LANGGAM:
(International Journal of Social Science Education, Art and Culture)

Volume 3 Number 3(2024) page 33-40
e-ISSN: 2828-1241
DOI: http://doi.org/10.24036/langgam

The Cultural Capital of Pandalungan Coffee Farmers in Building Sustainable Food Security

Amri Dhimas Maulana[1], Nana Supriatna[2]
[1,2]Department of Social Studies Education, Universitas Pendidikan Indonesia, Indonesia
Email: [1]amridhimasmaulana@upi.edu, [2]nanasup@upi.edu

Abstract. *This studi aims to explore the role of cultural capital of Pandhalungan coffee farmers in Jember Regency in their efforts to build sustainable food security. This study used a qualitative approach with a phenomenological design to explore the experiences, perceptions, and practices of coffee farmers in utilizing their cultural capital to improve economic, social, and environmental well-being at the local level. Data collection used in-depth interviews and participatory observation with a number of coffee farmers. Data analysis was conducted thematically to identify the main patterns, key findings, and perspectives that emerged from participants' narratives. The results of this studi showed that the types of cultural capital owned by Pandalungan coffee farmers include traditional knowledge, local agricultural practices, community values, and social norms that support food security. The Coffee farmers in Pandalungan have in-depth knowledge of traditional farming practices passed down through generations. This knowledge includes specific techniques in planting, tending and harvesting coffee that are adapted to local conditions. In addition, the cultural capital of Pandalungan coffee farmers plays a crucial role in supporting sustainable food security.*

Keywords: *Cultural Capital, Coffee Farmer, Food Security*

INTRODUCTION

Coffee is an important commodity in the Indonesian economy due to its relatively high economic value in the world market. The proceeds from the coffee crop have also provided distinctive benefits for the survival of farmers in Indonesia (Verma, 2013). Coffee plants also directly support the livelihoods of more than 25 per cent of the population, and are central to the social and economic life of families (Roussel, B. and Verdeaux, F, 2017). The income from coffee harvests is not proportional to the operational costs of coffee farmers such as the provision of seeds, planting, maintenance and harvesting processes (Guampe and Hengkeng, 2019). The cultivation techniques are not in accordance with the recommendations of good agriculture practice (GAP), low crop productivity, weak farmer institutions, low value added received by farmers and limited capital (Titisari, 2016).

Some of the complex problems regarding coffee trade are the long marketing chain and the market power possessed by middlemen, which cause large price disparities in the marketing chain (Juliaviani et al, 2017). Coffee sales through partners are carried out with a contract system where there are requirements such as quality that must be met by farmers. Then there is the ease of providing cash economy by middlemen which encourages farmers to prefer selling to middlemen rather than to partners (Rahmadianto et al, 2019). Cooperation networks between marketing institutions that have not run well and farmer groups that have not functioned properly. Under these conditions, farmers tend to be price takers so that the bargaining position of coffee farmers is weak in determining prices (Cristovao, 2015).

The ease of cash economy and no special treatment in the trading system of coffee sold are the main reasons farmers sell coffee to intermediary traders. Although on the other hand, the price obtained is not in accordance with the wishes of farmers. What needs to be done is the need for farmer assistance directed at a sustainable certification process both in terms of production and economy (Rosiana, 2020).

In the Ijon system, the price of coffee does not match the market price so that the system is detrimental to farmers (Zainuddin et al, 2015). The coffee in the intermediary traders is then sold to large traders or processors and then marketed to exporters. It can be concluded that the reality of coffee supply chain management in Jember is still very complicated, which still goes through several supply chain members or so- called actors. The supply chain members are farmers, intermediary traders, wholesalers, exporters and related institutions. The pattern of the supply chain structure is in the flow of products, information, finance, and services (Yulian et al, 2019).

A farmers society is a society that relies on agriculture as the main way to make ends meet. Despite their traditions, farmers communities undergo a process of change following the development of the society outside them. Increased market orientation drives the agricultural process, especially when supported by ease of access and availability of assets to do so (Babigumira et al. 2014). Pandalungan Coffee Farmers belong to an Agrarian-egalitarian society where the social system or structure of the farming community is a combination of agrarian nature and the principle of social equality. Pandalungan Coffee Farmers are described as a traditional or primitive society where the agricultural system is the main pillar of economic and social life, while the principle of equality among its members is emphasized..

Coffee farmers in Kabupaten Jember are similar to other farming communities in Indonesia. They interact with various other ethnicities, accept development and markets. The coffee farming and trading activities used are still adapting and transitioning from the traditional way of hereditary to the trend of Good Agricultural Practice (GAP) as a patron of coffee farmers' literacy in accordance with the standard as habituation that is used as an asset. The phenomenon displayed by coffee farmers in Jember Regency is interesting to understand, as a concrete manifestation of the relationship between farmers and markets in the present and changing times. This research pays attention to farmers' interactions by analyzing the meanings behind their various social actions.

METHOD

The research method used in this study is a phenomenological approach. This approach was chosen to deeply understand the subjective experiences of Pandalungan coffee farmers in building a sustainable food security and independent life. The phenomenological approach is used to explore and understand the life experiences of Pandalungan coffee farmers from their own perspective. Phenomenology focuses on how individuals interpret and give meaning to their experiences in the context of everyday life. This research was conducted in Tanggul District, Jember Regency which an area famous for coffee production. The research participants consisted of 18 local coffee farmers who have been in the industry for a long time and coffee activists in Jember Regency. The selection of participants was done by purposive sampling, with the criteria being coffee farmers who have at least 10 years of experience, farmers who are actively involved in local community activities, and farmers who have initiatives in sustainability practices. The data collection techniques used were in-depth interviews, observation, and documentation. While the data analysis techniques used are listing expressions from the answers or responses of participants by postponing researcher prejudice (bracketing), reduction and elimination of expressions, making clusters and writing themes for consistent expressions, validating, and making Individual Textural Description (ITD).

RESULTS AND DISCUSSION

Coffee farmers in Pandalungan, an area in Jember, East Java known for its diversity or blend of Javanese and Madurese cultures. This research focuses on how cultural capital owned by coffee farmers in Pandalungan contributes to the development of sustainable livelihoods and self-reliance. is the accumulation of knowledge, skills, education, and cultural advantages owned by individuals or groups. In

the context of Pandalungan coffee farmers, cultural capital includes traditional knowledge about coffee farming, specialized skills in coffee processing, and the values and norms that govern the lives of the farming community. Cultural capital plays a very important role in building sustainable livelihoods and self-reliance for Pandalungan coffee farmers. Local knowledge, traditional agricultural practices, and community values provide a strong foundation for economic and social sustainability. By integrating traditional knowledge with modern innovations, as well as strengthening social and institutional networks, Pandalungan coffee farmers can face challenges and capitalize on opportunities to improve their welfare. Support from various parties is needed to facilitate this process and ensure that cultural capital continues to develop and contribute to long- term sustainability.

Cultural Capital in Sustainable Food Security

Sustainable coffee farming requires a holistic approach, which not only focuses on economic and environmental aspects but also involves farmers' cultural capital. Cultural capital includes knowledge, skills, traditions, values and practices that have been passed down through generations in farming communities. In Jember Regency, cultural capital plays a key role in sustainable coffee farming practices, helping farmers overcome challenges while capitalizing on opportunities in coffee farming. Pandalungan coffee farmers have deep knowledge of soil conditions, climate, and coffee cultivation techniques that have been passed down through generations. This knowledge helps them select suitable coffee varieties, time planting and harvesting, and manage pests and diseases naturally without relying on synthetic chemicals.

Coffee farmers in Pandalungan have in-depth knowledge of the local soil and climate conditions. They understand the ideal soil characteristics for growing coffee, know when the best time to plant and harvest, and how to care for coffee plants in various weather conditions. This knowledge is passed down from generation to generation and becomes the foundation for daily agricultural decision-making. Coffee cultivation techniques used by farmers often reflect traditional practices that have proven effective over the years. For example, the use of organic fertilizers from animal manure and crop residues, crop rotation to maintain soil fertility, and pruning of coffee trees to optimize production. These practices are not only environmentally friendly but also improve crop quality and quantity.

Coffee Processing and Marketing

Coffee processing in Pandalungan often uses traditional techniques that have stood the test of time. From selective picking of coffee cherries to ensure only ripe cherries are harvested, to natural drying methods under the sun. These processing techniques contribute to the unique characteristics and high quality of Pandalungan coffee. Traditional coffee processing often involves local wisdom that adds value to the final product. For example, the use of certain fermentation methods passed down from ancestors can result in distinctive coffee flavors that are valued in the market. In addition, skills in the art of blending different coffee varieties are also valuable cultural capital.

Cultural capital is also reflected in the way farmers market their coffee products. Strong social networks within the community, such as farmer cooperatives, help in the distribution and marketing of coffee. Through cooperatives, farmers can share knowledge, access a wider market, and improve their bargaining position. The values of togetherness and solidarity within the community also strengthen collective marketing strategies.

The Role of Community Education and Training

Agricultural knowledge and skills are often taught through informal education within the community. Older generations teach cultivation, processing and marketing techniques to younger generations through hands-on field practice. This informal education ensures that traditional knowledge is kept alive and thriving. Community organizations and farmer cooperatives often hold trainings and workshops to introduce new technologies and sustainable farming practices. These trainings not only focus on technical aspects but also on business management and marketing, helping farmers to be more independent and competitive.

Community education and training play an important role in strengthening the capacity of coffee farmers, particularly in facing the challenges of modern agriculture and improving their sustainability and economic independence. In Pandalungan, education and training conducted within the coffee farming community aims not only to improve technical skills but also to strengthen existing social and cultural capital. Informal education is the primary means of transferring knowledge and skills from older to younger generations. In Pandalungan, knowledge about coffee cultivation, post-harvest processing, and sustainable agricultural practices is often taught through hands-on field practice. This process allows young farmers to learn practically and directly from their parents' experiences. The strong

values of togetherness and mutual cooperation in the Pandalungan coffee farming community also play a role in informal education. Through working together in farmer groups or cooperatives, farmers can share knowledge and skills. For example, coffee harvesting and processing activities are often done collectively, which enables the exchange of practical knowledge among community members. Community education and training also serve to raise farmers' awareness of the importance of sustainable agricultural practices. Through extension and group discussions, farmers are introduced to concepts such as environmental conservation, wise use of natural resources, and adaptation to climate change. This awareness encourages farmers to implement techniques that not only increase productivity but also preserve the environment.

Discussion

Pandalungan culture, which is a blend of Javanese and Madurese cultures, forms the unique identity of coffee farmers in East Java. This cultural capital includes knowledge, skills and values passed down through generations. Amid the challenges of globalisation and climate change, this cultural capital plays an important role in maintaining and developing sustainable agricultural practices. Research shows that communities with strong cultural capital are better able to adapt to change and maintain environmental sustainability. Therefore, an in-depth understanding of Pandalungan cultural capital is important for building sustainable food security. Cultural capital encompasses knowledge, skills and practices that are passed down through generations within a community.

In the Pandalungan coffee farming community, cultural capital plays an important role in maintaining ecological balance and agricultural sustainability. Sustainable food security depends not only on food availability but also on the community's ability to utilise resources efficiently. Cultural capital helps coffee farmers to adapt to environmental changes and economic challenges through time-tested practices. Therefore, an in-depth understanding of the cultural capital of Pandalungan coffee farmers is crucial in the context of food security development. Pandalungan coffee farmers apply environmentally friendly traditional agricultural practices such as the use of organic fertilisers and agroforestry techniques. These practices not only maintain soil fertility but also protect biodiversity. By using local knowledge, they are able to manage natural resources effectively and sustainably. Research from (Altieri et al., 2015) shows that such agroecological techniques can improve food security and environmental sustainability.

The sustainability of these agricultural practices is an important foundation for food security in the region. In the Pandalungan community, women play an important role in agricultural activities and household management. They are involved in various activities ranging from planting, crop maintenance, to processing and marketing agricultural products. Women's role in intergenerational knowledge transfer is also vital, ensuring that sustainable practices are maintained. The study by (Meinzen-Dick et al., 2019) shows that empowering women in agriculture can improve food security and family welfare. Therefore, cultural capital involving the active role of women is an important asset in sustainable food security.

Pandalungan cultural capital is also reflected in social patterns such as gotong royong and community co-operation. These values strengthen social solidarity and help in the management of shared resources. For example, the system of co-operation in land management and irrigation strengthens relationships among farmers and improves production efficiency. This practice of gotong royong is an important mechanism in overcoming challenges such as labour shortages during harvest time. Studies show that strong social networks can enhance a community's ability to deal with uncertainty and disasters. The social life of Pandalungan coffee farmers is closely tied to the values of gotong royong and community solidarity. These values facilitate cooperation in land management, irrigation, and harvesting activities. Social solidarity strengthens communities' security networks, making them more resilient to challenges and crises. Research shows that communities with strong social networks are better able to adapt and survive in the face of change and disasters (Berkes, 2018). This practice of mutual aid also helps in the sharing of knowledge and resources among farmers.

One of the main strategies used by Pandalungan coffee farmers is crop diversification. Besides coffee, they also grow other food crops such as rice, corn, and vegetables. This diversification helps reduce the risk of dependence on a single commodity and improves local food security. In the face of climate change, crop diversification is key to reducing the risk of crop failure. A study by (Pretty & Bharucha, 2014) showed that agricultural diversification is an effective strategy to achieve sustainable food security. Pandalungan coffee farmers often combine coffee production with other food crops such as rice, maize, and vegetables. This diversification reduces the risk of dependence on one type of commodity and improves food security. In the context of climate change, crop diversification can help farmers cope with weather

variations and increase resilience to crop failure.

The process of knowledge transfer between generations in the Pandalungan community involves strong informal education. Children learn about farming techniques and cultural values from their parents and other community members. This education ensures the sustainability of local knowledge and traditional agricultural practices. The integration of local knowledge with formal education is also further strengthened to ensure the relevance and sustainability of agricultural practices. The importance of education in maintaining and developing traditional ecological knowledge (Berkes, 2018). The knowledge transfer process in Pandalungan communities involves informal education from parents to children. Children learn about agricultural techniques, land management, and cultural values through daily practices. This education ensures that local knowledge and sustainable agricultural practices remain alive and relevant. The integration of local knowledge with formal education is also increasingly strengthened, ensuring that the younger generation has the capacity to manage agriculture.

Pandalungan coffee farmers' cultural capital helps them adapt to increasingly extreme climate change. Inherited farming techniques, such as the use of local crop varieties that are resistant to extreme climatic conditions, are part of this adaptation strategy. This local knowledge is often more adaptive than modern agricultural approaches that are not always suited to local conditions. This adaptation is important to maintain the stability of food production under changing conditions. Research by (Eakin et al., 2009) shows that community-based adaptation and local knowledge can increase resilience to climate change.

Pandalungan coffee farmers have developed marketing strategies that emphasise the quality and cultural value of their coffee. Specialty coffee marketing that emphasises the story and sustainable practices behind the product can attract a wider and higher-value audience. Product diversification is also done by processing coffee into various derivative products such as ground coffee, instant coffee, and other coffee-based products. Product diversification and innovative marketing strategies can increase farmers' income and reduce market risks. Thus, a creative marketing approach based on local culture is an important strategy (Meemken & Qaim, 2018).

Marketing Pandalungan coffee depends not only on the quality of the product but also on the cultural story behind it. Specialty coffee promoted with cultural narratives and sustainable practices can attract a wider and higher-value market. This approach adds value to the product and increases farmers' income. In addition, marketing that values local cultural capital can strengthen community identity and encourage the preservation of traditional practices. A study by (Kumar & Sharma, 2013) showed that innovative marketing approaches can improve the competitiveness of agricultural products in the global market. Pandalungan coffee farmers are also open to the adoption of appropriate technologies that can improve efficiency and productivity without compromising sustainability. Technologies such as drip irrigation and weather information systems help farmers manage water resources and plan planting seasons more effectively. However, it is important to ensure that the technologies adopted are in line with local practices and knowledge. The integration of modern technology with local knowledge can result in more adaptive and sustainable farming systems. Therefore, collaboration between traditional knowledge and technological innovation is key to success (Tittonell, 2014).

Despite their strong cultural capital, Pandalungan coffee farmers still face challenges such as climate change, market price fluctuations, and limited access to technology and markets. These challenges require them to continuously adapt and find innovative solutions. Fluctuating coffee prices in the global market can significantly impact farmers' income, while climate change can threaten agricultural production. The importance of policies that support smallholders' access to markets and technology to improve food security (Food and Agriculture Organization, 2018). Therefore, support from the government and relevant institutions is needed. To support sustainable food security, policies are needed that support the preservation of cultural capital and sustainable agricultural practices. The government and relevant institutions need to provide financial support, training, and market access for Pandalungan coffee farmers. Programmes that integrate local knowledge with modern technology can strengthen farmers' capacity. Policies that promote agricultural diversification and local markets are also important to reduce the risk of dependence on global markets. Collaboration between the government, local communities, and academia can create an enabling environment for agricultural sustainability and food security.

Government policies that support the preservation of local culture and sustainable agricultural practices are necessary to improve food security. Programmes that integrate local knowledge with modern

CONCLUSIONS

The cultural capital of Pandalungan coffee farmers, which includes traditional agricultural practices, social solidarity, the role of women, and adaptation to appropriate technologies, plays a crucial role in building sustainable food security. Local knowledge and environmental conservation techniques passed down through generations help maintain ecosystem balance and land productivity, while crop diversification and agroforestry practices enhance the food and economic stability of communities. Inclusive policy support based on the integration of local knowledge with modern technology is essential to strengthen food security amidst the challenges of climate change and global market fluctuations. Therefore, collaboration between the government, local communities, academic institutions, and other stakeholders is needed to create an enabling environment for sustainable agricultural practices and improve farmers' access to markets and technology. With these joint efforts, Pandalungan coffee farmers can continue to contribute significantly to sustainable food security and community well-being in the future.

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