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Exploration of Local Values in Arabica Coffee Farming Practices in the Roasting Process in Rural Areas of Enrekang Regency

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Abstract

Coffee is a strategic commodity that contributes significantly to Indonesia's national economy. However, most of Indonesia's coffee exports are still in the form of raw beans (green beans), so the added value of the product has not been optimally felt by the local farming community. This study aims to examine the practice of community-based coffee roasting developed by the people of Bone-Bone Village, Baraka District, Enrekang Regency, as a strategy for downstreaming local coffee products and economic empowerment based on regional potential. The method used is a qualitative approach with case studies, through participatory observation, in-depth interviews, and documentation. The results of the study show that the roasting practice in this village is carried out traditionally with techniques that are inherited from generation to generation, but are able to produce competitive distinctive flavors. The community utilizes social capital in the form of trust and collaboration in maintaining the quality of products collectively. Despite facing challenges such as limited infrastructure and technology, the practice demonstrates local resilience and innovation in coffee processing. The results of this study conclude that community-based roasting practices have the potential to increase economic value and strengthen local cultural identity, and are suitable as a replication model for the development of the coffee industry in other regions.

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INTRODUCTION

Coffee commodity is one of the agricultural commodities that has an important role in the global and national economy. Indonesia, as one of the largest coffee-producing countries in the world, contributes significantly to supplying coffee to the international market. Coffee is a beverage that is in great demand around the world, it can provide a fitness and freshness effect for the body, weak body and drowsiness disappear after drinking hot coffee. Coffee can also be processed as body lotion, scrubs and so on. Coffee is one of the most popular and consumed beverages around the world. Generally, coffee is not considered part of a healthy lifestyle because it contains caffeine, stimulants, however, coffee is a rich source of antioxidants and other bioactive compounds. Coffee is a species of tree-shaped plant that belongs to the family Rubiaceae and the genus Coffea.This plant grows upright, branched, and branches. Coffee has a branching system that is somewhat different from other plants. This plant has several types of branches whose properties and functions are somewhat different (Putra, et al., 2020).

However, in the structure of the global value chain, Indonesia's position is still dominated by the export of raw materials (*green beans*), so that the added value of coffee products is more enjoyed by processing countries. This condition encourages the need for local initiatives to strengthen positions in the supply chain through the development of downstream activities, one of which is the practice (Rosniar et al., 2019) *of roasting* coffee carried out at the community level. The coffee *roasting process* is a critical stage in determining the quality of taste, aroma, and sensory characteristics of coffee. In the context of local economic development, *roasting* is not only a technical activity, but also a value-added strategy that can have a direct impact on the welfare of the community. Therefore, the study of community-based (Abdul Azis et al., 2017) *roasting* practices is important as a form of adaptation to global economic challenges and as a means of community empowerment through the management of superior village products. This practice also represents the dynamics of local culture that strengthens the social identity of the community.

Various literature has discussed the technical aspects *of coffee roasting*, especially in the context of large-scale industries that use advanced technology and automated control systems. These studies generally emphasize the influence of temperature, roasting time, and cooling techniques on the flavor profile of Arabica coffee. In addition, there are studies that highlight the role (Yulia et al., 2017) *of roasting* in consumer preferences and specialty

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coffee classifications. However, the main focus of the research is still limited to the technological and market aspects, without directly linking it to the community-based *roasting* practices that are developing in rural areas. Unfortunately, studies that specifically examine the practice (Irmayani et al., 2015) *of* roasting coffee in the context of local communities, especially in Indonesia, are still very limited. This knowledge gap includes the lack of documentation on traditional techniques used, the role of social capital in supporting production, and community involvement in managing the downstream process of coffee. In addition, there has not been much research examining how communities combine local practices with survival strategies in the face of technological limitations and market access. The absence of a comprehensive analytical framework has led to the great potential of these local practices not being optimally exploited in the discourse of sustainable economic development. (Irmayani et al., 2024)

In answering these gaps, this research is based on *the community-based enterprise* and local development approach as an analytical framework. This approach places communities as key actors in resource management, and emphasizes the importance of social, cultural, and local knowledge values in building economic independence. The coffee (Rizki et al., 2016) *roasting* process needs to be understood only from a technical point of view, but also from the perspective of social relations, knowledge systems, and accompanying cultural values. Thus, *the practice of roasting* can be seen as a representation of the complex interplay between local technology, community economics, and social structure.

Based on this background, several basic questions are asked in this study: (1) How is the practice of coffee *roasting* carried out by the people of Bone-Bone Village technically and socially? (2) What are the advantages and challenges faced in the development of *coffee roasting* at the community level? (3) What strategies can be implemented to strengthen local capacity and increase the competitiveness of community *roasted* coffee products? These questions are the basis for exploration to further understand local dynamics in the community-based coffee downstream process. This study aims to describe and analyze the practice of *roasting* coffee in Bone-Bone Village comprehensively, covering technical, social, and cultural aspects. In addition, this research also aims to identify supporting and inhibiting factors in community-based coffee roasting practices, as well as formulate capacity building strategies and policy implications that can encourage the sustainable development of the local coffee industry. The findings of this research are expected to be an academic contribution as well as the basis for the formulation of village economic development policies.

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METHODOLOGY

This research was carried out in Baraka District, Enrekang Regency, South Sulawesi, Indonesia. This research will be carried out from December 2024 to March 2025. This study uses a descriptive qualitative approach with a case study method that focuses on coffee *roasting* practices in Bone-Bone Village, Baraka District, Enrekang Regency, South Sulawesi. The selection of this case study was based on the consideration that Bone-Bone Village is one of the coffee communities that has developed independent *roasting* practices based on local knowledge and community involvement. Data was collected through a combination of participatory observation, in-depth interviews, and documentation. Observations are carried out directly on the (Rahmadani et al., 2020) *roasting process*, starting from the selection of coffee beans, roasting techniques, to cooling methods. Interviews were conducted with *roasting* perpetrators, coffee farmers, community leaders, and the village government. The *snowball sampling* approach was used to identify key informants relevant to the focus of the study. To analyze the data, the researcher used thematic analysis techniques, which include the process of data reduction, categorization, and drawing conclusions based on key themes such as (Yusanto, 2020) *roasting techniques*, social capital, infrastructure barriers, and empowerment strategies. The validity of the data is maintained through source triangulation, triangulation techniques, and discussions with research colleagues (peer debriefing).

RESULTS AND DISCUSSION

Bone-Bone Village in Baraka District, Enrekang Regency, South Sulawesi, is an area that has the potential to excel in high-quality coffee production. The existence of a supportive agroclimate, adaptive local coffee varieties, and a strong community culture in agricultural maintenance make this village one of the coffee centers that should be taken into account. In recent years, local communities have initiated the practice of *roasting* coffee as part of a strategy to increase added value and community-based economic independence. The coffee (Irmayani et al., 2024) *roasting* initiative in Bone-Bone Village emerged in response to the challenge of the low selling value of raw coffee in the global market. By managing the post-harvest process themselves, especially the roasting stage, the community can control the final quality of the product and build a more valuable local brand. This shows a shift from a primary commodity-based economic model to downstream management that is more oriented towards product quality and differentiation.

The local potential of Bone-Bone Village lies not only in the quality of the coffee beans, but also in the social strength of its people. High social capital manifested in the form of trust, mutual cooperation, and knowledge transmission between generations plays an important

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role in supporting the sustainability of (Khayam et al., 2020) *coffee roasting* practices . In this context, coffee production is not just an economic activity, but also a cultural practice that strengthens the identity of the local community and the attachment to the homeland.

Roasting activities on coffee in Bonebone Village, Baraka District, Enrekang Regency use a tool called "*Pangbakte Kawa*" which is made using ingredients that fly around them. The material consists of a metal tube (Figure 1) designed by the farmer himself which facilitates faster roasting activities and the quality of the aroma is maintained. The roasting process using this iron skillet requires high skill, especially in maintaining the stability of temperature and roasting time of coffee beans. Farmers must use their senses, such as the senses of smell and sight, to determine whether or not the coffee beans are



Figure 1. Arabica Coffee Roasting Tool

e is gained through hands-on practice over the years, so they can recognize the subtle signs when the coffee beans begin to give off their distinctive aroma. The absence of an automatic temperature control device requires farmers to be more patient and careful in monitoring the roasting process.

The traditional roasting techniques applied in Bonebone Village retain the distinctive taste of coffee, which is difficult to find in modern roasting methods. Without the help of automatic temperature control devices, farmers rely on their skills and experience to ensure each seed is roasted to perfection. The value of **patience** and **meticulousness** is essential in every step, from maintaining the stability of the fire to stirring the coffee beans so that they cook evenly. This process that requires full attention not only produces quality coffee, but also reflects the depth of **the local culture** that involves harmony between humans and nature. This technique shows how traditional culture not only shapes the way of farming, but also enriches the results obtained, with a more authentic and characterful taste. The preservation of local values in coffee processing can be done through several ways that not only support environmental sustainability but also provide economic and social benefits for the community. One approach that can be taken is **to utilize environmentally friendly technologies** such as renewable energy in the coffee roasting process. Efforts to preserve local values in the development of an environmentally friendly coffee roasting process can be carried out in several ways. First, utilizing environmentally friendly technologies such as renewable energy for the roasting process. Second, the use of natural ingredients and coffee waste to create derivative products such as aromatherapy candles. Third, educating and training the community regarding organic coffee cultivation and sustainable post-harvest

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processing. Traditional roasting techniques can support sustainability in many aspects. By using the artisan roasting method, the risk of wasting coffee beans can be minimized, as roasting is focused on producing optimal flavor. In addition, the use of environmentally friendly energy, such as from wood, can reduce pollution and environmental damage.

Some of the benefits obtained from this include improving the quality of the taste and aroma of local coffee, developing the unique characteristics of Enrekang coffee, and increasing the selling value of coffee for local farmers. The right roasting process can produce coffee with a more complex and attractive flavor profile, thereby increasing consumer satisfaction and opening up wider market opportunities for Enrekang coffee. In addition, coffee roasting can also help increase the income and welfare of coffee farmers in Bonebone Village. Roasting coffee, which was developed by the people of Bonebone Village, is the result of local creativity and innovation. By utilizing their knowledge and experience in growing coffee, they have succeeded in creating a unique and effective roasting process. As a result, Enrekang coffee has a distinctive flavor profile and attractive aroma, thereby increasing selling value and consumer satisfaction. This shows that local communities can develop quality coffee products and have a unique identity.

The *coffee* roasting process carried out at Bone-Bone is still traditional, with simple equipment and techniques that are based on the sensory experience of the performer. However, this process is carried out with high precision, starting from seed selection, roasting at a certain temperature, to the cooling stage. Society has developed a natural sensitivity to various quality indicators, such as (Rahmadani et al., 2020) *crack* sounds, colors, and aromas that arise during the roasting process. In Bonebone Village, the coffee roasting process is known as "mappasili coffee" in the Bugis language. This term reflects the process of carefully roasting coffee beans to produce quality coffee. Using hereditary knowledge and experience, the Bonebone community can produce coffee with a distinctive flavor profile and an attractive aroma. This local language has become an important part of the identity and culture of coffee in Bonebone.

This adaptive coffee *roasting* practice reflects a form of local wisdom in managing resources with limited infrastructure. The resilience of the community in dealing with limited technological conditions is a clear example of a sustainable economic survival strategy. However, there are a number of structural barriers that hinder the expansion of production capacity, including lack of access to modern technology, supporting facilities, and a wider market network. Despite facing various obstacles, the coffee *roasting* practice at Bone-Bone has a competitive advantage that can be further developed. The uniqueness of coffee taste, community social involvement, and rich cultural values are a strong foundation for developing a *community-based coffee industry*. This potential can be capitalized through

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strategies to increase the capacity of human resources and local economic institutions. (Rahmadani et al., 2020)

One of the strengthening strategies that needs to be implemented is integrated technical training, including *roasting techniques*, quality management, and digital marketing. Appropriate technological interventions are also urgently needed to help the production process without losing the local identity of the product. User-friendly and efficient MSME-scale roasting equipment will greatly help increase the capacity and consistency of the quality of the final product. Institutional strengthening, such as the formation of cooperatives or joint venture groups, can also be an important instrument in improving people's bargaining positions in the market. This institution plays a role in managing production, distribution, and access to financing. With a strong institutional structure, the community is not only a producer, but also an active actor in the high-value supply chain. (Rizki et al., 2016)

From a policy perspective, the role of the government is urgently needed in the form of infrastructure support, training facilitation, and promotion of local coffee products to national and international markets. The integration of coffee development into the village development plan will ensure the continuity of the program and increase the socio-economic legitimacy of (Dwi, et al., 2022) *coffee roasting* activities as part of inclusive village development. (Irmayani et al., 2021) Many farmers use roasting techniques that have been taught from generation to generation. Coffee roasters are made by themselves or inherited by their parents. This process reflects an appreciation for cultural heritage. This technique became a symbol of local identity. Although considered not as efficient as modern methods, the use of traditional techniques proves that quality can be achieved through ways that prioritize cultural values. Roasting coffee in Bonebone Village is still mostly done manually by local farmers using simple equipment such as iron pans and wood stoves. Although modern roasting technology is becoming known, many farmers still maintain traditional methods because they are considered to provide a distinctive taste.

Overall, the practice *of roasting* coffee in Bone-Bone Village reflects the synergy between local potential, cultural wisdom, and economic independence efforts. If strategically developed with the right technology, institutional, and policy support, Bone-Bone has the potential to become a model for the development of a community-based sustainable coffee industry. This can make a real contribution not only to local welfare, but also to the dynamics of the national coffee industry as a whole.

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CONCLUSION AND SUGGESTION

This research shows that the practice *of roasting* coffee in Bone-Bone Village is a form of adaptation of the local community to global economic challenges through the optimization of their resources and knowledge. The coffee *roasting* process, which is carried out traditionally, but with high attention to quality and consistency of taste, has been able to create products that have competitiveness and economic added value. Although still faced with limited infrastructure and access to technology, the socio-cultural strength of the community is an important foundation in maintaining and developing this practice. The existence of strong social capital and the spirit of mutual cooperation allows the practice *of coffee roasting* to survive as part of a resilient community economy.

These findings provide important implications for the development of community-based coffee industries in other regions. It is recommended that the government and stakeholders need to provide support in the form of technical training, appropriate technology, as well as access to markets and financing. Interventions should be contextual and empowering, not replace socially and culturally tested local practices. With the right strategy, community-based coffee roasting practices can become a model for sustainable local economic development, while strengthening the community's cultural identity and bargaining position in the global coffee market.

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