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Livelihood adaptation strategies of the community in Sukajadi during the COVID-19 pandemic: non-farm or farm?

Strategi adaptasi mata pencaharian masyarakat di Sukajadi selama pandemi COVID-19: sektor non-pertanian atau pertanian?

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Abstrak.
Pandemi COVID-19 menyebabkan gangguan serius pada ekonomi akibat pembatasan mobilitas dan penutupan usaha, yang mengakibatkan kehilangan pekerjaan dan memaksa pekerja & pengusaha untuk beradaptasi. Studi ini mengeksplorasi strategi mata pencaharian di Desa Sukajadi, Jawa Barat, di mana sebagian besar penduduk bekerja di sektor non-pertanian dan sebagian kecil di sektor pertanian. Pendekatan campuran diterapkan, menggabungkan observasi, wawancara mendalam, dan survei rumah tangga. Data dikumpulkan antara Februari hingga Juni 2022, dengan tindak lanjut pada Februari 2024. Temuan menunjukkan perbedaan pilihan mata pencaharian dari generasi berbeda: penduduk lanjut usia masih bertumpu pada pertanian hortikultura, sementara generasi muda lebih memilih sektor non-pertanian, khususnya industri pakaian. Pada "gelombang kedua" pandemi (Mei–Juli 2021), industri konfeksi yang berbasis pesanan terbukti lebih tangguh dibanding industri garmen. Hal ini disebabkan oleh fleksibilitas waktu pemesanan, tenaga kerja lebih sedikit, keterampilan menjahit yang tinggi, serta ketergantungan yang rendah terhadap pasar terpusat. Temuan ini menunjukkan bahwa dalam menghadapi gangguan ekonomi, masyarakat lebih memilih strategi adaptasi pada pekerjaan non-pertanian dibandingkan pekerjaan pertanian yang memerlukan keterampilan dan sumber daya yang lebih besar.

Kata kunci: pandemi COVID-19, strategi mata pencaharian, adaptasi ekonomi, Desa Sukajadi, pekerjaan non-pertanian

Abstract.
The COVID-19 pandemic caused severe disruptions to the economy through mobility restrictions and business closures, resulting in job losses and forcing workers and entrepreneurs to adapt. This study explores livelihood strategies in Sukajadi Village, West Java, where most residents are employed in non-farm sectors and a smaller proportion in farming. A mixed-method approach was applied, combining observations, in-depth interviews and household surveys. Data was collected between February and June 2022, with follow-up in February 2024. Findings reveal generational differences in livelihood choices: older residents remain engaged in horticultural farming, while younger generations prefer non-farm employment, particularly in the garment sector. During the "second wave" of the pandemic (May–July 2021), two types of garment industries (garment manufacturing and made-to-order clothing) faced challenges, but the made-to-order sector proved more resilient. This was due to more flexible order systems, fewer workers, higher sewing skills and lower dependence on centralized markets. Although farming persists as an option, limited agricultural resources and a lack of farming skills make non-farm sectors more favourable. Overall, these findings suggest that in the face of economic disruption, people's adaptation strategies tend to be directed towards non-agricultural work rather than agricultural work which requires greater skills and resources.

Keywords: COVID-19 pandemic, livelihood strategies, economic adaptation, Sukajadi Village, non-farm employment

1. INTRODUCTION

Indonesia is not exempt from the pandemic of Coronavirus Disease 2019 (COVID-19). In mid-March 2020, the Indonesian government imposed the first large-scale social restrictions (*Pembatasan Sosial Berskala Besar, abbreviated as PSBB*), a form of lockdown, as a safety measure aimed at halting the spread of the virus. As the world grappled with the situation, over the years from 2020 to 2022, Indonesia imposed a series of total and partial lockdowns at both the national, regional and local levels.

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These mobility restrictions and the closure of meeting places, including schools, offices and various business enterprises, caused significant disruptions to daily activities, particularly in employment. This resulted in temporary layoffs and job losses, not only in the formal sector but also in the informal sector (Olivia *et al.* 2020). The informal sector, where a significant portion of Indonesia's low- to medium-skilled workers earn their daily wages, was particularly impacted (Pitoyo *et al.* 2021). Many of these workers faced considerable challenges in surviving such a difficult situation.

In situations of abrupt and severe economic downturns, there is a tendency for rural return (McGee and Firman 2000; Bista *et al.* 2022; Bashar *et al.* 2024; Bharata 2024). During the 1998 economic crisis in Indonesia, non-farm workers who lost their jobs in urban areas were sent back to rural areas to work in agriculture (McGee and Firman 2000). However, the "agriculture as a safety net" view was countered by Breman and Wiradi (2004), who argued that those who left rural areas for urban informal sector employment were mostly landless, or owned too small a piece of land that was inadequate to make a living. As a result, there was no agricultural land to return to when going back to the village. In the case of COVID-19 in Nepal, Bista *et al.* (2022) also noted that those who returned to their village of origin placed additional pressure on the household's welfare.

The impact of the COVID-19 pandemic in rural areas differs from that in urban areas and varies across regions (Bharata 2024; Njurumana *et al.* 2025). Business closures and mobility restrictions hit the industry and service sectors the hardest. For instance, in Bali, agriculture became a crucial safety net as the tourism industry collapsed (Bharata 2024). As businesses, especially in coastal and urban areas, shut down, many Balinese returned to their hometowns to survive, finding work in agriculture. The close kinship ties and availability of agricultural land facilitated this transition (Putra *et al.* 2023; Bharata 2024). In contrast, although agricultural products from rural areas were in high demand, transporting these products to consumers proved challenging (Kuleh *et al.* 2022). Additionally, a decline in purchasing power further complicated the situation (Sudiro 2024). Fatimah *et al.* (2020) also observed that, while the urban informal sector plays a significant role in addressing structural issues such as poverty under certain conditions, it proved to be inadequately resilient during the COVID-19 crisis.

Furthermore, the economic impact of COVID-19 began with a negative supply shock, driven by reduced production capacity and activity restrictions (Suryahadi *et al.* 2020). The production capacity reduction was primarily caused by business closures, while the mobility restrictions hindered economic activities further. This supply shock then led to a demand shock as households reduced their expenditures. Similarly, Sitko *et al.* (2022) found that non-farm businesses in rural areas were highly sensitive to the pandemic's lockdown measures, with demand falling due to declining purchasing power and disruptions to supply chains caused by mobility restrictions.

Furthermore, it is essential to consider the rural-urban interconnections that existed even before COVID-19. The urbanization of rural regions had created an economy dependent on distant markets for trade and the provision of goods and services (Berdegué *et al.* 2014). Agricultural and manufactured products produced in rural areas were typically marketed and consumed in urban centers. However, transportation restrictions during the COVID-19 pandemic disrupted this vital production-consumption relationship.

Given this context, this study aims to understand the impact of COVID-19 on the livelihoods of a community located in close proximity to a city (hinterland) that has undergone significant economic diversification. If economic diversification means a rural economy that is less reliant on subsistence or low-value agricultural commodities (Merenkova *et al.* 2020), or less dependent on agriculture (Berdegué *et al.* 2014) and instead has seen the growth of small industries and tourism, the question arises: does this diversification make the community more vulnerable, or, conversely, more resilient?.

2. METHODOLOGY

This research was conducted in Sukajadi Village, a village located in rural areas of West Java, which has significant proximity to the city center of Bogor. Sukajadi Village is experiencing rapid economic diversification, with the non-agricultural sector, especially the clothing industry, being the dominant sector. The study was conducted between February and June 2022, with a brief follow-up conducted in February 2024, to obtain a more complete picture of the long-term impact of the COVID-19 pandemic on the livelihoods of local communities.

This study uses a mixed-method approach with a sequential explanatory design that prioritizes quantitative data collection (Creswell 2014). This method begins with quantitative data collection through household surveys, which is then followed by qualitative data collection through in-depth interviews and observations. This design allows researchers to identify patterns or findings from quantitative data first, which are then clarified and expanded upon through more in-depth interviews and observations (Creswell 2014). Using an explanatory design, this study aims to test and further explain the results obtained from quantitative data, as well as explore the factors that influence these results.

The data collection method in this study consisted of field observations, in-depth interviews and household surveys. Field observations were carried out to directly understand the social and economic changes that occurred in Sukajadi Village, focusing on economic activities and community adaptation during the pandemic. In-depth interviews were conducted with 15 key informants who were selected purposively. These informants consist of business owners in the clothing sector, workers in the garment and confectionery industry and farmers who are still involved in agricultural activities. The selection of informants was carried out to gain deeper insight into the adaptation strategies carried out by various community groups during the pandemic, both in the non-agricultural and agricultural sectors.

The household survey was conducted between June and July 2022 to gather data on income, employment and changes in people's livelihood strategies during the pandemic. The survey involved 22 households, consisting of 8 clothing business owners, 7 workers in the garment and made-to-order clothing industry and 7 families involved in agricultural activities. These respondents were representing various types of jobs and sectors in Sukajadi Village.

Data collected from observations, in-depth interviews and household surveys were analyzed using a thematic analysis approach for qualitative data and statistical descriptive analysis for quantitative data. Qualitative data were analyzed by identifying and categorizing the main themes emerging from interviews and field observations to explore the patterns of adaptation that occurred in the community (Jason and Glenwick 2016). Quantitative data surveys were analyzed statistically to describe changes in income and occupations choices during the pandemic.

This research also adheres to strict research ethics guidelines. Prior to data collection, all informants were given an explanation of the purpose of the research and were given the opportunity to give voluntary consent (informed consent). The identities of the informants are kept confidential to protect their privacy, as well as to ensure that the data collection process is ethical and transparent.

3. RESULT AND DISCUSSION

Sukajadi, a rural village located on the outskirts, is situated about 10 kilometers west of the center of Bogor city and approximately 70 kilometers from Jakarta, the capital of Indonesia. It lies on the slopes of Mount Salak, with an elevation ranging from 400 to 800 masl. Its proximity to the city, along with its abundant natural beauty, makes Sukajadi an attractive destination for visitors. Over the past decade, several nature- and culture-based tourism establishments have been developed, and their numbers have increased in recent years. Among the earliest establishments are the Curug Nangka waterfall and camping ground, as well as the Parahyangan Agung temple. More recent additions include Kampung Budaya Sindangbarang, Situ Tamansari lake, Desa Wisata Sukajadi, Kebunsu Villa and The Highland Park Resort. These tourism facilities, including camping grounds, hotels, resorts, cafés and restaurants, are mostly owned and/or managed by non-locals. Some local residents are directly employed in these establishments, while most engage in informal activities related to tourism, such as managing food stalls, operating fruit and vegetable stands, selling souvenirs, or offering room rentals and homestays for budget travelers.

With a total area of around 304 ha, land used in Sukajadi is mainly for ricefield, dry-land agriculture, as well as public facility, housing and home-gardens. Part of Sukajadi is also a protected forest. Based on data from Central Bureau of Statistics (BPS 2021), population of Sukajadi is 9,677 persons of 2,567 households, consists of 52% male and 48% female. In terms of employment, about 40% of working population are working in home-industry waged workers, 33% casual workers, 13% farm laborers and 6% itinerant traders. Other types of occupation are in a much smaller proportion. Education-wise, the 2020 data indicated that the majority (81%) of population are elementary school. Only 8% have 12 years of education (high school graduates), or above.

Farming in Sukajadi primarily focuses on horticultural commodities, including green beans (*buncis*), winged beans (*kecipir*), long beans, chili peppers (*cabai*), jicama (*bengkuang*), cucumbers (*mentimun*) and bitter gourd (*paria*). Nowadays, few farmers choose to plant rice, despite the irrigation system being relatively intact. The shift from rice to horticultural crops began around 2012, mainly because horticulture offers higher income and better market opportunities than rice. However, other factors also contributed to this shift toward more intensive agriculture: land availability and labor. Land ownership is decreasing as plots are sold or converted to non-agricultural uses. In one household, a farmer who cultivates 0.75 hectares of horticultural crops owns less than 20 percent of it, with the rest obtained through renting. Other farmers work on plots of land that have been sold to new owners but have not yet been converted to different uses. This means that although farmers have access to agricultural land and can cultivate horticultural crops, they lack security in the long-term availability of the land. Meanwhile, agricultural labor, especially among the younger generation, is becoming scarce, as employment opportunities in non-agricultural sectors are more attractive to them.

The clothing industry in Sukajadi began in the early 2000s when a garment factory was established in Kampung Gadog Sisi (RW 08). Two more factories were opened in 2004. These factory-based clothing industries produce ready-to-wear clothes. The number of workers in each factory varies from 20 to 50. One village leader informed that many of the *konfeksi* owner-operators were former workers at these garment factories. They started their own businesses after acquiring skills and capital. The *konfeksi*, which is the second type of clothing industry in Sukajadi, refers to small-scale, mainly home-based operations. These can either be tailors with several assistants who make made-to-order clothes or owner-operators of *konfeksi* hijab (Muslim women's headscarves).

3.1. The pandemic and its impact on the village community

Within one month after Indonesia announced its first two COVID-19 infections in early March 2020, the number of infected people has reached close to 3,000, with an 8 percent case fatality rate. During COVID-19 pandemics, Jakarta, West Java and Central Java are the worst-hit provinces, together accounting for more than half of the national total cases (Eryando *et al.* 2020).

Informants and respondents commonly described the COVID-19 peak in three waves: the first wave from November 2020 to January 2021, the second wave from May to September 2021 and the third wave from January to March 2022. These periods coincided with national-level reports: the first wave in January 2021 and the second wave from June to August 2021 (Andriyanto 2020; Tenda *et al.* 2021). The second surge was attributed to the lack of discipline during the massive exodus that occurred during the national holiday in mid-May 2021, the emergence of new variants and the low vaccination rate (Tenda *et al.* 2021).

Furthermore, there was general agreement among the informants and respondents that the worst impact of the pandemic occurred during the second wave. This impact was not only in terms of health, referring to the number of cases and casualties, but also in terms of the economy. However, when asked about the number of cases and casualties, no one had a clear answer. In April 2020, it was reported that Tamansari Sub-district became a COVID-19 "red zone", as indicated by confirmed cases of COVID-19 (Setiawan 2020). A map of Tamansari Sub-district also showed that by June 2021, there were a total of 651 cases in Tamansari Sub-district, with 15 casualties, while in Sukajadi Village, there were 29 cases with one casualty. This map was apparently created as part of a report to the government, not for public distribution.

3.2. The clothing industry in time of pandemics

As mentioned earlier, there are two types of clothing industries in Sukajadi: garment and *konfeksi*, which differ based on whether most of the work is done in a factory or at home. These two types also vary in terms of production scale, technology and the number of workers. In terms of products, the garment industry produces ready-to-wear clothes, while *konfeksi* either produces tailored (made-to-order) clothes or hijabs.

In terms of employment opportunities, more jobs are available in garment factories and *konfeksi hijab* production than in *konfeksi jahit* (tailoring). This is due to the larger scale of production in garment factories and *konfeksi* hijab, as well as the lower skill requirements. Regarding skill levels, *konfeksi* hijab requires the least sewing skills, while garment production and *konfeksi jahit* require medium to high-level skills.

In *konfeksi* hijab, workers only need to sew small pieces of fabric, the cutting and overall design of which are already prepared by the owner-operator. The owner handles quality control. In contrast, sewing in garment factories and *konfeksi jahit* requires more complex techniques. In all three types of clothing industries in Sukajadi, the owner-operated manages pattern-making, fabric cutting and quality control of the finished products. This difference in skill levels is also reflected in the location of work: *konfeksi* hijab can be done at workers' homes (a putting-out system). In contrast, garment and *konfeksi jahit* work are carried out at the factory or the owner-operators' workshop.

Regarding marketing, the garment factories and *konfeksi* hijab share the same market. They are connected to two major wholesale markets in Jakarta: Pasar Tanah Abang and Thamrin City, primarily through wholesale traders. These two markets are considered the largest wholesale and retail hubs for textiles and clothing in Indonesia. An exception is one garment factory owner who has established his brand and markets his products through his shops in these two wholesale clothing markets and through online shopping.

For both garment and hijab producers, the peak order period usually occurs just before the fasting month of Ramadan, which in 2020 and 2021 fell in April-May (**Figure 1**). On the other hand, *konfeksi jahit* (tailors) produce items for individual single-orders or collective orders for uniforms from schools and companies. Their customers are widely distributed across Bogor, Jakarta and surrounding cities. Collective orders, which usually come through acquaintances, peak twice a year: at the start of the school semesters in January-February and in July-August. Single orders from individuals peak around Ramadan, similar to garment and hijab orders.

During the COVID-19 pandemic, the "captive market" nature of *konfeksi jahit*, which means a lower dependence on centralized markets and its peak order periods occurring twice a year, allowed this sector to fare better. As shown in Graph 1, for owner-operators of *konfeksi jahit*, in 2020, collective orders for uniforms arrived before or during the middle of the COVID-19 lockdown, ensuring an almost constant flow of income and employment for their workers. However, for garment and *konfeksi* hijab producers, the Ramadan peak order was soon followed by a lockdown as the COVID-19 waves peaked.

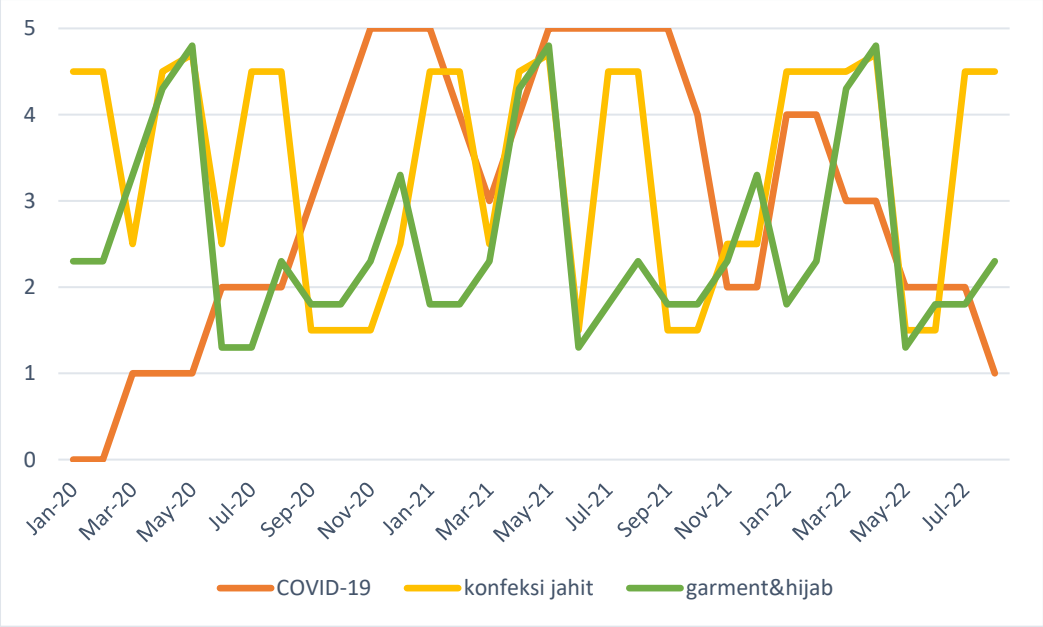

Figure 1. Comparison of Peak of COVID-19 with peak of orders in Jahit konfeksi and garment/hijab clothing industry, Sukajadi 2020-2022.

During this time, the wholesale markets of Tanah Abang and Thamrin City were intermittently closed for months during 2020 (from March 27 to April 5 and then extended until June 7) and again in 2021 (from July 3 to August 2). This meant that two Ramadan sales peaks were lost. As a result, many ready-to-wear clothes and hijabs could not be sold. Costs had already been incurred by the owner-operators of garment and *konfeksi* hijab businesses, but there was no income. One of the hijab owner-operators admitted that the period of malaise for their business was longer than for the garment businesses.

One strategy to reduce losses was to move online. A new network was established. One hijab producer mentioned receiving orders from East Java and Sumatra. Although these orders were small, they helped mitigate some of the damage caused by the loss of orders from Jakarta.

As mentioned earlier, of the 22 respondents who were interviewed using a questionnaire, six are owner-operators of garment factories, *konfeksi hijab* and *konfeksi jahit*, while 16 are workers in these three types of clothing industries. Data in **Table 1** shows a comparison of production resources, workers and income at three points in time: before the pandemic (approximately February 2020), at the lowest point (the peak of the second wave of COVID-19 in July 2021) and at the time of the research (June 2022).

Table 1. Comparison of production resources, workers and income at before-lowest-current pandemic situation, Sukajadi 2019-2022.

No	Comparison		Pandemic Period					
			Before - Feb 2020		Lowest (Jun 2021)		Research time (Jun 2022)	
1	Owners' Production Resources (n=6)	Sewing machines	104	17.3	75	12.5	77	12.8
		Obras and embroidery machines	24	4	19	3.2	19	3.2
2	Workers (n=16)	Working family members	12	2	14	2.3	15	2.5
		Waged workers	69	11.5	28	4.7	51	8.5
3	Income (IDR million/month)	Owners	140	23.3	23.2	3.9	54.7	3.4
		Workers	60.5	3.78	38.9	2.4	49.03	3.1

Of the six owner-operators, the adjustment to pandemic disruption was made by reducing the number of waged workers and, later on by selling some of the machines or production resources. Reducing workers is also unavoidable because of gathering restriction–a regulation to limit number of people in one space. When further comparison is made on the number of various sewing machines (sewing, *obras*, *bordir*/embroidery) owned by owners of the three types of clothing-industry at before, lowest and present conditions, it was observed that owner of *konfeksi jahit* fare better than owner-operators of *konfeksi hijab*. This change in number of production resources, however, requires careful analysis as the garment owner-operator usually has many more sewing machines prior to pandemic, as seen in the difference between total- to average number of resources. This, in itself, indicate that garments have a much larger production scale. To keep the business going albeit slow, the strategy is to reduce the number of waged workers and employ more family members. At its lowest situation, these owners employed less than half of the waged workers that they had before pandemic. The present or research-time situation (in June 2022) shows some improvement but is still not the same as before pandemic. More sewing machines have been added, more waged workers are employed.

Observing the income of the owner and the worker at Table 1, it was observed that of the six owners surveyed, the range of monthly income was IDR 4 million to IDR 100 million. The highest being that of garment owners. At its lowest period, there was a 65% decrease in income for owners. Further separation of data indicates that for hijab owners the decrease was around 80%, whereas for custom-clothing owner/producer was 37.5%.

Of the 16 workers in the survey, the average monthly income before the pandemic was at IDR 3.78 million. It plummeted to IDR 2.4 million/month during the lowest pandemic situation and currently it is around IDR 3.1 million/month. The calculation of income was based on income from clothing work as well as other activities that were added to support the households' economy. Unfortunately, it was not easy to detail the amount of income from each source of work.

As a response to layoffs, the workers of the garment factory turn to *konfeksi jahit* works. However, only some can be employed due to the higher sewing skills that are required in *konfeksi jahit*. "*We have to carefully choose (the workers), because not all of them have the skill to sew a dress," says* one *konfeksi jahit* owner-operator. Other workers earned income by making cake and traditional delicacies, becoming waged-workers in the small-scale shoe industry in the neighboring village, assisting parents in horticulture crops' planting and marketing, or growing ornamental/house-plants, as is shown in **Table 2**.

Table 2. Other activities of husband and wife that were added to support household economy during COVID-19 pandemic, Sukajadi 2022.

No.	Additional activities during COVID-19	Husband	Wife and family members
1	Waged worker *konfeksi jahit*	15	4
2	Agriculture (horticulture, raising chicken and ornamental fish)	2	3
3	Traders (clothes, food/bread, ornamental plants)	2	1
4	Cleaning service	2	0
5	Waged worker (food stalls, ecotourism, shoemaking)	3	2
6	Others	1	0

Our observation and interviews noted that no worker-respondents took up agricultural work as the primary strategy to survive or to expand. Those who do take up some agricultural activities do so to assist their parents in cultivating horticultural crops and only take part in specific activities of cultivation. The harvesting and marketing of products are two main choices. Over half of the respondents, workers as well as owners, mentioned that their parents still work in agriculture. But these are mostly not in their own land. An exception to that was one garment owner who owns a large plot and has hired farm workers to cultivate the land since before the pandemic. This fact seems to be in line with the observation made by Jan Breman and Gunawan Wiradi (2004) that most non-farm workers are the landless of rural areas.

Our observation also finds two other reasons for not farming. First, inadequate skill to do farming and or manage farms. As mentioned by one clothing worker, "*Working in konfeksi is easier. You only have to learn basic sewing skills. The (fabric) cuttings and other work are done by Boss (=owner-operators). If you work in agriculture, you have to know everything from A to Z–land preparation, choosing which commodity, when and how much to give fertilizer or spray pesticides, until harvest and selling (the commodity) to the market*". For them, agricultural work is daunting. Second, in collision with the nature of the COVID-19 pandemic itself, that are both terrifying and volatile, one turns to the availability of similar works in the clothing industry that do not require much re-learning and/or the availability of non-farm gig works in the surrounding area, such as shoe-making and selling of ornamental plants using social-media (e-commerce). The latter is also seen by the clothing industry as an alternative to conventional marketing.

4. CONCLUSION

The case of Sukajadi's clothing industry shows that the nature of COVID-19 pandemic and the nature of community livelihoods collided to define the response. In a condition that necessitates immediate adaptation, the households' livelihood strategy takes advantage of the availability of similar non-farm work, work that does not require much re-learning. The workers who lost their jobs in the garment and *konfeksi hijab* of the clothing industry turn to *konfeksi jahit* because it requires similar skills. The fact that the *konfeksi jahit* fares better than the garment and *konfeksi kerudung* is due to its captive market and the nature of its orders. Farm work is seen as one of the 'gig' options, but not for the long term due to a lack of skills.

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