



Javanese Culture and The Horticulture Community's Resilience of Farmers in Sawangan, Ngablak, and Magelang Districts

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ABSTRACT

Magelang Regency region contains a plateau in the shape of a basin surrounded by mountains. The agroclimatic can generate enough agricultural products in sufficient quantity and quality to meet market demand. Horticultural agricultural activities in this area have the potential to improve food security and household income, considering technical, social, institutional, commercial, financial, and environmental issues. Horticultural growers were usually under pressure due to the drop in vegetable prices. The study examines the fight of independent horticultural farmers against adversity via the lens of community resilience. Community resilience includes community interests, institutional development, defense, and capacity building operations, as well as individual actions. The purpose of this study was to describe how resilient vegetable-growing communities are to food security concerns. Five villages in the Magelang Regency were affected: Klangon Hamlet in Sawangan District, Babadan Hamlet in Srumbung District, Wonolobo Hamlet, Krangean Hamlet, and Lodosewu Hamlet in Ngablak District. The thematic analysis approach was used to identify themes or characteristics related to the psychological and financial elements of vegetable producers. The resilience of the horticultural farming community in this area is built on trust in fellow farmers; there is hope for high prices to return; there is independence in weathering crop failures; and the local values of *nrimo* and *gemi setiti* are still practiced. The robustness of adaptive networks in the form of social capital, combined with excellent management of local capacities, increases the resilience of horticultural farming communities in this area.

Keywords: community resilience, falling prices, local wisdom, vegetable farmers

INTRODUCTION

Magelang Regency has a highland basin surrounded by mountains. Its agroclimatic conditions facilitate the production of agricultural commodities that match market demand in both quality and quantity. This regency has several agricultural centers, including Klangon Hamlet (Sawangan District), Babadan Hamlet (Srumbung District), and the hamlets of Wonolobo, Krangean, and Lodosewu (Ngablak District). Klangon and Babadan hamlets are highly productive vegetable agricultural areas on the slope of Mount Merapi, whilst Wonolobo, Krangean, and Lodosewu are located on the slope of Mount Merbabu. The mountainous location creates good environmental conditions, resulting in fertile agricultural lands. Preliminary investigations conducted in these agricultural areas revealed that vegetable prices at the farmer level vary greatly. Periods of high (expensive) prices are often shorter than those of low (cheap). This condition hurts vegetable farmers. Farmers are under a lot of pressure as vegetable prices fall sharply. Individual farmers are frequently unable to make sound decisions under such

stressful circumstances. They also lack access to critical resources and the ability to take decisive action.

Research on the resilience of smallholder farmers under pressure includes, for example, (a) palm oil farmers who continued their regular production activities during the Covid-19 pandemic to meet the demands of crude palm oil companies; and (b) organic food farming in Claket Village, Pacet District, Mojokerto, East Java, where small-scale horticulture farmers successfully developed effective strategies to sustain their livelihoods during the Covid-19 pandemic (Ekaputri & Ningrum 2020). In contrast, the pressure placed on horticultural farmers in Magelang Regency, the subject of this study, comes from the reality that farmers' livelihoods are mostly controlled by traders who set selling prices. The income from agricultural commodities is heavily reliant on market demand variations. Unstable vegetable prices frequently result in financial losses for growers. Such incidents have occurred on numerous occasions, with most vegetable growers suffering because of sharp price declines. Nonetheless, these problems have not deterred the farmers' determination to continue growing their property. Farmers have responded by forming community-based groups and diversifying their crops to ensure family food security.

The community functions as a collective support system, allowing farmers to deal with external

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challenges. In general, rural communities have unique adaptation processes that enable them to adapt to their surroundings and sustain both individual and communal livelihoods (Maguire & Cartwright 2008, Maliati & Chalid 2021). When a community can tolerate disturbances and stress, the quality of its resources can help to keep communal functioning stable. Community resilience helps members grow stronger in the face of hardship. Every adaptive initiative seeks to build the community's capability. This improvement is seen in favorable results during times of stress or catastrophe. This can be shown in the level of community functionality following a crisis (Maliati & Chalid 2021).

The emergent research question was: how do vegetable producers in Klangan Hamlet (Sawangan District), Babadan Hamlet (Srumbung District), and the hamlets of Wonolobo, Krangan, and Lodosewu (Ngablak District) build community resilience to attain food security? The goal of this study was to characterize the communal resilience of vegetable producers in their attempts to achieve food security.

METHODS

Research subjects are things, entities, or humans from whom data about dependent variables are collected and questioned. Research participants play an important role in a study because they supply critical information about the observed factors. Informants are people who provide useful data to the researcher in accordance with the research goals. In qualitative research, these people are commonly known as respondents or study subjects (Arikunto 2016). Participants in this study were selected through purposive sampling, considering their active involvement in vegetable farming and land ownership that reflects responsibility and experience in managing agricultural challenges.

A total of six participants were involved, representing different villages and main crops. To protect participants' privacy, pseudonyms were used instead of real names. Their general characteristics are presented in Table 1.

Data was gathered through in-depth interviews and participant observation. Open-ended and semi-structured interviews were directed by a preset list of

questions. Field notes were used to thoroughly document all interview results. The data was evaluated inductively, starting with interview transcriptions. The transcripts were then coded and classified as emergent themes. A targeted analysis was conducted to allow for detailed comparisons and interpretations. The final stage entailed writing, revising, and interpreting the identified themes to create relevant insights that were matched with the research objectives.

RESULTS AND DISCUSSION

Individuals are frequently unable to make effective decisions in stressful situations due to a lack of resources and limited ability to act (Novianty 2015). In such situations, the community acts as an alternate mechanism, allowing individuals to cope with stress together. Communities have access to resources and the ability to make judgments that individuals may be unable to do when stressed. A community is considered resilient when its members are interconnected and work together to perform well and keep the system stable throughout interruptions. Furthermore, resilient communities can respond to changes in their physical, social, and economic contexts. Despite limited external resources, they display self-reliance and the ability to learn from experience to develop (Maguire & Cartwright 2008).

In other terms, community resilience is a community's ability to recover from stressful or traumatic conditions by utilizing existing resources and adaptive capacities to improve its function and sustainability (Paton *et al.* 2001, Fishwick 2005, Unescap 2008). Community resilience is the collaborative effort of people, resources, and social institutions to adapt to, sustain, develop, and advance the community's capabilities and interests (Breda 2001). Thus, community resilience is frequently achieved using indigenous wisdom.

Leadership, collective capacity, social capital, social cohesiveness and a sense of belonging, prevalent norms, attitudes and values, communication and information, and resource dependency are all important markers of community resilience (Maguire & Hagan 2007). The indicators are carefully chosen to avoid overlapping and maintain conceptual clarity in

Table1 Research subject (participant)

Participant Code	Gender	Age (years)	Village	Main Crop	Land Area (ha)*
Participant 1(P1)	Male	35	Lodosewu	Cucumber	0.5
Participant 2(P2)	Male	50	Klängen	Chili	0.7
Participant 3(P3)	Male	56	Wonolobo	Potato	1.0
Participant 4(P4)	Female	45	Babadan	Chili	0.6
Participant 5(P5)	Male	35	Wonolobo	Cabbage	0.8
Participant 6(P6)	Male	48	Sawangan	Chili	0.9

assessing community resilience. Social capital is an important and key determinant in the development of community resilience (Chandra *et al.* 2011, Maguire & Cartwright 2008, Sulastrri 2007, Twigg 2013). The social environment influences people's ability to encounter, resist, and recover from stressful or bad situations. In this setting, solidarity, mutual collaboration (*gotong royong*), and communal harmony (*guyub*) are strong types of social capital that contribute to community functioning, well-being, and long-term sustainability.

Risk factors for vegetable farmers

Farmers are people who rely on agriculture for their primary income. They are committed to managing agricultural practices in their communities. Their worldview is inward-looking, with a concentration on local concerns and traditions. However, their communities are becoming more reliant on foreign pressures. The free-market system has a substantial impact on agricultural trade and product value (Cancian 1989). As a result, farmers' livelihoods and farming techniques are inextricably linked to both national and global market economies, bringing rural farmers into systems dominated by market dynamics. Self-reliance is an important survival strategy for most smallholder farmers. This self-reliance is intimately related to subsistence conditions, which are common among small-scale farmers. Indonesian farmers, in instance, are mostly subsistence farmers who work only to meet their basic requirements. Due to limited land ownership, many of them produce small plots, and a sizable share of the agricultural workforce is made up of landless farm laborers.

Agricultural communities frequently share common characteristics, such as comparable levels of education, strong religious and ethnic bonds, and continuous participation in communal life (Kulig *et al.* 2008). These features reflect a collectivist culture in which social assistance during catastrophes is critical to helping communities endure and recover from hardship. The high level of solidarity, especially in rural settings, provides physical and psychological assistance to community members.

Local traditions, village gatherings, neighborhood patrols (*ronda*), and the presence of communal entities like neighborhood associations (RT/RW) all help to create social bonds and harmony among inhabitants. These collaborative actions are critical components of building community resilience (Dewi 2007, Sulastrri 2007). Thus, social capital remains an important factor in establishing and maintaining community resilience (Chandra *et al.* 2011, Maguire & Cartwright 2008, Sulastrri 2007, Twigg 2013).

Resilience indicators of vegetable farming communities

1. Leadership

Leadership in these communities is practiced individually. This means that farmers are solely

responsible for the financial losses caused by lowering market prices. Failures in vegetable production are more commonly caused by falling selling prices than by weather or pest infestations. Most vegetable farmers have struggled as prices have fallen. Nonetheless, they have shown the ability to recover independently from such setbacks. This self-sufficient attitude is typical among vegetable farmers. They also have the option to choose whatever types of veggies they plant.

Farmers can plant as they like. "I can plant tomatoes, lettuce, cabbage, and potatoes. So, it is in line with the farmers' personal interests. Nobody forces you to plant specific veggies. This is proof; this field is where some grow eggplant and others grow cabbage; they are not the same, right?" (P3, 65, Wonolobo Hamlet, 17 January 2022).

As vegetable prices fall, farmer self-reliance becomes a viable answer. When the price of a specific crop falls, farmers take the initiative to grow other sorts of vegetables. They spread out their crops across various plots and stagger their planting schedules to produce different harvest times. This method helps them to offset losses if one type of vegetable's price falls, while other crops may still produce good returns. (Wdd, a farmer from Kranglean Hamlet in Ngablak District, has used this strategy.) His opinion was: "When I faced financial difficulties, I used the intercropping system (*tumpanghari*). This strategy entails planting three to four different crops on the same area of land. If one crop suffers a loss as prices decline, the other crops can make up the difference. This method is employed on a continuous basis. Currently, lettuce prices have decreased drastically, with some not even being valued at all. However, the price of scallions (*onclang*) remains reasonable, ranging between Rp7,000 and Rp8,000 per kilogram. In preparation, I've begun intercropping with celery and tomatoes." (P2, 50, Kranglean Hamlet, Ngablak; 18 January 2022). Thus, farmers use self-leadership to manage their agricultural property. There is no pressure on farmers to grow the same crop. This technique is meant to ensure pricing stability, which benefits the overall well-being of the community.

2. Collective ability (togetherness and cooperation)

Norris *et al.* (2008) define resources in community resilience as having three dynamic properties: robustness, redundancy, and speed. Robustness relates to the strength of resources, which is defined by their low susceptibility to damage. Redundancy refers to the degree to which resources can be replaced or varied in the case of a disruption. Rapidity relates to how rapidly resources can be accessible and used when necessary. The resilience process demands that at least one of these dynamic features be present in the resources.

The primary resources for vegetable farming communities in Klangon and Wonolobo hamlets are

Table 2 Indicators of resilience of vegetable farming communities

Indicator	Interview results	Analysis
Leadership	"Farmers plant whatever they choose. I can grow tomatoes, lettuce, cabbage, or potatoes; it is entirely up to me. Each farmer decides based on their individual requirements and preferences. Nobody requires you to plant a certain type of vegetable. See for yourself that someone is growing eggplant on this plot and cabbage on the other. "They are not the same, are they?"	Independent. This remark illustrates the high level of individual autonomy in crop selection among vegetable producers, which serves as a method for maintaining price stability and decreasing market competition within the same community.
Collective capabilities	"Yes, of course, friendship is more important."	Unity among farmers is rooted in a spirit of brotherhood. This sense of solidarity fosters mutual support, trust, and cooperation, especially in times of hardship. Rather than being driven by formal obligations, their collective resilience emerges from shared experiences, cultural values, and a deep sense of belonging to the same community. Farmers' unity stems from a sense of kinship. This attitude of solidarity encourages mutual support, trust, and cooperation, particularly during difficult times. Rather than being motivated by legal requirements, their collective resilience stems from shared experiences, cultural values, and a strong sense of belonging to the community.
Social capital network	"How much did your vegetables sell at the market earlier?" It's easy for us to ask fellow farmers this type of question. "Mine sold for this much." Later, when the middleman (<i>tengkulak</i> or <i>bakul</i>) arrives, we will make a reasonable price offer."	The existence of communication among farmers establishes a network. This everyday interaction illustrates farmers' open communication and confidence, which makes it easier to share information about market situations. Such actions build their social network and allow collective strategies to negotiate better rates, highlighting the importance of social capital in community resilience.
Social capital values and norms	"A small plot of land is no problem if I continue to work in the field. What else could we do? Even if the land is not cultivated due to excessive fertilizer and pesticide prices, I believe in sufficiency regardless of the circumstances. If I'm lucky (<i>bejo</i>), I make a profit; otherwise, I lose." "Be truthful, diligent, and never make others suffer. How can I construct something for myself? I need to live with <i>gemi</i> (frugality and thankfulness) and <i>setiti</i> (carefulness and accuracy). For example, if I make Rp100,000, I will spend only Rp10,000 on food. That leaves Rp90,000. The dilemma is, how do I make that Rp 90,000 last without being eaten up by other expenses? Of course, by making little, incremental savings."	Acceptance attitude (<i>nrimo</i>) The attitude of being like-minded (<i>gemi setiti</i>). This thought emphasizes the characteristics of tenacity, frugality, and self-discipline that are profoundly rooted in the farmer's lifestyle. It demonstrates how traditional wisdom and cultural values influence financial behavior and create a moral framework for enduring economic distress, which are critical components of community resilience and sustainability.
Social capital of trust	"When faced with shortages and the struggle to meet basic demands, there is no other option than to be accepting (<i>pasrah</i>) and patient (<i>sabar</i>). What else could we do? We must be as patient as possible while praying to the Creator in accordance with our faith." "All farmers are like that; sometimes a capital of Rp10 million yields Rp100 million." But what if you lose all of your Rp10 million? That is also common. Farmers have big hearts (<i>lapang dada</i>). What happens if we keep concentrating on our losses? We wouldn't be able to work, and we'd continue to suffer from stress."	Believe that there will undoubtedly be fortune. This remark conveys a great sense of spiritual resilience, in which religious faith and inner surrender are crucial coping methods during times of adversity. Many farmers see patience, prayer, and resignation to divine will as sources of strength and endurance that are profoundly embedded in the cultural and spiritual fabric of rural farming communities. Believe in the existence of shared perspectives, ethnicities, and civilizations. This remark captures farmers' emotional fortitude and adaptation in the face of financial insecurity. Despite the hazards, they maintain a realistic and forward-thinking attitude, focused on solutions rather than lingering on dread or regret, which is an important psychological basis for individual and communal resilience in agrarian life.

natural resources, human resources, and economic resources, all of which contribute to the community's ability to adapt and preserve stability under pressure.

Non-farm activities generate economic resources such as small-scale retail businesses (*warung*) and various types of side jobs. Several neighborhood members run *warung* to augment their household

income. In addition to farming, many farmers work in other industries such as agricultural labor, building, carpentry, trading, and tailoring. These alternative revenue sources strengthen farming households' economic resilience while also contributing to the community's general stability.

A community is deemed resilient when its members are interconnected and collaborate, allowing it to function and sustain its systems in the face of disruptions. Furthermore, resilient communities can adapt to changes in their physical, social, and economic contexts, show self-reliance when external resources are scarce, and learn from experience to develop over time (Maguire & Cartwright 2008). Cooperation between vegetable farming communities is expressed by reciprocal financial support, particularly for growers who have suffered losses. This support could take the shape of informal financing between community members or access to financial institutions like banks. These coordinated actions demonstrate the community's dedication to communal resilience and economic solidarity.

3. Social capital

Social capital grows stronger if values of mutual aid and cohesive cooperation are preserved within society via institutionalized social networks (Fukuyama 2001). Social capital is defined as a set of relational processes among people that are facilitated by networks, norms, and social trust, allowing for efficient and effective coordination and collaboration for mutual gain and the common good.

Communities must build high levels of social capital, notably through teamwork and mutual support for members who are struggling to obtain food. Networks, norms, and social trust act as mechanisms to improve coordination and collaboration. Members of social networks and communities are bound together by mutual trust, shared understanding, and common values and behaviors. These mindsets encourage group action in overcoming common issues. Furthermore, earlier accomplishments established through cooperation within these networks contribute to the long-term viability of collaborative endeavors. The components of social capital are (a) network, (b) values and norms, and (c) trust.

a. Network

Social networks are one of the most important components of social capital. These networks serve as resources for individuals to access various sorts of help from their social surroundings via social interactions. Each person uses their social network to communicate, share information, and rally support. Bourdieu defined social capital as the accumulation of actual or potential resources associated with the presence of a long-term network of institutionalized relationships (Field 2008). In this way, social networks not only improve resource access, but they also serve as a type of embedded capital, promoting social cohesiveness and community resilience.

Farmers frequently communicate directly with one another when selling their produce. Typically, they trade market pricing information by speaking with other farmers who have already sold their product. This

informal exchange of information is critical for farmers to make educated decisions while also strengthening social relationships and trust within the farming community.

Price monitoring is used to determine who will buy the harvest. If market prices exceed those given by middlemen (*tengkulak* or *bakul*), the produce is sold on the market. Farmers will prefer to sell to middlemen if they provide a better price than the market. This method enables farmers to maximize revenues. Such practices demonstrate the presence of active communication and network creation among farmers, which are critical components of social capital that enable informed decision-making and collective resilience.

Networks can emerge from both within and outside the community. Internal networks refer to interactions among farmer groups, whilst external networks involve contact with wholesale vegetable sellers in regional markets. Vegetable farmers have continuing ties with collectors or agents who buy their produce. Farmers, collectors, and market dealers are all interconnected and play an important role in the horticulture of agricultural trade. The existence and maintenance of these networks are critical to the community resilience of vegetable farmers, allowing them to navigate market volatility and maintain their livelihoods through collaboration, trust, and resource sharing.

Collectors often pay visits to farmers after the harvest. Farmers and collectors typically agree on a price ahead of time. However, some farmers choose to sell their produce directly at the market. Distribution frequently extends to central vegetable markets both within and outside of the city, which are typically aided by collectors who harvest food from farms and deliver it to these larger markets. Exceptions exist among well-capitalized farmers. With their own trucks, these farmers may independently distribute their produce to out-of-town wholesale markets. These markets already have organized buyer or receiving organizations. This amount of access and autonomy shows both economic resourcefulness and incorporation into larger marketing networks, thereby strengthening community resilience.

Chili growers have a network that extends beyond the vegetable farming community: they collaborate with culinary business organizations that continuously require chili as a crucial ingredient. When chili prices fall, producers respond by drying any unsold supply. The dried chilies are subsequently sold to food vendors like meatball (*bakso*) and chicken noodle (*mie ayam*) dealers, who continue to use chili in their goods. During price declines, the cash gained by selling dried chili assists farmers in meeting their family expenses. This technique makes adaptive use of external networks and resourcefulness, providing an alternate income stream and a practical manifestation of community resilience in the face of market turbulence.

The *gapoktan* (farmers group association) is typically unable to help farmers when chili commodity prices fall dramatically. Its principal duty is to provide technical support and guidance on vegetable farming procedures. However, during instances of sharp price declines, the group's function is constrained. In such cases, losses are recognized as the farmer's private duty and risk. As a result, the *gapoktan* has a limited role in providing economic protection or market interventions during pricing crises. When faced with declining vegetable prices, particularly chili, each farmer employs their own unique problem-solving tactics. Farmers with larger capital reserves frequently have alternate sources of income to fall back on during such downturns. Those who receive their capital through bank loans, on the other hand, must investigate various income-generating opportunities. R6, a vegetable farmer from Klangon Hamlet, for example, formed a network with non-vegetable agricultural groups. This informant underlined that vegetable growers, particularly chili producers, cannot just absorb losses quietly (*nrimo*) or become resigned to their circumstances. Instead, companies must take proactive measures, using any method necessary, to manage the income decrease induced by lowering prices. This principle is motivated by the fact that many people have outstanding loan payments. In such instances, social and economic networks play an important role in enabling smooth coordination and collaboration, which leads to mutual gain and collective resilience.

b. Values and Norms

1) Nrimo

The concept of *nrimo*, a Javanese cultural value that emphasizes acceptance and inner resilience, is widely used in vegetable production. This concept serves as a guiding principle for farmers as they face numerous obstacles in their agricultural methods, particularly during periods of price volatility, such as the recent dip in chili prices. In the farming process, many farmers believe that if the land is cultivated properly and ethically, it will produce results. These outcomes, however, may not necessarily be economically beneficial. Nonetheless, this viewpoint generates a constant sense of hope and resolve, allowing farmers to remain upbeat and persevere even when their harvests are undervalued in the marketplace.

2) Gemi, setiti

Gemi refers to the attitude of gratitude for whatever sustenance one receives. During harvest, regardless of the size or value of the yield, farmers exercise restraint and do not devour everything at once. Meanwhile, *setiti* represents a cautious and systematic approach to resource management. Both values are used to manage

harvest outcomes, ensuring that they are used wisely to improve the household's standard of living.

This region's vegetable farming communities continue to uphold these traditions and practices, which are based on indigenous expertise. Their goal is to facilitate coordination and cooperation, allowing the community to collaborate more effectively for mutual gain and collective well-being.

c. Trust

The profession of vegetable cultivation is sometimes fraught with uncertainty, owing to unexpected weather conditions and shifting market prices. In addition, vegetable cultivation needs a great deal of patience and physical labor. Compared to other types of farming, vegetable growers spend more time in the fields since the crops require specialized care and regular attention throughout the growing season. Patience and sincere intention in farming are likely to yield rich harvests. However, this expectation isn't always met. Farmers are frequently faced with obstacles in providing their necessities. These challenges are met with sincerity (*ikhlas*) and perseverance (*tabah*), virtues ingrained in the community's religious beliefs and cultural knowledge.

Experiences of suffering due to falling vegetable prices, which nearly all farmers have faced, increase mutual trust among farmers with comparable perspectives, ethnic backgrounds, and cultural values. This sense of trust, along with a tenacious mentality, generates hope about continuing farming. As a result, farmers are mentally and emotionally prepared to deal with future price swings, which strengthens both individual and community resilience. Vegetable farmers have faced difficult times on numerous occasions. Pest infestations and climate change are among the causes of these setbacks, in addition to lowering market prices. Despite these hurdles, they continue to farm. Their dedication to agriculture is sustained by the sense of fulfillment, joy, and relief they derive from the task itself.

Another reason they endure is the absence of alternative livelihoods. Farming is their only feasible choice. In reaction to adversity, they adapt by modifying the crops they grow. The presence of hope and belief in future high prices motivates them to continue vegetable cultivation, especially in the face of uncertainty.

CONCLUSION

According to the findings, mutual trust among farmers, hope for rising prices, self-reliance in the face of crop failure, and continued practice of local values such as *nrimo* and *gemi-setiti* all contribute significantly

to the community resilience of horticultural farmers in Sawangan and Ngablak Districts, Magelang Regency. This suggests that the farming communities in these locations have a high adaptive capacity, particularly in terms of social capital, and can successfully manage their existing resources. Their ability to conserve local wisdom is an important technique for addressing food poverty threats caused by price fluctuation.

The study suggests that vegetable farming communities maintain and build their social capital as a strategy of dealing with disturbances and external pressures. Furthermore, based on the findings of this study, it is hoped that relevant stakeholders in both the public and private sectors will help farming communities, particularly in ensuring affordable access to fertilizers and pesticides, which are critical for maintaining vegetable production and community resilience.

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