

Changes in Social Networks and Farmers' Consumption Patterns

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Abstract

The COVID-19 pandemic has placed society on the edge of concern, including eucalyptus oil farmers in Buru Regency, Indonesia. This study seeks to explore pre-existing social networks and eating habits where the social structure of society is in a traditional position. The method used is qualitative with a phenomenological approach. Informants in this study were identified through purposive techniques that involve researchers in making deliberate choices based on predetermined criteria and determining them according to the study's objectives. Data was collected using interview techniques, and the implementation time was day and night so as not to interfere with the informant's working time. The informants in this study were 20 eucalyptus oil farmers, 10 eucalyptus tree land owners, and 10 eucalyptus oil collectors. Data analysis was conducted using a thematic pattern in four stages: the collection of categories, direct interpretation, the formation of patterns, the search for equivalence between two or more categories, and the development of naturalistic generalizations by researchers. The study results show that the pandemic has changed the long-established social network into a rational relationship; limited livelihoods have caused farmers to abandon subsistence and use rational rhythms. The consequences of rational relationships give rise to suspicion, instability, and mutual suspicion, which opens up opportunities for conflict. The social structure formed by emotional relationships tends to weaken when the pandemic becomes a social fact that forces the emergence of conformity from eucalyptus oil farmers. Another result of this study is a change in eating habits prioritizing "adaptation and availability" rather than old habits based on local culture. The rational choices made by eucalyptus oil farmers in fulfilling consumption have resulted in a shift from traditional to rational.

Keywords: *Eating Habits, Eucalyptus Oil, Social Network, Pandemic, Farmers, COVID-19.*

Introduction

Eucalyptus plants (*Melaleuca cajuputi* sub sp. *cajuputi*) grow naturally in Indonesia, particularly on the islands of Java, Maluku, and Papua, where the leaves are used for traditional distillation by the community or commercially into essential oils with high economic value (Dawan et al., 2023). In India, essential oil distillation has been carried out for a long time using a method known as "steam distillation". Meanwhile, France is famous for distilling essential oils for perfume and cosmetic ingredients. Plants such as lavender, jasmine, rosemary, and basil are widely processed into essential oils through steam distillation. In Morocco, essential oil distillation is carried out traditionally, especially from roses and oranges. The distillation of essential oils from roses is very popular and has high economic value, and it is used in the perfume and cosmetic industry. Bulgaria is one of the largest producers of rose oil in the world, especially Bulgarian rose oil, which is famous for its very high-quality (Bhalla et al., 2024; El-Akhal et al., 2024; Semerdjieva et al., 2023). Eucalyptus and other essential oils differ in plant source, distillation process, chemical composition, use, and market value. Eucalyptus oil, known for its distinctive aroma and health benefits, is more commonly used in pharmaceutical and health products. In contrast, other essential oils are often used in cosmetics, perfumes, and aromatherapy products. However, both have important roles in the essential oil industry, each with unique advantages and benefits. During the COVID-19 pandemic, people are increasingly seeking eucalyptus oil as a medicinal ingredient that is thought to be capable of preventing virus spread; however, as demand grows, eucalyptus oil is becoming increasingly difficult to obtain, and its price has even doubled (Sudradjat, 2020).

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When looking at the indicators of poor population data issued by the Buru Regency Statistics Agency in 2021 and 2024 (Daud et al., 2024; Runtunuwu et al., 2023), it appears that the poor population is spread across the Buru Regency area, which is an area producing eucalyptus oil, this phenomenon appears that the increase in eucalyptus oil production in Buru Regency does not necessarily have an impact on improving the economy of farmers (Timisela et al., 2023; Waemesse et al., 2020). However, this is an interesting phenomenon, where eucalyptus oil farmers face difficult conditions but have an extraordinary ability to survive; this ability is in the form of adaptation to difficult conditions during the COVID-19 pandemic.

Adaptation is a personal adjustment to the environment that involves changing oneself in response to environmental conditions and the environment in response to personal desires (Gul & Tas, 2024). Adaptation is essentially a process of meeting the requirements for survival. One of these requirements is a social aspect, in which humans require relationships to maintain order and avoid being ostracised (Careemdeen, 2024). In India, eucalyptus oil farmers are integrating eucalyptus cultivation with agroforestry systems, allowing them to use land more efficiently, where eucalyptus trees are planted alongside other crops, such as corn or soybeans, while farmers in Brazil are also adopting plant breeding techniques to produce eucalyptus varieties that are more resistant to extreme weather changes. This aims to maintain the stability of essential oil yields even though the weather is becoming more unpredictable. In Kenya, eucalyptus oil farmers are adopting an agritourism model, where they invite tourists to visit eucalyptus oil plantations and see the oil distillation process firsthand. This opens new marketing channels for eucalyptus oil and increases farmers' income from tourism. In Australia, eucalyptus oil farmers use drip irrigation technology that is more efficient in water use. In addition, they are also exploring rainwater harvesting techniques to support the sustainability of eucalyptus plants, while eucalyptus oil farmers in Morocco are developing derivative products from essential oils such as soaps, massage oils, and beauty products. This product diversification opens up new opportunities, especially in international markets prioritising natural and organic products. Eucalyptus oil farmers in various countries apply different adaptation strategies depending on environmental challenges, available technology, and market needs as well; as the eucalyptus oil farming community on Buru Island has adapted by changing eating habits and adjusting conditions using available social networks to survive the economic hardship caused by the pandemic.

Several previous studies have revealed social networks and farmer consumption, including Lieke Tan, who studied the socialization of non-timber forest products as a solution to forestry and community economic problems (Tan et al., 2023). Sapja Anantanyu analyzed the marketing communication strategy through digital marketing of eucalyptus oil in forest farmer groups (Anantanyu et al., 2022); the authors take a qualitative approach, investigating farmers' social networks and eating habits to cope with livelihood constraints during the COVID-19 pandemic. There is a lack of empirical studies on changes in farmer networks in the context of modernization, as shown in the study theme on Rural Networks and the Role of Technology (Issa et al., 2024; Wang et al., 2024; Zeng et al., 2024). Studies show that research on farmer social networks focuses more on traditional networks based on informal and local social relationships. However, only a few examine communication technology and digitalization's impact on networks. In the theme of Technology Adoption and Rural Networks, empirical studies were conducted to provide insights into the shift from traditional networks to technology-based networks that are more efficient in accessing information and resources, providing insights into how modern technology, including digitalization and communication platforms, affects the social structure and networks of farmers, shifting the role of traditional social networks towards more technology-based networks (Chidembo et al., 2024; Silva & Malaquias, 2024).

Furthermore, the study theme of Social Capital and Technology in Agriculture provides a perspective on how digitalization affects farmers' social structures. For example, technology can be a tool that changes or enriches traditional social networks by introducing new opportunities for building and accessing more extensive and inclusive networks (Idpo et al., 2023; J. Singh & Kumari, 2024). This paper can fill the gap by analyzing the shift from local and informal networks to broader and technology-based networks, in addition to connecting how changes in farmers' social and economic networks affect their consumption patterns, both in quantity and quality of food. In a separate section, this paper can fill the gap by adopting an interdisciplinary approach to understand the factors that drive the shift from traditional to rational consumption to construct the shift to rational consumption as having a positive or negative impact on food security in farming communities.

Social networks arise within society due to the inherent limitation of human beings in establishing connections with every individual in existence. The capacity for maintaining relationships is finite.

Granovetter's analysis of social networks differentiates between strong and weak links (Kuzheleva-Sagan, 2022). Strong ties refer to deep friendships, whereas weak ties refer to acquaintanceships. Sociologists primarily study individuals with close connections or affiliations with social organizations. They generally regard strong connections as significant while considering weak connections as trivial. Weak ties play a crucial role in social connections. If an individual has weak links, they will experience isolation within a group that has strong connections and will be unaware of events occurring in other groups or society as a whole (Granovetter, 1978). Social networks perceive the connections between individuals as nodes and bonds, which have a subjective significance. These connections can serve as a means to accomplish tasks, facilitate relationships between different parties, or provide structure and significance to social interactions.

In addition to adaption patterns and social networks, farmers' conditions are also impacted by their dietary habits, which have provided them with resilience throughout the COVID-19 epidemic. Eating habits refer to individuals' or groups' dietary choices in response to physiological, psychological, and sociocultural factors. Eating habits are acquired rather than intrinsic, as they are a product of learning. Elements related to nutrition and health education can cause individuals to modify their eating behaviors, while other environmental elements can impact the activities of food marketing and distribution. These environmental aspects include the cultural environment, natural environment, and population (Tsartsapakis & Zafeiroudi, 2024).

This study was based on preliminary observations of the socioeconomic lives of eucalyptus oil farmers during the COVID-19 pandemic, when their conditions were stagnant, and they appeared more resilient to existing conditions. The question must be answered: "How can eucalyptus oil farmers survive amid economic difficulties caused by the COVID-19 pandemic?" Actions towards social networks were adjusted to support vitality and survival. They also adjusted their eating habits rationally during the Covid-19 pandemic. These two indicators are critical for investigating changes in the eucalyptus oil farmer community's social relationship patterns and eating habits during the COVID-19 pandemic in Buru Regency, Maluku, Indonesia.

Materials and Methods

The study investigated changes in social relationship patterns and eating habits in the eucalyptus oil farmer community during the COVID-19 pandemic. Why did this study want to discover changes in the eucalyptus oil farmer community's social relationships and eating habits? Initial observations showed that the condition of the eucalyptus oil farmer community was different from the patterns and forms of farming communities in general in Buru Regency. We came to a simple conclusion on two main variables, namely their relationship patterns and eating habits, so this study focused on investigating these two variables. The change situation becomes interesting when something that has been ongoing for a long time and even internalized must undergo a massive shift. The relationship patterns and eating habits of eucalyptus oil farmers provide a unique insight into how habits have changed due to the COVID-19 pandemic; even traditional preferences that prioritize self-fulfillment of basic needs (subsistence) have been replaced by rational preferences that focus more on efficiency and calculating benefits in determining actions. In other words, subsistence is a simpler lifestyle that focuses on meeting basic needs without prioritizing profit or efficiency. Meanwhile, rationality involves making more logical and efficient decisions, considering the best results and maximum benefits, even regarding eating habits or daily actions.

The primary rationale for employing phenomenology as a method to investigate the changes in social relationship patterns and eating habits that occur within the eucalyptus oil farmer community is that the pattern of shifts in social actions that eucalyptus oil farmers undertake in pandemic conditions to ensure their survival is distinctive. Consequently, researchers seek a more profound understanding of individuals' consciousness structure in specific situations with a phenomenological approach (Flynn, 2023; Wisdom, 1973) This is necessary to comprehend the motives and significance of the eucalyptus oil farmers' actions regarding the changes.

The informants in this study were identified through purposive sampling techniques (Maxwell & Reybold, 2015; Panke, 2024); the informants were selected from 10 villages in Buru Regency. The villages selected as target locations were Gogorea Village, Jamilu Village, Karang Jaya Village, Samalagi Village, Sanleko Village, Sawa Village, Siahoni Village, Wabloy Village, Wamlana Village and Waplau Village. The selected villages are areas where eucalyptus oil farmers are concentrated in Buru Regency, Maluku Province, Indonesia, which involved researchers making deliberate selections based on predetermined criteria and determining them following the research objectives (Gill, 2020). Informant

criteria refer to a set of requirements or characteristics researchers use to select individuals or groups to be used as data sources in a study. In qualitative research, these criteria are essential to ensure that the chosen informants have relevant and in-depth knowledge, experience, or information about the topic or phenomenon being studied (Etikan, 2016). The informant criteria the author deems appropriate for this study are as follows: 1) Individuals employed as eucalyptus oil farmers. 2) Individuals who do not engage in agriculture possess land planted with eucalyptus trees. 3) Individuals who are not farmers or landowners but are purchasers of eucalyptus oil from farmers or land owners. The informants in this study were 20 eucalyptus oil farmers, 10 eucalyptus tree land owners, and 10 eucalyptus oil collectors.

The data collection stage begins with preparing a list of open-ended questions focusing on personal experiences. When conducting interviews, the researcher asks permission to record informants' answers to obtain complete conversation substance. The researcher used probing techniques to obtain more in-depth information during the interview. After the interview, the researcher listens to the recording and writes down every word the participant speaks, including relevant non-verbal elements. The researcher also ensures that the transcript is complete and accurate to facilitate further analysis.

Data analysis employs a four-stage analysis pattern, which includes the following: (1) the collection of categories; when collecting categories, researchers analyze data obtained through interviews, observations, or other sources by identifying patterns, themes, or concepts that emerge naturally from the data. In this section, the researcher will see the number of sentences and words the informant expresses, which will then be the basis for classification. This stage explains how qualitative information is converted into classification. This process is conducted inductively, where researchers group information into relevant categories to answer the research question.

(2) Direct interpretation: In carrying out direct interpretation, researchers analyze and give meaning to the data that has been collected, intending to understand the phenomenon being studied more deeply. This process begins by reading or listening to data (such as interviews, observations, or documents) carefully and thoroughly. Researchers then explore patterns, themes, or emerging ideas and relate them to the research question and relevant theories. Researchers consider the context in which the data were generated, such as cultural, social, or historical background, to help provide a deeper understanding. Researchers use personal reflection or intuition to gain broader insights and explain how the data are interrelated and what can be learned from the studied situation.

(3) the formation of patterns and the search for equivalence between two or more categories. The process begins with researchers identifying the main themes or categories that emerge from the data that has been collected, such as interviews or observations. Once these categories are found, researchers look for patterns or relationships between one category and another. This is done by grouping data with similarities or relationships to form a more straightforward pattern. Next, researchers search for equivalence between two or more categories by comparing and analyzing whether there are similarities or close relationships between the categories. Researchers look for equivalence in the meaning, values, or perspectives that exist in each category to find out whether the categories complement each other, have a mutually supportive relationship, or show differences that are important to understand. and (4) the development of naturalistic generalizations by researchers, In this process, researchers show how the research results obtained can be applied to other situations or contexts that have similarities or relevant characteristics. The narrative aims to provide a broader understanding of how research results can provide insights and practical implications on a larger scale (Berends & Deken, 2021).

Results

Farmers of eucalyptus oil face a complex situation due to the pandemic, which includes decreased demand, supply and distribution disruption, and limited market access. Farmers of eucalyptus oil from ten villages revealed their situation, as depicted in the diagrams below.

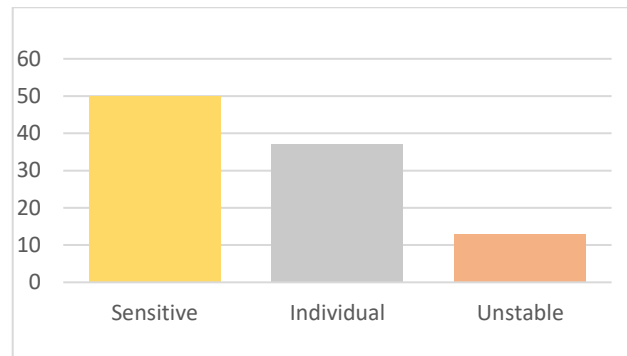


Diagram 1. Public Relations

Source: Primary Data Processing 2024

The results of field data collection in diagram 1 regarding community relations during the pandemic show that sensitive relations reached 50 percent. What is meant by sensitivity is a decreased ability to understand, feel, and respond to other people's feelings, needs, and emotional states. Sensitive in this context means a person's reduced ability to understand, feel, and respond to the feelings and needs of others. When someone becomes less sensitive, they can no longer pick up on or understand the emotions of those around them or even do not care about those feelings. In interpersonal relationships, the inability to show sensitivity can lead to tension, misunderstandings, and conflict, as people feel unappreciated or ignored. Therefore, being sensitive is essential to building healthy and understanding relationships.

Data from informants stated that the pandemic caused their previously homogenous environment to change into a situation entirely of suspicion and caution, unlike usual. Apart from being sensitive, in the village community where eucalyptus oil farmers live, individual patterns emerge in economic matters (subsistence). Individual refers to the emergence of patterns of behaviour or financial decisions that are more personal or focused on individual interests than groups or society. In the context of the eucalyptus oil farming village community, this particular economic pattern means that each farmer or member of the community makes financial decisions that prioritise their personal needs and benefits, not always based on agreement or shared needs. The difficulties encountered by the residents are evenly distributed among them. As a result, each individual or small group seeks to fulfil their household income based on their closest relatives. Another factor also expressed by informants is instability. According to unstable public informants, they are easily carried away into emotional situations if information or news appears related to sufferers and the spread of the coronavirus around them. Instability in this context refers to a society's psychological or emotional state that is easily affected by information or news that contains fear, anxiety, or worry. In this case, an unstable society tends to have no control or balance in responding to incoming information, primarily if the information is related to things that directly threaten their health or safety, such as sufferers and the spread of the coronavirus.

The village is where eucalyptus oil farmers live with their families in a community structure with solid cohesiveness. However, the pandemic has become an inseparable part of the emergence of various problems in social relations, including eucalyptus oil farmers who live in that village. When relationship problems occur, negative impacts are also felt by eucalyptus oil farming households, as depicted in diagram 2.

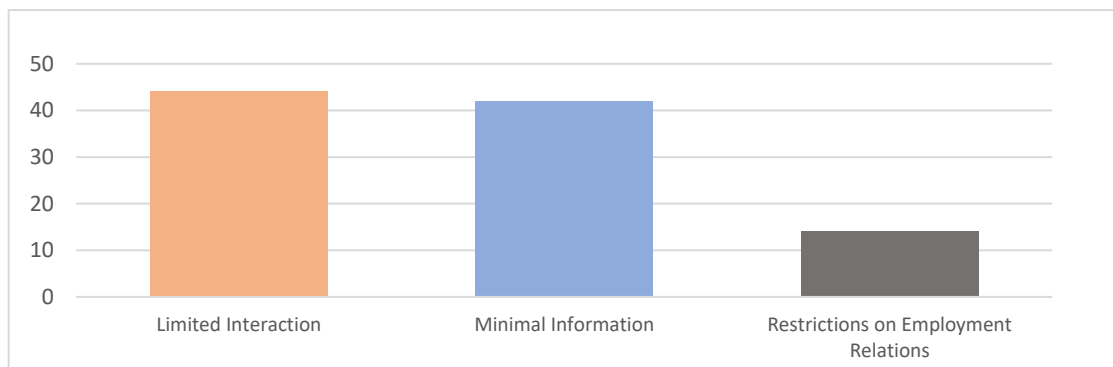


Diagram 2. Problems in Social Relations

Source: Primary Data Processing 2024

According to the informant, who still works as a eucalyptus oil farmer, the community relations around where he lived before the pandemic occurred characterized a traditional society with high aspects of solidarity, but the situation changed with the emergence of the phenomenon of the spread of the coronavirus around their environment. As depicted in diagram 2, there are restrictions on work relations, which are an implication of the restrictions implemented by the government. The community supports this policy as an action to avoid the spread of the virus so that the consequences that arise, such as restrictions on work relations, must be accepted by them, which includes internal relations. - direct interaction with parties outside the village (customers). At the same time, the production results in eucalyptus oil, which cannot be consumed alone but is a commodity that must be distributed outside the village.

Due to limited interaction between fellow villagers and outside parties, informants said they lacked information regarding eucalyptus oil's marketing and needs. Some of the capital owners stopped production activities due to the accumulation of undistributed eucalyptus oil, and this situation had an impact on the livelihoods of farming households, making it increasingly difficult to meet their needs. The primary source of relationship problems, the informant said that the primary key in social and economic relations is limited interaction; in the diagram, it is stated that the informants who gave this answer reached 44 percent, so the restrictive actions taken resulted in various relationship problems emerging, disrupting relationships between individuals and groups. as well as parties outside their environment.

In general, village communities are a social construction with high homogeneity, and eucalyptus oil farmers still have a vital element of kinship between them. However, the pandemic has brought them into difficult conditions in social life, as depicted in diagram 3 regarding relations. Disputes that occur among fellow eucalyptus oil farmers.

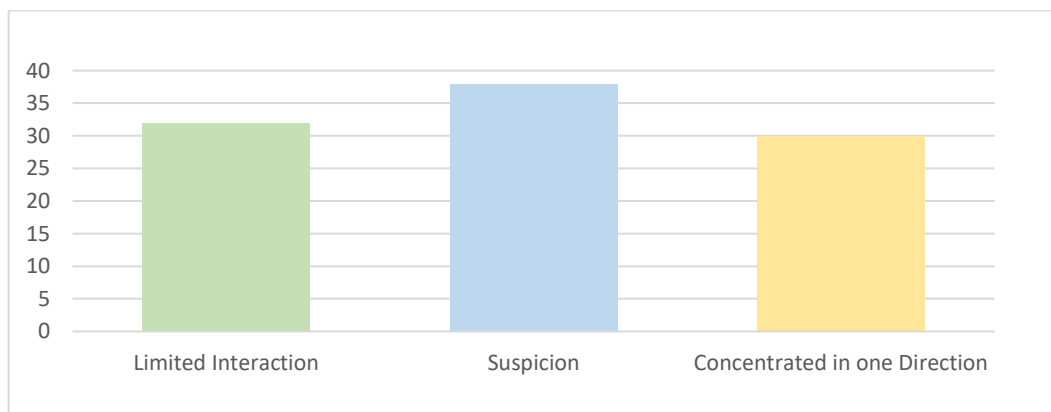


Diagram 3. Relationships between Workers

Source: Primary Data Processing 2024

In the tabulation of interview results made in diagrams, it was found that calculations of informants' expressions stated that the Covid-19 pandemic had caused three problems to emerge in relationships between farmers, as depicted in diagram 3. The most dominant factor was the emergence of suspicion, where the informant conveyed obstacles. Interaction results in the information obtained being concentrated in one direction (land owner/capital owner) through limited communication so that suspicion (in economic form) arises among fellow workers, there is a prohibition on gathering in specific numbers, and limited gathering times make capital owners only distribute information by relying on one-way information in the form of messengers conveying messages from house to house, for eucalyptus oil farmers this condition means they do not know in depth about the information being disseminated.

The pandemic is considered to have created a vicious circle regarding patterns of social relations; suspicion arises from the concentration of information in one direction, while one-way patterns occur because of restrictions on interactions implemented due to concerns about the spread of the coronavirus. Conditions like this coincide and are challenging to stop. Alternatively, return to the previous situation where the interaction pattern was more intensive and in-depth.

The pandemic conditions make it quite tricky for eucalyptus oil farmers to earn a living, as their work is directly related to fulfilling household food needs. However, their characteristics as village people with close ties and homogeneity mean that essential elements are still used to survive, such as adjusting their diet during the pandemic.

Several factors support and provide opportunities to fulfill household food needs, such as choosing the type of food, availability of raw materials, and the eating patterns they follow to meet their daily food needs. Three types of food groups are consumed during a pandemic, as depicted in diagram 4.

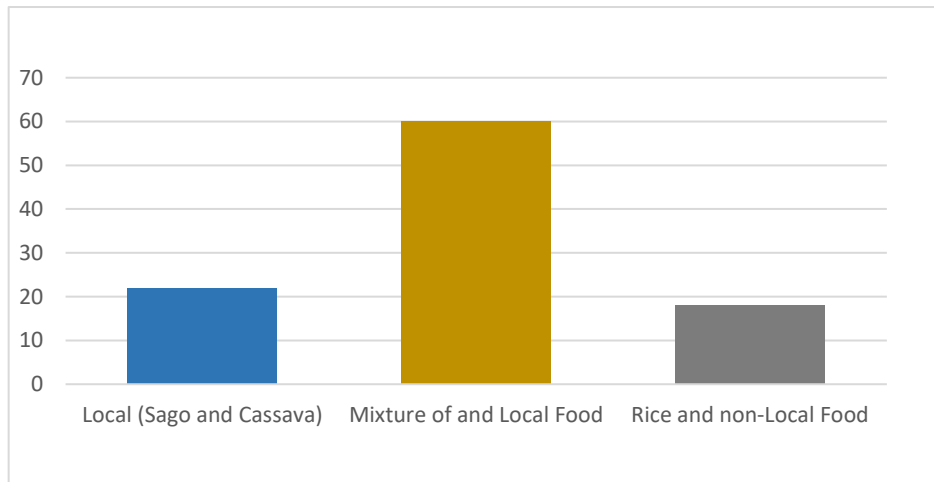


Diagram 4. Foods Consumed During the Pandemic

Source: Primary Data Processing 2024

Diagram 4 shows that the food consumed by eucalyptus oil farmers during the COVID-19 pandemic is dominated by a mixture of rice and sago (local food) as the daily staple food, with a percentage reaching 60 percent. In comparison, the sago and sweet potato groups -sweet potatoes reached 22 percent, and the remaining 18 percent preferred non-rice foods such as corn, sweet potatoes, and sago. Before the pandemic, one informant said they focused on consuming rice as the main staple, while corn, sweet potatoes, and sago were only complementary foods. The food choice for consumption by eucalyptus oil farmers certainly has its reasons, as depicted in diagram 5.

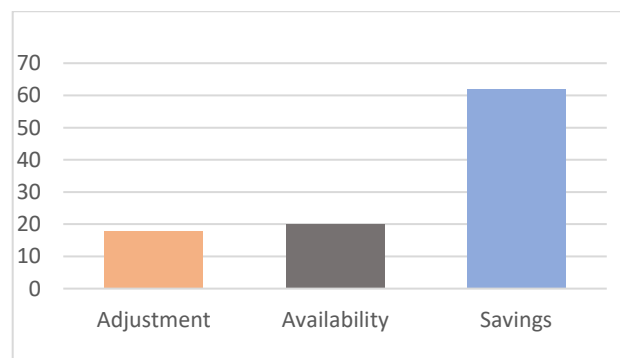


Diagram 5. Background of Consumption

Source: Primary Data Processing 2024

Diagram 5 shows the background of consumption of eucalyptus oil farmers, which appears to be more dominant for reasons of saving. Informants said that the unstable economic conditions of households cause them to have to make savings, including choosing materials for consumption with low prices. Apart from the savings factor as a reason for them to act, the informant also stated that there was the availability of consumption materials around the village that could be utilized. On average, eucalyptus oil farmers live in areas with large land areas, even though they lack fertility potential. The situation is difficult for them to meet household needs. The adjustment factor causes another reason given by informants regarding the background of their consumption actions. The adjustment means adjusting household consumption to the results of their work so that the type of food and consumption materials is measured by the income they get from refining eucalyptus oil.

Several measures have been implemented to fulfill consumption requirements.; eucalyptus oil farmers have views about the impact of the pandemic on eating habits, which they must adjust, as depicted in diagram 6.

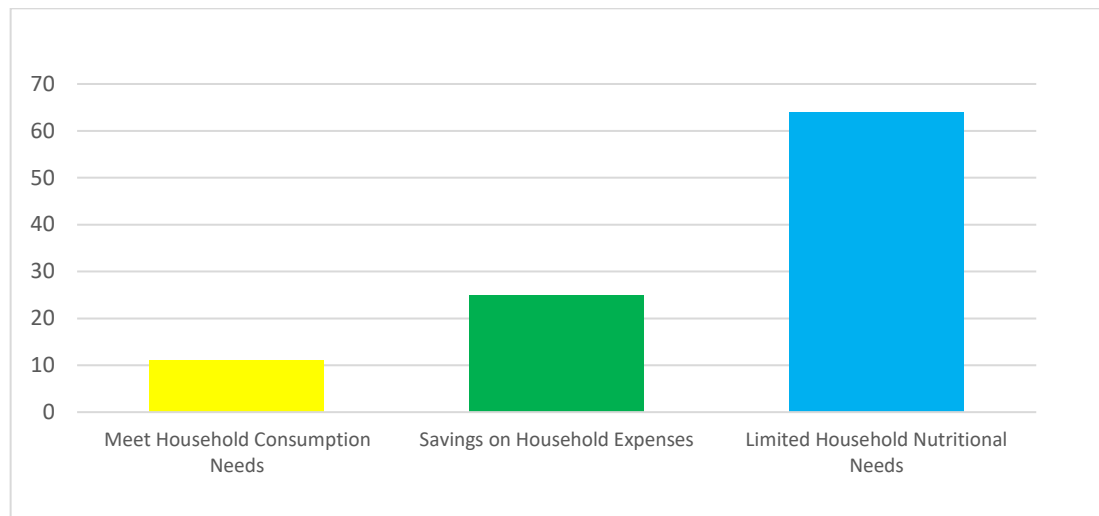


Diagram 6. Consumption Background

Source: Primary Data Processing 2024

Diagram 6 is an illustration of the impact of the pandemic on the eating habits of eucalyptus oil farmers. One main thing expressed by the informants is the limitations in fulfilling household nutrition due to choosing the food consumed based on the income earned. While in the pandemic, their income is experiencing a decline, and some have not even received income for several weeks. Furthermore, there are savings in expenditure for subsistence, which is still related to their income for the reasons stated in diagram 5 regarding adjustment factors. In contrast, regarding meeting household consumption needs, the informant said that they let go of dependence by utilizing the availability of food around them.

Discussion

The Impasse of Social Networks as an Instrument for Fulfilling the Livelihoods of Cajuput Oil Farmers' Households

Social networks are relationships formed by many people in a group or between one group and another (Seyfert, 2024). Relationships can take both formal and informal forms. Social relationships represent or reflect cooperation and coordination among residents through active and reciprocal social ties (Lizardo, 2024). The problem of relationship pattern changes in the eucalyptus oil farmer community during the COVID-19 pandemic has called into question the existence of social networks.

Based on the field findings shown in a diagram, the social network that should increase community cohesion makes the situation worse. Meanwhile, recent studies show optimism about a social network's strengths, such as Xuqian research entitled Will customer change affect enterprise innovation efficiency? A study from the perspective of social networks (Xuqian et al., 2024) strengthens the perception that social networks can reduce the negative impacts of customer behavior. Shen conveys that social networks can build collaboration patterns that support development through a study entitled Critical Success Factors and Collaborative Governance Mechanisms for the Transformation of Existing Residential Buildings in urban renewal: From a Social Network Perspective (Shen et al., 2024) and Zhou presents the results of a study entitled A Spatio-Temporal Network Model of Chinese Ethnic Culture Transmission Paths Cultural, trying to imply social networks as an effective diffusion strategy in the spread of a culture (Zhou, 2024).

The use and implementation of the network context in the three most recent studies differ significantly from the data gathered by the author while researching interpersonal relationships and societal relationships. The author's implications show that social networks will not perform optimally in critical situations like the COVID-19 pandemic. The data show that during the pandemic, a specific pattern of relationships resulted in high sensitivity. Individuals and groups were in an unstable state. They had individual characters and suspicions developed between each other regarding sources of livelihood; even though social networks are networks where the ties that connect one point to another are social relationships, the social construction of rural communities is still vulnerable to the COVID-19 pandemic. The author reviews several previous research results that show the benefits of social networks during the COVID-19 pandemic, including Fadilla, who studied the digital learning management system during the pandemic (Fadilla et al., 2022); Zephisius who studied the role of class teachers in overcoming learning difficulties of elementary school students amid the COVID-19 pandemic (Zephisius Rudiyanto Eso Ntelok, 2021), and Caroline who explained the digital network management policy to increase the intention to share knowledge between employees (Caroline et al., 2022). The benefits of social networks from the three studies are presented in the following diagram.

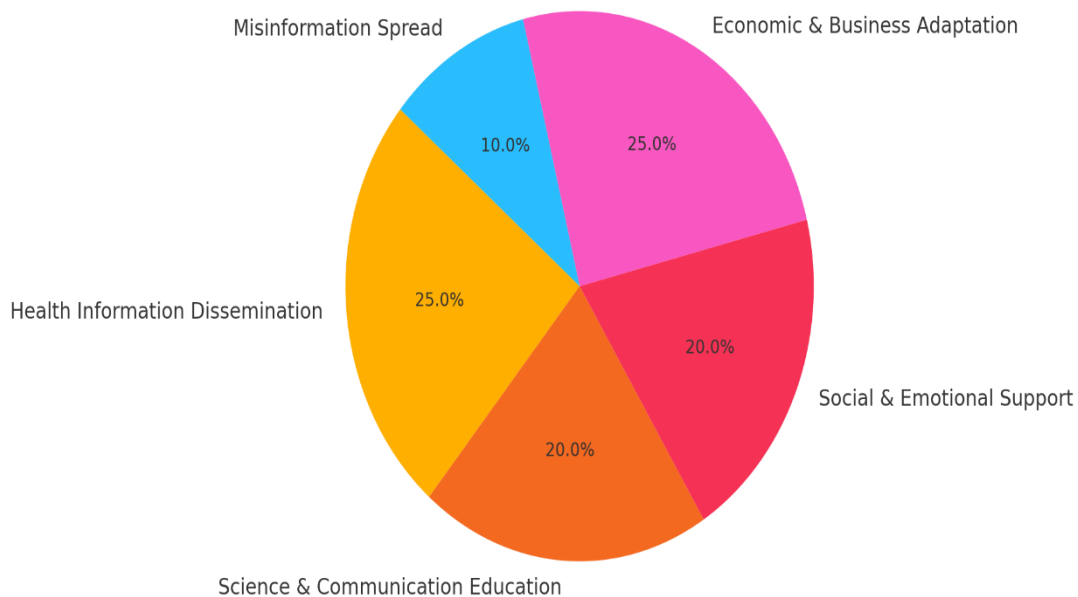


Diagram 7. The Role of Social Networks During the COVID-19 Pandemic

Source: Secondary Data Compilation (Choi & Noh, 2023; Pandey et al., 2021; Park et al., 2022; Tania Vergura et al., 2021)

The village, home to traditional eucalyptus oil farmers, has a solid social relationship that stems from systematic interactions (a series of behaviors) between two or more individuals. A social relationship exists when each person can accurately predict the type of action that another party will take toward him. This type of interaction is known as a social relationship, and it will eventually lead to the formation of a network.

The situation of eucalyptus oil farmers demonstrates the dominance of the sentiment network, which is a pattern formed by social relationships, where the social relationship itself becomes the goal of social action, for example, in friendship, romance, or kinship relationships (Granovetter, 1976). These emotional relationships tend to create a more stable and long-lasting social structure. It has a strong influence on the adaptation patterns carried out by eucalyptus oil farmers, resulting in the appearance of a mechanism whose function is to ensure the stability of the existing structure so that social relationships of this kind can be assessed as a type of norm that can limit a social action that tends to disrupt the permanence of the network structure (Higgins et al., 2021). However, the COVID-19 pandemic has destroyed the long-established permanent social network structure as shown in diagram 7.

According to Granovetter's social network study, there are recent studies that use social network theory as an analytical tool, such as netizen interactivity 24 hours after the declaration of presidential

candidates (Sanjaya & Nasvian, 2024), Farmer social networks in coffee harvest management (Utami & Gunawan, 2023), Will customer changes impact enterprise innovation efficiency? A social network-focused study (Xuqian et al., 2024) and Integrity 2024: Integrity in Social Networks and Media (Garcia-Pueyo, 2024). Social network theory generally investigates building trust and networks with other parties internally and externally. Utilized for studying social networks devoid of densely linked and isolated nodes, its efficacy in gauging sentiment impacts patterns of adaptation. These networks foster a sense of solidarity, which means that actors tend to reduce their interests; they give and receive from other actors in traditionally patterned ways based on their interconnectedness (reciprocity), which is very conducive to the adaptation pattern proposed by Robert Merton regarding conformity and innovation (Merton, 1957); however, what Granovetter said could not be an instrument for strengthening networks during the COVID-19 pandemic.

The livelihood issue is not trivial for eucalyptus oil farmers or most villagers. Farmers want to improve their economy and are willing to take risks. Farmers are also seen as humans who are full of calculations of profit and loss, not only humans who are based on moral values so that farmers will act in their choices not because of tradition, and in this rational farmer, farmers tend to want market access so they can get profit and want wealth, so farmers are considered capable of practicing profit and loss. Farmer rationality is a moral and economic issue for farmers who struggle to survive on the edge of subsistence. Farmers also use the concept of prioritizing safety as a choice when faced with taking risks, which Popkin believes is a rational decision (S. Popkin, 1980). Farmers' behavior, which tends to make decisions based on utility or what will benefit them and is willing to take risks, has the potential to destabilize the structure of social networks.

Using social networks to assist eucalyptus oil farmers in meeting their daily living expenses is impossible. Instead, they are forced to be rational, as Popkin describes the behavior of farmers who prefer rationality over subsistence (Dougherty, 2020). The combination of rationality and independence can cultivate the courage to take risks. If this is satisfied, farmers can think critically in the face of adversity, which will either motivate them to take action or make them resist. Meanwhile, suppose independence and courage to face risks are associated with economic maximization. In that case, they will develop a commercial attitude within themselves, resulting in four types of farmer actions: (1) productive commercial, (2) static commercial, (3) productive subsistence, and (4) absolute subsistence. These four typologies threaten the social network built on reciprocity, which always makes farmers profit. Farmers leave their villages for cities not because of agricultural intensification but because they are rational. It is similar to when they, like most people, take advantage of their "adjustment and availability" to become wealthy. In principle, eucalyptus oil farmers are profit-driven rather than morally motivated. They react to oppressive factors not because the capitalist market economy threatens their "tradition" but because they want the opportunity to "live" in the new economic order.

Changes in the Eating Habits of Eucalyptus Oil Workers from Consumptive to Rational

The background of food consumption is highly dependent on two factors, namely, the source of livelihood and the availability of natural resources. Understanding the three diagrams presented in the previous section, we can say that there has been a shift in the eating patterns carried out by eucalyptus oil farmers. A pattern that depends on the source of livelihood, with the primary consumption of rice as a staple food, has shifted to selective actions that depend on natural resources, followed by adjustment actions and availability.

Eating habits are the way individuals or groups of individuals choose what food to consume as a reaction to physiological, psychological, and socio-cultural influences. The interpretation of eating habits is not an innate behavior but a result of learning. Food marketing, distribution activities, nutrition, and health education can influence people to change their eating habits. Environmental factors can affect people's eating habits, including the population, the natural environment, and cultural norms.

Changes in eating habits formed in the eucalyptus oil farming community are a construction of eating habits formed by the population rice, which was used as the primary food ingredient before the pandemic became a consumption character that was shared by those who were in a specific location and for a long time so that habits become continuous, rooted and form a permanent culture, it is necessary to make some changes to one's eating habits, the eating habits they have are not following the situation they face. Changing from rice to corn or tubers and sago is an action option to change habits because there is a gap between income and consumption needs.

Research conducted by Christofaro on Physical Activity Associated With Improved Eating Habits During the COVID-19 Pandemic (Christofaro et al., 2021) shows a shift in the consumption of sweet

foods caused by the emergence of the coronavirus in Brazil, as well as the results of Sgroi's research on Consumers' eating habits during the COVID-19 pandemic: Evidence of experimental analysis in Italy (Sgroi & Modica, 2022). This shows a shift in consumption from supplies outside the village to independent consumption through family-managed gardens, and Teixeira proved the change in eating patterns due to the COVID-19 pandemic through the study Eating habits of children and Adolescents during the COVID-19 pandemic: The impact of social isolation (Teixeira et al., 2021).

The changes in consumption patterns in previous studies had the same background as those in the eucalyptus oil farmer community. However, the orientation of the change looked different because eucalyptus oil farmers made changes due to their dependence on livelihoods for the formation of daily consumption patterns, so the occurrence of a decrease in household income became the basis for changes in consumption orientation. Elaine Wethington, in the theory of Perception and Preference (Rogers, 2011), describes an understanding of the experience of living with chronic conditions that can provide insight into how social factors influence health behavior, including eating behavior. The condition of eucalyptus oil farmers who had to accept the pandemic situation became a chronic condition for them in determining eating behavior. Besides, a person's behavior in acting is greatly influenced by intention or intention, as expressed in the Theory of Reasoned Action, which states that a person's behavior is greatly influenced by intention, where intention depends on attitudes and subjective norms (Ajzen, 2012). Eating habits become a behavior influenced by attitudes and subjective norms, as in the pattern carried out by eucalyptus farmers when dealing with difficult situations during the pandemic.

Eating habits are not innate but result from learning (Niškanović et al., 2024). Changes in eating habits can be caused by factors such as nutrition and health education, food marketing, or distribution activities. Cultural factors, the natural environment, and population density are some environmental elements that can affect it (Tsartsapakis & Zafeioudi, 2024). Some recent studies that use the concepts of cultural environment, natural environment, and population as analytical tools include Studies on the Impact and Opinion of Organic Food Products on Human Life during COVID-19 (P. Singh et al., 2024) and an assessment of the impact of traditional rice cooking practice and eating habits on arsenic and iron transfer into the food chain of smallholders of Indo-Gangetic plain of South-Asia: Using AMMI and Monte-Carlo simulation model. In order to gain a better understanding of people's consumption behaviors during the COVID-19 pandemic, researchers typically use concepts to gauge how people's eating habits have changed, the diversity of foods they eat, and how cultural environment indicators affect these behaviors. Meanwhile, in the study of the phenomenon of changes in social relationship patterns and eating habits of eucalyptus oil farmers was studied by linking natural environmental factors to analyze eating habits and deepening the study with the theory of Perception and Preference (Elaine Wethington) (Krueger et al., 2020), Theory of Reasoned Action (Martin Fishbein) (Delshad et al., 2024), Social Adaptation Theory (Robert K. Merton) (Kalleberg, 2007), farmer subsistence (James C Scott) (Omvedt & Scott, 1978), political economy (Samuel Popkin) (S. Popkin, 1980) and rational choice (James Coleman) (Opp, 2013).

Eating habits are related to three assumptions of Robert K. Merton (Swedberg, 2022)"First, the functional unity of society is a state in which all parts of the social system work together in sufficient harmony or internal consistency. Second, all standardized social and cultural forms have positive functions. Third, in every type of civilization, every custom, idea, material object, and belief fulfills several essential functions, needs to complete some tasks, and is an important part that cannot be separated from the activities of the system as a whole, so the eating habits of eucalyptus oil farmers are their way of utilizing available food as a reaction to the economic and socio-cultural pressures they experience, changes in lifestyle patterns as a result of the COVID-19 pandemic towards a pattern of fulfillment but not an improvement in the standard of living, meaning that consumption is carried out solely to meet physical needs as well as the availability of resources encourages changes in eating patterns and eating habits that fluctuate depending on household income.

Adaptation conformity causes eucalyptus oil farmers to adopt new habits with types of food. The income earned and the resources available in the village determine the food types served. For example, James C. Scott believes that subsistence farmers are rich in spiritual life despite having little food (Carrier, 2018); this situation causes farmers not to dare to take too many risks, forcing them to work together, have collective values, and help each other so that the decision to change their eating patterns becomes an action that is considered reasonable by eucalyptus oil farmers (Mailleux Sant'Ana, 2007). Eating habits with two models (availability and adjustment) become an innovative adaptation pattern

that leads to a situation that is further from fulfilling essential nutrition; eucalyptus oil farmers no longer think about the amount of nutrition needed but adjust to their habits and what they consider suitable.

The change in eating habits carried out by eucalyptus oil farmers becomes a rational action when faced with the political economy theory of Samuel Popkin and the rational choice theory of James Coleman. A diet change occurred due to eucalyptus oil farmers comparing their abilities to competitors. The decrease in the amount of livelihood and even the loss of sources of livelihood are essential points for abandoning eating habits, so Popkins' assumption that humans have individual awareness and always use rational calculations in carrying out their actions becomes relevant to the actions taken by eucalyptus oil farmers (Brewer, 1981). Based on this assumption, the political economy theory focuses on rural communities, starting with and centering on individual decision-making and expanding the conception of the village's role in farmers' economic lives. Popkins argues that farmers are rational problem solvers, according to their interests and the need to bargain together with others to achieve mutually beneficial results (Dougherty, 2020; S. L. Popkin, 2020). Acting from the available elements and availability is the basis for rational solutions by eucalyptus oil farmers.

Along with the rationality proposed by Popkins, James Coleman provides a statement supporting the rationality of eucalyptus oil farmers, claiming that individuals are regarded as entities motivated by desires or goals that express their "preferences" (J. Coleman, 2004). Simply put, the relationship between preferences and constraints can be seen in purely technical terms of the relationship of the means to achieve goals; the pandemic and limited livelihoods become constraints, while the context of "availability and what is available" becomes their preference for achieving goals (J. S. Coleman, 1965). Rational choice theory argues that individuals must anticipate the results of alternative courses of action and calculate what will be best for them so that eucalyptus oil farmers change their eating habits because they have rational calculations to survive.

Conclusion

The COVID-19 pandemic has changed various social orders, including the social network of eucalyptus oil farming communities, which have been closely related to traditional identity since their growth and development. The pandemic has changed the face of subsistence farmers to be rational with a pattern of action to survive. The view of the ability of social networks to be an instrument for building social cohesion in eucalyptus oil farmers is increasingly difficult to prove when the Covid-19 pandemic threatens their socio-cultural life, thus giving rise to implications of social vulnerability in the form of instability, mutual suspicion and sensitivity which will facilitate the formation of conflict in the community. Meanwhile, following dietary patterns based on long-established cultural norms is reasonable. The adaptation carried out in eating habits is not due to conformity factors but rather the rationality of eucalyptus oil farmers who take advantage of "availability and availability to meet their food needs during the pandemic that threatens the sustainability of their livelihoods.

This study has several limitations that need to be considered. First, the time constraints of the study are because the COVID-19 pandemic is a time-limited phenomenon, so the study's results only cover the impact in a certain period and cannot describe long-term changes. Second, sample limitations: This study only involved eucalyptus oil farmers in Buru Regency, Maluku Province, Indonesia, which limits the generalizability of the findings to the entire population. In addition, unmeasured external factors such as government policies, climate change, or other economic conditions also influence the results but are not explained in this study. Third, the measurement of social cohesion in society is very subjective, depending on individual perceptions, which can vary, given that the pandemic has caused social uncertainty. Fourth, this study only highlights cultural aspects of the eucalyptus oil farming community, such as eating habits and social networks, without considering changes in other cultural factors, such as social norms or belief systems. Fifth, this study has not examined broader economic elements, such as the impact of government economic policies or market fluctuations that affect farmer resilience.

Based on the limitations, there are several recommendations for further research. First, the research sample can be expanded by involving eucalyptus oil farmers from various regions to obtain a more representative picture and compare adaptation patterns in different social, economic, and cultural conditions. In addition, further research should include an analysis of economic impacts, such as government policies, market price fluctuations, and social assistance on farmers' welfare, to provide a more comprehensive understanding of the economic factors that influence their adaptation during the pandemic. Finally, future research can explore how the pandemic affects the social identity of eucalyptus oil farmers and whether there is a change in the sense of togetherness or significant cultural

transformation. Thus, these recommendations can enrich our understanding of the impact of the pandemic on eucalyptus oil farmers and the socio-cultural changes that have occurred.

The implications of this study are quite broad, both in social and economic contexts. Socially, this study reveals how the COVID-19 pandemic has affected the social networks of eucalyptus oil farmers, which were previously closely related to their traditional identities. These findings indicate that the pandemic threatens food security and can cause social disintegration and vulnerabilities in farming communities, such as instability, mutual suspicion, and potential conflict. These implications are important to consider ways to strengthen social networks and cohesion in the face of crises to reduce the negative impacts. Economically, this study explains how eucalyptus oil farmers adapt to changing market conditions and food availability during the pandemic. These findings can help policymakers design more targeted social assistance programs and support farmers' economic resilience in crises, especially considering their needs for access to resources and more stable livelihoods.

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