercropping:

"In my land, there are cabbages, carrots and chillies. After it is harvested, it continues to be planted again. It is a waste if empty parts of the fields are not planted with anything. Later, when the harvest is doubled" (Interview with Pulis, 2020).

The application of intercropping shows an economically oriented action based on the motivation to use the land as efficiently as possible. In addition, farmers who only grow one type of vegetable face the risk of loss if the harvest coincides with low prices. If a farmer's land is planted with a combination of two types of plants, then the risk of loss from selling one type of vegetable can still be covered by profits from selling other crops. Fourth, the use of labour in agricultural production. The inability of small-scale farmers to provide capital to pay labour wages is one of the motivations for deploying labour from households by dividing tasks among its members. The use of household labour is considered not part of the production cost, so the profit of farming is calculated by subtracting the gross sales from the cost of buying production inputs and the cost of harvesting.

Fifth, the use of manure. In order to minimise the costs incurred for chemical fertilisers, manure is used as an alternative. Besides being cheaper, it is also more environmentally friendly. Fertilisers used by farmers are generally Urea, ZA, and NPK. Farmers with small capital often only use one type of fertiliser among the three. Even though carrot plants have experienced caterpillar attacks so that only the leaf bones are visible, farmers do not spray them with pesticides.

In addition to agricultural intensification, small-scale farmers in Dusun Krajen are also trying to minimise household consumption to maintain a family life. To reduce small-scale consumption, farmers in the Tengger Tribe limit the most basic food items to suppress shopping at the market to only a few types

of essential goods. One way to suppress household consumption spending is by replacing rice consumption with "local corn".

Farmers' consumption behaviour, especially during difficult times due to the impact of the Covid-19 pandemic, will make spending savings by buying goods they cannot produce themselves or will replace common food ingredients (rice) with cheaper foodstuffs (corn). Funds from the savings will be allocated to buy fertilisers and pesticides bit by bit. The social context frames small-scale farmers' living conditions to survive in difficult conditions. Small-scale farmers are full of rational calculations in making decisions (Suliadi 2016). This kind of farmer's character is only owned by subsistence farmers as defined by Wolf in Dzulkarnain (2020) (Dzulkarnain et al. 2020), i.e. village people who grow crops and raise livestock to fulfil their daily needs and fulfil their social and ritual surplus. Although the results from farming and side jobs are not used to meet consumption needs, the rest is set aside and used to finance local celebrations.

The farmer's character is also in line with Scott's explanation (Scott 1994), namely groups of people who live subsistence farming and raising livestock. Even though farmers have a surplus (products that are not consumed completely for family needs, for social and ritual surpluses) and are then sold to the market, the results are still in the context of fulfilling their other basic needs (kerosene, salt, side dishes) so that they are maintained and safe all the time.

As a production unit and, simultaneously, a consumption unit, farmers develop opposite strategies: increasing production and reducing consumption. This finding is consistent with Wolf's description that the peasantry's eternal problem is finding a balance between external demands and the farmer's need to support his family. However, to overcome this most basic problem, farmers can adopt two strategies that are completely contradictory

to each other. The first is to increase production, and the second is to reduce consumption (Wolf 1985).

For Wolf (Wolf 1985), the two strategies above, whether moral choice (reducing consumption) or rational choice (increasing production) for farmers, are not black and white. The farmer's decision to choose a strategy depends to a large extent on the larger social order in which the farmer makes a living. Therefore, with the strengthening or, conversely, with the weakening of social order, farmers will prefer one of the two strategies and sometimes use both at the same time but in different contexts.

4. Survival Strategy

The impact of the Covid-19 pandemic has greatly affected the economic conditions of families, especially poor farmers in the Bromo mountains, Tengger. The small-scale farmer family made several efforts to deal with the impact of the Covid-19 pandemic, one of which was to diversify jobs, including work related to agriculture (off-farm) and non-farm (non-farm). Aside from being agricultural labourers, work related to agriculture (off-farm) is carried out by small-scale farmers, which includes raising cattle, goats and chickens.

Based on these findings, the family conditions of small-scale farmers in Dusun Krajan are in line with the theoretical framework by James C. Scott on survival mechanisms (Scott 1994). According to Scott, three survival mechanisms are carried out by poor farming families, first, utilising social relations or networks. This can be seen from the social networks formed between capital owners or landlords, not only in agricultural management, but this social network also creates side jobs. Second, alternative subsistence. Apart from working in agriculture, small-scale farmers work outside agriculture (non-farm), among others, selling. Small-scale trading jobs are an alternative channel for farmers to earn income to finance their family's economic needs during difficult times due to the impact of the Covid-19 pandemic. In

addition to selling, poor farmers also open services to support tourism activities on Mount Bromo. For example, motorcycle taxi services and horse rental.

Meanwhile, the third part of the survival mechanism that Scott explained was to cut expenses. This context relates to reducing the expenditure or switching food from rice to corn or tubers, which are lower in terms of price. Small-scale farmers also minimise household consumption in Dusun Krajen to maintain family life. How to reduce consumption Small-scale farmers limit the most basic types of food items to suppress shopping at the market to only a few essential goods during difficult times due to the impact of the Covid-19 pandemic. Farmers will make spending savings by buying goods they cannot produce themselves or will replace standard food ingredients (rice) with cheaper foodstuffs (corn). Funds from the savings will be allocated to buy fertilisers and pesticides bit by bit (Scott 1994).

The difficult conditions faced by poor farming families in Dusun Krajen carried out the mechanism strategy proposed by Clark (1986). The first strategy is (informal social support networks). Poor farming families pursue side jobs to earn cash. This is because when the crops have been sold, farmers' income is insufficient for their daily needs. Income from side jobs is an important addition and can be considered the main source of income for small-scale farmers' households. The second is (flexible household composition) in the form of mobilising factors of production, such as agricultural labour in Krajen Hamlet, usually done in mutual cooperation. Small-scale farmers only use household workers, so there is no cost allocation for labour wages.

The third survival mechanism put forward by Clark is (multiple sources of income). This income diversity can be seen in the activities of poor farming families outside of agriculture. They earn wages for odd jobs, small profits and selling pets. If the source

is insufficient, the farmer owes the employer. The debt is generally returned through daily labour (Clark 1986).

James C. Scott and K. Clark share the same view of survival mechanisms in difficult conditions. The context of poor farming families in dealing with the impact of the Covid-19 pandemic applies patterns of behaviour, actions and implementation based on rational choices. However, the pressure point of James C. Scott's survival mechanism is more focused on subsistence and reciprocity norms. At the same time, Clark focused on economic motives. The two theories put forward by Scott and Clark regarding survival mechanisms are strategies for sustaining life in difficult conditions, for example, by meeting minimum needs, alternative income or fulfilling needs (Clark 1986; Scott 1994). Even according to Ritzer, individuals, families or groups take unfavourable risks in carrying out survival mechanisms, and the most important thing is to meet the needs to continue life (Ritzer 2004).

D. CONCLUDING REMARKS

The findings of this study reveal that small-scale farmers during the Covid-19 pandemic in Dusun Krajan carried out a mechanism to increase welfare to establish a family economy. Welfare improvement is carried out based on rational choice. First, small-scale farmers with narrow land do not always depend on agricultural products but also diversify their jobs, including work related to agriculture (off-farm) and non-farm. The first off-farm job is as a farmhand. The second is to raise livestock.

Meanwhile, small-scale farmers outside of agriculture (non-farm) work includes selling meatballs, especially at Bromo tourist spots. Second, improve the social network for marketing agricultural products. Third, support services for tourism activities in the Mount Bromo tourist area. For example, examples of motorcycle taxi services and horse rental.

In addition, the results of this study also reveal that the mechanism for increasing welfare by small-scale farmers is in the

form of intensifying agricultural production and minimising consumption. The intensification of small-scale farmers in Krajan Hamlet is carried out in many ways. First, agricultural labour is usually carried out in cooperation. Sometimes it involves the family, with a wage system using agricultural products. Second, agricultural capital. The capital money is obtained from wages for odd jobs, profits from small businesses and selling pets. Third, the cropping pattern with an intercropping system. Fourth, the use of labour in agricultural production. Fifth, the use of manure in order to minimise costs incurred for chemical fertilisers. Meanwhile, how to reduce the consumption of small-scale farmers in Dusun Krajan is to limit the most basic types of food items so that they can suppress shopping at the market to only a few types of essential goods. In other words, by choosing this welfare improvement strategy, small-scale farmers make decisions based on rational choices.

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