Impact of the Covid-19 Pandemic on the Livelihoods of Paddy Farmers in Kendari, Indonesia

Haji Saediman

Department of Agribusiness, Faculty of Agriculture, Halu Oleo University, Indonesia

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ABSTRACT

This study investigates the impacts of the COVID-19 pandemic on the livelihoods of paddy farmers in Kendari, Southeast Sulawesi, Indonesia, with particular attention to income changes, perceived disruptions, future outlook, and coping strategies. Data were collected through structured interviews with 69 randomly selected farmers in Kelurahan Amohalo and Labibia during the height of the pandemic in 2020. Results indicate that mobility restrictions, the low price of unmilled rice, and the fear of leaving the house were the main perceived causes of livelihood hardship. Approximately 60% of respondents reported income declines, primarily due to reduced market access and falling paddy prices. A majority of farmers expressed concern that the pandemic would continue to adversely affect their livelihoods in the future, highlighting long-term vulnerability. Coping strategies ranged from consumption adjustments, borrowing, and asset liquidation to reliance on government and community assistance. Notably, the availability of sago starch as a stable alternative staple and the use of home yards for growing food crops provided important buffers. Although receiving government aid was the most commonly cited coping mechanism, it underscores the critical role of external support rather than internal resilience alone. Policy recommendations include strengthening social safety nets, ensuring access to inputs, offering debt relief, and enhancing market linkages.

Keywords: COVID-19, paddy farmers, rice, livelihoods, coping strategies

INTRODUCTION

The COVID-19 pandemic has had unprecedented impacts on agricultural systems and rural livelihoods worldwide. Pandemic containment measures, such as lockdowns, travel restrictions, and social distancing, disrupted farm labor, input supply, and distribution channels globally (Mahmood et al., 2024). These supply-chain disturbances, coupled with a broader economic recession, resulted in reduced agricultural output and volatile food prices in many regions (Swinnen & Vos, 2021). Rural households and small farmers were particularly hard hit, as they faced significant income declines and limited market access (Sapbamrer et al., 2022; Swinnen & Vos, 2021). A recent global review confirmed that the vast majority of smallholder farmers experienced severe income losses during COVID-19, which in turn undermined their food security and ability to meet basic needs (Marsden et al., 2023). In some cases, harvests went to waste due to an inability to transport produce to markets, highlighting the extreme vulnerability of small-scale producers during the crisis (Marsden et al., 2023). These global shocks to agriculture and livelihoods have been uneven, with the worst effects concentrated in poorer, less integrated rural economies (Swinnen & Vos, 2021).

Indonesia, home to the largest agricultural sector in Southeast Asia, felt these impacts acutely. A significant share of Indonesia's population depends on agriculture for income and subsistence, and rice is by far the most important staple crop (Saediman et al., 2019, 2020), including in Southeast Sulawesi (Saediman, 2015). The country reported its first COVID-19 cases in March 2020, and soon after imposed restrictions on economic activity (Rozaki, 2020). These necessary health measures had immediate socio-economic consequences, as many Indonesians lost jobs or income sources, especially in urban industries, and millions of informal workers returned to their villages (Arifin, 2023). Disruptions in transportation and markets made it difficult for farmers to obtain farming inputs and sell their harvests (Rozaki, 2020). Lower purchasing power among consumers, in turn, raised concerns about food insecurity (Rozaki, 2020). Rice farmers, in particular, faced uncertainty as the

government moved to secure national rice stocks and stabilize prices during the emergency (Suryana et al., 2024).

At the same time, Indonesia's agriculture demonstrated resilience. Unlike most sectors, agriculture continued to grow (albeit modestly) during the pandemic, helping to cushion the overall economic downturn (Halimatussadiah et al., 2022). In 2020 and 2021, agricultural output (especially food crops) maintained positive growth, which supported employment and food consumption in rural areas when other livelihood sources faltered (Halimatussadiah et al., 2022). This outcome underlines agriculture's role as a buffer for the national economy in times of crisis. Nevertheless, rural smallholders in Indonesia remain highly vulnerable. Even before the COVID-19 pandemic, the majority of the nation's poor lived in rural areas and depended on farming, meaning any shock to agriculture could exacerbate poverty (Arifin, 2023). The pandemic thus posed a double challenge in protecting public health while safeguarding livelihoods and food security for Indonesia's farming communities.

Smallholder paddy farmers were among those most exposed to the pandemic's disruption, including in Kendari, the capital of Southeast Sulawesi province. Despite being an urban center, Kendari has several villages that are known for lowland paddy cultivation. The paddy fields in Kendari are largely rainfed rather than fully irrigated, which constrains yields and cropping intensity (Amirat et al., 2021). Most farmers have limited land, relatively low household incomes, and minimal access to formal credit or insurance. Rice farming is their principal livelihood, supplemented occasionally by secondary activities. This dependence on rice means that any shock affecting the agricultural season, market prices, or input availability can directly threaten household welfare. Indeed, local observers have noted that Kendari's rice farmers already face challenges such as climate variability and fluctuating input costs (Amirat et al., 2021). The sudden onset of COVID-19 in 2020 added a new layer of hardship, likely disrupting farming routines, constraining mobility, and straining the rural support networks these communities rely on.

Given this context, it is crucial to understand how the COVID-19 pandemic impacted the livelihoods of paddy farmers in Kendari and how these farmers responded to sustain their welfare. However, to date, there has been limited focused research on the pandemic's effects at the level of smallholder rice farming communities in eastern Indonesia. This study aims to fill that gap by examining the case of Kelurahan Amohalo and Labibia in Kendari. Specifically, the objective of this research is to assess the impact of the COVID-19 pandemic on the livelihoods of paddy farmers in Kendari and to explore the coping strategies adopted by these farmers in response to the crisis.

METHODOLOGY

This research employed a qualitative, descriptive study design utilizing structured interviews as the primary method of data collection. The study was conducted in conjunction with a related research project by Amirat et al. (2021), which investigated farmers' perceptions and adaptation strategies, employing the same pool of respondents and a largely identical methodology. The fieldwork took place in 2020 in Kendari City, the capital of Southeast Sulawesi Province, Indonesia. Within Kendari, two administrative villages (*kelurahan*) were selected as the study area, namely Kelurahan Amohalo and Kelurahan Labibia, both known for their rice paddy farming communities. These locations were chosen because they house a significant number of paddy farmer households, providing a relevant context to examine livelihood changes during the pandemic. The target population consisted of all lowland rice farmers in the two villages. From this population, a total of 69 respondents were selected through random sampling techniques. All selected participants were active paddy farmers, and most were heads of farming households with substantial farming experience, ensuring that the information gathered reflected informed perspectives on livelihood conditions.

Data were collected via structured one-on-one interviews with each of the 69 farmers. A structured interview guide (questionnaire) was developed to explore how the COVID-19 pandemic affected farmers' livelihoods. The questionnaire consisted of a series of predetermined questions. While most questions were close-ended or specific (to facilitate consistency in responses), farmers were also given opportunities to elaborate on their answers in their own words. This approach allowed for the collection of both quantitative information and qualitative insights (narratives and explanations), with an emphasis on the latter to capture the nuance of their

experiences.

Interviews were conducted in Bahasa Indonesia, and each interview took approximately 30–45 minutes. It was typically conducted at the farmer's home or farm, in an environment where the participant felt comfortable. Given that the data collection occurred during the COVID-19 pandemic, stringent health and safety protocols were implemented throughout the fieldwork. All interviewers and respondents were required to wear face masks properly for the duration of the interview. Hand sanitizer was provided and used by both the research team and the participant before the start of the interview and immediately after its conclusion. A minimum physical distance of about 1–2 meters was maintained between the interviewer and the respondent, and whenever possible, interviews were held in open-air settings or well-ventilated spaces to reduce risk. These precautions were in line with public health guidelines at the time and were crucial in protecting both participants and researchers. Prior to beginning each interview, the objectives of the study were clearly explained to the participant, emphasizing that the research sought to understand the pandemic's impact on their farming and livelihood. Participants were then asked to provide informed consent, acknowledging their voluntary participation and understanding of the study procedures. In the context of the pandemic, the informed consent process also included an explanation of the safety measures in place and a confirmation that the participant felt comfortable proceeding under those conditions. All 69 farmers approached agreed to participate, and their consent was documented.

All interview data collected in the field were analyzed using qualitative methods. The results of the analysis were largely descriptive, given the qualitative nature of the data. Where appropriate, simple counts or proportions were used to complement the qualitative findings, but no formal statistical tests were performed due to the small sample size and non-random nature of qualitative insights. Instead, the analysis focused on interpreting the meaning and significance of the patterns in farmers' experiences. The information gained from the qualitative data was enriched by the context that all participants were drawn from the same two communities and had shared, to some extent, similar external conditions during the pandemic. Furthermore, because this study was carried out alongside the Amirat et al. (2021) research, the baseline information and data from that parallel study provided a useful reference point during analysis.

RESULTS AND DISCUSSION

Livelihood Disruptions During the Pandemic

The survey results indicate that paddy farmers in Kendari experienced multifaceted livelihood disruptions due to COVID-19. Table 1 shows perceived reasons for livelihood disruptions among paddy farmers during the COVID-19 pandemic. Movement restrictions and low prices of unmilled rice emerged as the most frequently cited causes of disruption. Farmers overwhelmingly reported fear of leaving their house, difficulty transporting their harvest to markets, and a lack of buyers during lockdown periods. This corresponds with global observations that travel restrictions and social distancing policies severely constrained market access for smallholders (Salma et al., 2024). For example, in Bangladesh, initial lockdowns caused local farm product prices to surge due to panic buying and then crash due to lack of market access (Salma et al., 2024). Over 80% of farms in one study there experienced sales declines, and 90% reported price reductions (Salma et al., 2024). Kendari farmers similarly noted declining demand and falling paddy prices during the pandemic, which they perceived as a direct result of reduced consumer purchasing power and the closure of restaurants, hotels, and other buyers.

Another disruption involved agricultural input supply chains. Some farmers noted to have faced delays and higher costs in obtaining fertilizers, seeds, and other inputs. This finding echoes reports from other developing countries. In Nepal, for instance, the lockdowns delayed the transportation of seeds and fertilizers, threatening subsequent rice crop yields (Pradhan, 2020; Shah et al., 2021). Likewise, a nation-wide survey in Senegal found that the majority of farmers were concerned about accessing inputs and maintaining production schedules under pandemic conditions (Middendorf et al., 2021). In Senegal, significant majorities of farmers anticipated difficulties in obtaining fertilizer and hiring labor, and 82.5% feared that COVID-19 would make it harder to get enough food for their families (Middendorf et al., 2021). These concerns closely match the anxieties expressed by Kendari's paddy farmers regarding ongoing livelihood viability.

Table 1. Perceived Reasons for Livelihood Disruptions During the Pandemic

Reasons	Frequency (N)	Percentage (%)
Travel restrictions	46	66.67
Low price of unmilled rice	12	17.39
Fear of leaving the house	11	15.94
Limited availability of transportation	8	11.60
Low demand for farming outputs	7	10.14
Expensive farming inputs	7	10.14
Reduced availability of agricultural inputs	5	7.25
Labor shortages	4	5.80

Note: Multiple responses were allowed; therefore, the total percentage may exceed 100%.

Labor shortages due to movement curbs and illness were a supplementary source of disruption. While Southeast Sulawesi (including Kendari) did not experience the massive rural migrant exodus seen elsewhere, physical distancing rules limited the size of work crews, and fears of infection meant some laborers stayed home. Similar issues have been documented among rice farmers in other regions; for example, in India and Bangladesh, periodic surges in COVID-19 cases led to labor scarcities during critical agricultural periods (Kaur & Kaur, 2021; Salma et al., 2024). Labour shortages contributed to reduced or delayed agricultural production in those contexts (Salma et al., 2024), and Kendari's farmers likewise cited labor as a minor disruption factor.

Decline in Income and Livelihood Outcomes

The majority of paddy farming households in the study area experienced a decline in income during the pandemic relative to prior years. As Table 2 shows, a large share reported their income had "decreased," with many describing 2020–2021 as the most financially difficult period they had ever faced as farmers. On average, farmers estimated their earnings had fallen to roughly half of pre-pandemic levels. This is consistent with evidence from other parts of Indonesia and beyond. For instance, a survey of 300 farmers in South Sumatra found that during the pandemic, average household farm income dropped by 52% compared to the previous year (Bidarti, 2021). Farmers in that study went from roughly USD 218 pre-pandemic to only USD 105 during the pandemic months (Bidarti, 2021). Such steep income contractions have been widespread as several assessments have noted that farming households in Southeast Asia lost a far greater share of income than non-farm households during COVID-19 (Annisa et al., 2022; Neha & Kumar, 2021; Sapbamrer et al., 2022). In Thailand, for example, farming communities saw income losses on the order of 30–40%, significantly more severe than the national average income drop (Sinha & Swain, 2022).

Table 2. Perceived Changes in Paddy Farmers' Income During the COVID-19 Pandemic

Perceived Change in Income	Frequency (N)	Percentage (%)
Decreased	41	59.42
Remain the same	28	40.58
Total	69	100.00

Notably, none of the Kendari farmers reported an income increase during the pandemic, and 40.58% (mostly those with diversified income sources) managed to maintain stable income levels. The vast majority experienced small and moderate decreases in earnings from paddy farming. Farmers attributed these losses to the reduced ability to sell crops (or having to sell at low prices) and, in some cases, to slightly lower yields

when input disruptions affected production. It is important to highlight that these self-reported income losses have direct implications for household welfare. As income fell, farmers struggled to meet basic needs and had to curtail non-essential expenditures (Nurniati et al., 2024). Many households became more vulnerable to food insecurity (Erfin et al., 2024). This pattern has been observed in various developing countries during COVID-19. In Ethiopia's Amhara region, for instance, nearly 63% of farm households experienced some level of food insecurity during the pandemic year, largely due to reduced income and higher food prices (Gebreyes et al., 2024). In our Kendari sample, farmers similarly noted having to cut back on protein- and nutrient-rich foods (meat, fruits) because they were less affordable, focusing their limited income on staple foods like rice.

Farmers' Future Expectations and Outlook

When asked about the future impact of COVID-19 on their livelihoods, farmers in Kendari expressed a mix of uncertainty and cautious optimism, with pessimistic views prevailing (Table 3). A substantial proportion of respondents believed that the pandemic's effects on agriculture would linger for several years. These farmers expected that even after the immediate health crisis subsided, economic recovery in the agricultural sector would be slow. They pointed to factors such as decreased savings, accumulated debts, and the possibility of enduring changes in consumer behavior (e.g. households spending less on food) as reasons that their paddy farming might not bounce back quickly. Many farmers (over half of those surveyed) anticipated needing at least 1–2 years to recover their pre-pandemic income levels, and some feared it could take longer without significant external assistance.

Table 3. Farmers' Perceptions of the Future Impact of the Pandemic on Their Livelihoods

Perceived Future Impact	Frequency (N)	Percentage (%)
Not affected at all	19	27.5
Slightly affected	6	8.70
Moderately affected	5	7.25
Affected	30	43.48
Severely affected	9	13.04
Total	69	100.00

These sentiments mirror findings from other regions where farmers have been surveyed about their outlook. Middendorf et al. (2021) noted that in Senegal, 79.5% of smallholders were concerned that local food markets would continue to be disrupted and 73.5% expected food prices to remain high, indicating an expectation of prolonged hardship. In our study, farmers likewise worried that high farming input costs and consumer price inflation would persist into the foreseeable future. Several Kendari farmers voiced concerns that "things might get worse before they get better," especially if new virus variants emerged or if the economic recession continued. This aligns with the general atmosphere of uncertainty reported among farmers globally during 2020–2021 (Pinilih et al., 2021; Rai, 2022). A study in China early in the pandemic found that farmers' confidence in agricultural recovery was significantly undermined by their risk expectations regarding COVID-19's duration (Xie et al., 2021). In that study, a higher perceived risk (e.g., believing that future waves or prolonged restrictions would occur) was associated with lower confidence that production and income would rebound, which is very much in line with the Kendari farmers' wary outlook.

Despite the predominance of concern, a minority of farmers in Kendari were more optimistic. Those who were relatively younger or had more diversified livelihoods tended to express hope for a quicker recovery. For example, some farmers expected that with the rollout of vaccines and the easing of lockdowns by 2022, local economic activity would resume, and demand for rice would normalize. A few even anticipated that government stimulus efforts in the post-pandemic period (such as programs to boost local food security) might improve the prospects for agriculture. Such optimism, however, was measured. Even the hopeful farmers often caveated their expectations, saying recovery would require "support" and "favorable weather and no other

shocks." This blend of hope and realism is reflected elsewhere. In a survey of farmers in the UK, Riley et al. (2022) observed cautious optimism tied to assumptions of strong policy support, whereas pessimism prevailed when farmers felt they were on their own. In our context, optimism was closely linked with trust in government assistance and community resilience, while pessimism was tied to fear of future uncertainties.

In summary, while Kendari's paddy farmers largely expect the COVID-19 pandemic to have lasting adverse impacts on their livelihoods, there is a spectrum of expectations. The dominant view is cautious and concerned, fearing a slow recovery and recognizing ongoing challenges (debt, input prices, market instability). This finding is consistent with farmers' expectations in other developing regions during the COVID-19 pandemic, where uncertainty and worry have been common (Gebreyes et al., 2024; Middendorf et al., 2021). Nevertheless, a note of guarded optimism exists among some farmers, tied to community solidarity and anticipated government interventions. The mix of these expectations highlights the need for supportive policies to ensure that pessimistic outlooks do not become self-fulfilling prophecies. For instance, by providing recovery grants, stabilizing crop prices, and strengthening market access, authorities could improve farmers' confidence in the future.

Coping Strategies and Adaptation Measures

Paddy farmers adopted a variety of coping strategies to weather the livelihood shocks of the pandemic. As Table 4 shows, households were resourceful in adjusting their finances, farming practices, and livelihood activities to mitigate the impact of income loss. Government assistance was the most crucial coping avenue. The survey did not explicitly quantify the number of farmers who received government aid, but qualitatively, many respondents mentioned benefiting from programs such as the cash transfer (*Bantuan Langsung Tunai*) or the distribution of free or discounted rice and fertilizer from the local authorities. These relief measures, part of Indonesia's national and regional COVID-19 social protection response, helped cushion some households. For instance, a few farmers noted that the village fund cash transfer program allowed them to buy necessities during the strictest lockdown. While not all farmers received sufficient aid, those who did found it significantly helpful. Such support has been credited with preventing even worse outcomes for rural families. However, some Kendari farmers express that aid was delayed or limited, causing them to rely initially on self-help strategies, such as borrowing. This suggests that while government aid was a vital component of coping, it did not fully cover the needs, leading farmers to employ a mix of coping mechanisms.

One overwhelmingly common coping mechanism was the reduction of household expenditures and consumption smoothing. Nearly all farmers reported reducing non-essential spending. Many deferred large expenses (such as renovated homes) and focused on day-to-day survival needs. Food expenditure was prioritized, often at the cost of dietary diversity. For example, households consumed more of their own rice harvest rather than selling it, ensuring they had staple food, even if it meant forgoing cash income. In addition to rice, many households in Kendari relied on *sago starch* as an alternative staple. Sago, a traditional food source in Southeast Sulawesi, was prepared as *sinonggi*, a staple dish made from sago starch (Saediman, Helviani et al., 2021; Surni et al., 2018). Unlike rice and other market-dependent staples, the price of sago remained stable throughout the pandemic, making it a reliable and affordable component of the household diet.

This strategy of consuming own produce was reported by a majority of respondents and mirrors experiences elsewhere. Smallholders in Madagascar and Tanzania also increased their self-consumption of crops during COVID-19 as a coping strategy (Löhr et al., 2022). By relying on home-grown food, farmers in Kendari reduced their dependence on market purchases at a time when both income and market availability were uncertain.

Another coping strategy was drawing down savings and taking on debt. Almost half of the surveyed farmers indicated that they had taken debt and used personal savings to get through the worst months of the pandemic. Borrowing became crucial as many respondents are from low-income households with limited savings. Farmers resorted to informal loans from family, neighbors, or local moneylenders, and some accessed formal credit where possible (such as microloans or bank credit, if they were eligible). As one farmer put it, "We survived by borrowing and will have to slowly pay it back after the pandemic." This aligns closely with findings from South Sumatra, where farmers explicitly reported surviving the pandemic by taking out debt

loans (Bidarti, 2021). Accumulating debt was a coping mechanism of last resort but was widely used. While loans alleviated immediate hardships, they have created an added burden (repayment) for the future, contributing to the cautious outlook discussed above.

A number of households also engaged in asset liquidation as a coping mechanism. Some farmers sold off livestock like chickens or valuable assets like motorcycles and jewelry to raise emergency cash. This strategy was less commonly reported than borrowing or reducing expenses, but nonetheless significant. Distress sale of assets has been noted in numerous crisis contexts as a way to smooth consumption. During this pandemic, reports from rural Asia and Africa showed farmers selling livestock to buy food or pay bills (Kalinda & Langyintuo, 2014; Zant, 2023). Our findings in Kendari correspond: a few farmers mentioned that after exhausting other options, they had to sell farm animals that they would not have sold under normal circumstances.

Table 4. Coping Strategies Adopted by Paddy Farmers During the COVID-19 Pandemic

Coping Strategy	Frequency (N)	Percentage (%)
Received assistance from the government or other sources	26	37.68
Did nothing in response to the impact	16	23.19
Borrowed money from family or friends	16	23.19
Borrowed money from banks or other financial institutions	9	13.04
Reduced non-food household expenditures	9	13.04
Reduced food consumption	6	8.70
Used personal savings	5	7.25
Postponed loan installments	3	4.35
Sold personal or productive assets	3	4.35

Note: Multiple responses were allowed; therefore, the total percentage may exceed 100%.

In terms of livelihood diversification, some farmers sought alternative income sources to cope with lost farming income. Off-farm work opportunities were limited due to the pandemic, but a few enterprising individuals turned to activities like working in construction work, carpentry, or motorcycle taxi services. These instances were not the majority, yet they highlight a critical adaptive response to diversify income beyond paddy farming. Globally, diversification has been a key coping strategy in rural areas during COVID-19. In Madagascar, smallholders attempted to generate non-agricultural income (e.g. producing handicrafts or offering transport services by rickshaw) to compensate for farm losses (Löhr et al., 2022). Kendari farmers followed a similar path whenever opportunities arose, though such opportunities were scarce amidst a generally depressed economy.

Adaptations in farming practice were also observed. Some paddy farmers diversified their crops or adjusted their agricultural activities in response to the pandemic. For instance, a few farmers with access to irrigation planted fast-growing secondary crops (like vegetables) on a small scale, primarily for home use. This is consistent with adaptive trends reported elsewhere in Indonesia and Asia, where farmers increased multi-cropping for subsistence as a buffer (Jumiyati & Irmawati, 2021; Roessali et al., 2022; Saediman, Limi, et al., 2021; Saediman & Arisman, 2025). Moreover, about one-third of Kendari farmers reported storing a portion of their paddy harvest longer than usual (rather than selling immediately after harvest) in hopes of getting a better price later or ensuring household food supply. While not all had the capacity to do this, those who could store grain acted strategically to spread their income and consumption over a longer period.

Community and social networks played an instrumental role in coping. Many farmers benefited from

reciprocal exchange and mutual aid within the community (Lestari et al., 2023). It was common for neighbors and relatives to share food staples or extend small loans to each other. In Kendari's two kelurahan (Amohalo and Labibia), local leaders and farmer group heads coordinated with the government to distribute some assistance, and they also encouraged a spirit of *gotong royong* (mutual cooperation). This community solidarity is a form of social capital that greatly aided farmers' resilience. Studies have shown that strong social networks can reduce the need for negative coping strategies; for example, farmers with cooperative memberships in Brazil were able to find collective marketing solutions during COVID-19, lessening their income shock (Löhr et al., 2022). In Kendari, while formal cooperative marketing was limited, the social fabric provided safety nets through informal support.

Finally, it is worth noting an emerging trend of digital adaptation among a handful of more innovative farmers. A small number of respondents (particularly younger farmers) experimented with using mobile phones and social media to sell produce directly to consumers during movement restrictions. One farmer mentioned joining a WhatsApp group of local producers and consumers to advertise rice and other farm products for delivery. Although this was not widespread, it represents a forward-looking adaptation that aligns with domestic and global trends (Mboe et al., 2024; Sarfan et al., 2024). In some countries, farmers who adopted e-commerce or direct delivery models during COVID-19 managed to partially offset the loss of traditional market sales (Löhr et al., 2022). For example, in Brazil, farmers participating in home-delivery schemes or organized consumer groups actually saw increased demand for their produce (Löhr et al., 2022). In Kendari, the infrastructure for such arrangements is nascent, but the pandemic has arguably spurred interest in alternative marketing channels, which could be a positive outcome in the long run.

In summary, Kendari's paddy farmers demonstrated resilience through diverse coping strategies: cutting expenses, consuming own production, using savings, borrowing, selling assets, seeking side incomes, adjusting farming practices, leaning on community support, and utilizing government aid. These strategies echo those documented in other parts of Indonesia, Southeast Asia, and the world during the COVID-19 crisis (Bidarti, 2021; Löhr et al., 2022). While they have helped farmers survive, many of these measures, especially debt accumulation and asset sales, may have longer-term repercussions, potentially slowing the recovery of livelihoods. The findings highlight the importance of strengthening social safety nets and providing post-crisis support. Interventions such as debt relief, grants or zero-interest loans, and continued social assistance could help alleviate the burdens that farmers took on as coping measures. Moreover, supporting farmers to build on the adaptive strategies that worked (like crop diversification or digital marketing) could improve their resilience to future shocks. The pandemic forced paddy farmers in Kendari into a difficult period, but through resourcefulness and support networks they managed to endure its worst effects. These results contribute to a growing body of evidence on how smallholder farmers navigate global crises, which reflect both the vulnerability and the adaptive capacity of farming livelihoods in the face of unprecedented disruptions.

CONCLUSION

The COVID-19 pandemic has had a profound and multifaceted impact on the livelihoods of paddy farmers in Kendari, Indonesia. The results of this study indicate that farming households experienced disruptions to their agricultural activities and income streams. Farmers identified government-imposed mobility restrictions as the primary cause of livelihood disruption. Travel bans and market closures prevented many from transporting and selling their rice harvest, leading to unsold produce and falling farm-gate prices. These market shocks were compounded by input supply problems. Additionally, limited availability of farm labor (due to movement restrictions and health concerns) further hindered production. Together, these factors directly or indirectly affect farmers' incomes and food security.

Income levels declined among most of the surveyed paddy farmers. Off-farm income sources also contracted due to the broader economic downturn, exacerbating the financial stress on farming families. Consequently, a majority of households struggled to meet basic needs, and cash flow shortages became acute. Many respondents indicated that they could not cover daily expenses or farming costs from current earnings alone, forcing them to seek external support or incur debt.

Despite these hardships, farmers' future outlook was one of cautious determination. Paddy farmers remain

committed to rice cultivation as their primary livelihood, yet they expressed uncertainty about the duration of the crisis and their ability to withstand prolonged disruptions. There is a prevailing concern that if pandemic-related challenges persist (or if a similar shock recurs), their already thin reserves of savings and resources would be exhausted. Some farmers feared that prolonged difficulties could ultimately push them out of farming. Nevertheless, the discussion also revealed adaptive optimism as a number of farmers have started exploring adjustments to sustain their livelihoods. Such coping strategies have been crucial. Common coping mechanisms documented in this study were cutting back household expenditures to essentials, drawing down limited savings, and borrowing money to finance both farming operations and consumption needs. Indeed, informal loans from relatives, neighbors, or local lenders became a lifeline for many, although this has led to mounting debts. Government social assistance programs provided much relief.

In light of the above findings, this study puts forward several policy recommendations to support paddy farmers during the ongoing recovery and to build resilience against future crises: (1) Strengthen social safety nets, (2) Ensure access to farming inputs, (3) Provide debt relief and credit support, and (4) Enhance market linkages and price support.

This study has some limitations. First, the data on economic outcomes and perceived impacts were largely self-reported by farmers. Such self-reported data are susceptible to recall inaccuracies and respondent bias. Some farmers may have underestimated or overstated their losses or the effectiveness of their coping strategies. Second, the study's qualitative approach and modest sample size limit the generalizability of the findings. Third, the timing of data collection provides a snapshot of the pandemic's impacts during a particular phase, but the situation has been evolving. In sum, while the study offers valuable initial evidence of pandemic impacts on smallholder livelihoods, these constraints suggest caution in interpretation and highlight the need for further investigation.

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