

The Socio-Environmental Impact of Angklung Paglak as Cultural Artifacts in Agriculture in Kemiren Village, Banyuwangi, East Java, Indonesia

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Abstract

This research examines the role of agriculture in shaping human civilization, focusing on Indonesia as an agrarian nation. Centering on Angklung Paglak, a bamboo musical instrument from Banyuwangi, East Java, performed atop bamboo towers to celebrate the rice harvest, the study uncovers the complex indigenous knowledge linked to this practice. Angklung Paglak embodies traditional agricultural wisdom and significantly impacts local life. Despite being tacit and often overlooked in the modern era, this knowledge holds potential for addressing contemporary socio-environmental challenges. This study uses the Research about Design approach, integrating historical, perceptual, and theoretical analyses to explore normative design applications. Data collection employs the 'designing a living' strategy, focusing on ethnographic observations and interviews from 2021 to 2024, to examine the relationship between Angklung Paglak, local agriculture, and indigenous lifestyles. The analysis identifies relationships between *mono-koto-imi* (things-activity-value) aspects to elucidate Angklung Paglak's role in the community. The findings reveal that Angklung Paglak offers valuable techniques and wisdom of traditional agriculture in Kemiren Village. This research underscores the strong spiritual and philosophical aspects of this cultural artifact, highlighting its role in expressing local people's happiness and gratitude for abundant crops. Angklung Paglak exemplifies community involvement and proactive environmental engagement, linking strategies, and social structures that adapt to environmental dynamics. The study concludes that future sustainability solutions may be rooted in Angklung Paglak practices and emphasizes the importance of preserving and integrating such indigenous knowledge into contemporary socio-environmental strategies.

Keywords: Angklung Paglak, Indigenous Design, Designing Living, Agriculture, Musical Performance

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1. Introduction

Indonesia, with its tropical climate and largely agrarian society, relies deeply on agriculture as a cornerstone of daily life. Rice cultivation, especially prominent in Java and Bali, is the backbone of Indonesian agricultural practices, shaping the rhythm of life in these regions. The rice farming cycle, which repeats two to three times a year, drives local social and cultural structures as it moves through stages: from transplanting seeds, nurturing growing crops, to harvesting, burning, and resetting fields, followed by soil preparation for the next planting (Watson & Davis, 2020). This agricultural cycle not only sustains the economy but also nurtures a robust traditional culture that evolves alongside it.

In response to this cycle, communities have developed rich traditions, including seasonal festivals, indigenous knowledge systems, social structures, and artistry that celebrate and honor the agricultural process. One of the most prominent cultural expressions is the use of the *angklung*, a bamboo instrument traditionally played to pray for fertility and a bountiful harvest (Joyodiharjo et al, 2020). The instrument produces resonant pitches and symbolizes the agrarian harmony of land and community. Historically rooted as far back as the 7th century, the *angklung* has been integral to rituals honoring Dewi Sri, the goddess of rice, fertility, and prosperity in Hindu (Joyodiharjo et al, 2020).

Across Indonesia's diverse archipelago, variations of *angklung* have developed, each with unique regional characteristics. In Banyuwangi, East Java, *Angklung Paglak* is emblematic of Kemiren Village, inhabited by the Osing, the indigenous people of Banyuwangi. This study focuses on *Angklung Paglak*'s role in Kemiren, where it embodies the socio-environmental values and cultural traditions linked to the local agricultural cycle.

1.1 Research Focus and Methodology

This research focuses exclusively on *Angklung Paglak* (Figure 1) as a cultural and agricultural artifact in Kemiren Village, Banyuwangi Regency, East Java. *Angklung Paglak* is a unique musical performance featuring *angklung* instruments played atop bamboo towers standing 5 to 10 meters tall in the middle of rice fields (Utomo et al, 2018). Performed during the rice harvest season, it serves both as an expression of gratitude for the harvest and a way to gather and entertain farmers working in the fields from morning until dusk. With the rise of modern farming, *Angklung Paglak* is increasingly rare, yet it represents valuable knowledge and values from the past that may offer insights for future generations.

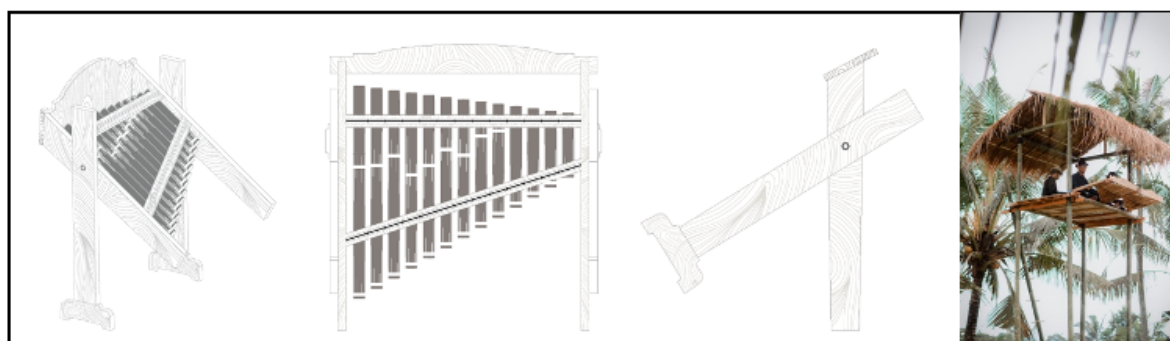


Figure 1: Isometric View, Top View, Side View of Angklung and Angklung Paglak Performance

The aim of this study is to uncover the indigenous knowledge embedded in Angklung Paglak and examine its socio-environmental impact within the community. This research adopts a design research perspective, positioning Angklung Paglak as an indigenous artifact—an object created and designed by local human experience. As a foundational step in design research, this study is exploratory, seeking to understand the artifact deeply through ethnographic methods and a Research about Design¹ approach (Frankel & Rachine, 2010). This ethnographic inquiry, conducted through participant observation and interviews, investigates the cultural artifact’s enduring impact on local life, sustainability practices, and social structures in Kemiren Village.

1.2 Data Collection Process

Data collection was conducted from 2021 to 2024, using a design ethnography approach involving observations and in-depth interviews (Muller, 2020). *Snowball sampling* (Goodman, 1961) were adapted for interviews with local residents, allowing each participant to refer additional informants closely tied to the topic. Observations were also conducted to validate and deepen insights from interviews.

The objective was to understand local traditions, cultural practices, community dynamics, and environmental interactions. Data collection methods included location surveys, stakeholder interviews, community observations, social gatherings, immersion in community life, and activity-based experiments (Figure 2). These techniques provided a holistic view of the community’s engagement with Angklung Paglak and its broader socio-environmental context.




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|---|---|--|--|
|  |  |  |  |
| 2021 | 2022 | 2023 | 2024 |
| Goal: <i>Understanding briefly about general situation, tradition, ethics, trends, people-place-activity characteristics, and tourism activity.</i> | | Goal: <i>Finding hidden dynamics and context, investigating relations, and understanding cultural, social and environmental factors.</i> | |
| Activities: <ul style="list-style-type: none"> • Location survey • Stakeholder interview • Observation • Social mapping | | Activities: <ul style="list-style-type: none"> • Live-in approach • Behavior observation • In-depth interview • Activity-making experiment | |

Figure 2: Data Collection

2. Research Findings and Discussion

The research findings reveal three key aspects of Angklung Paglak that illuminate its significance within the socio-environmental and cultural framework of Kemiren Village.

¹ Preliminary research in design which focuses on theory and epistemology. This research area includes history of design, aesthetics and design theory, as well as the analysis of design activity.

2.1 Local Philosophy of Tri Hita Karana

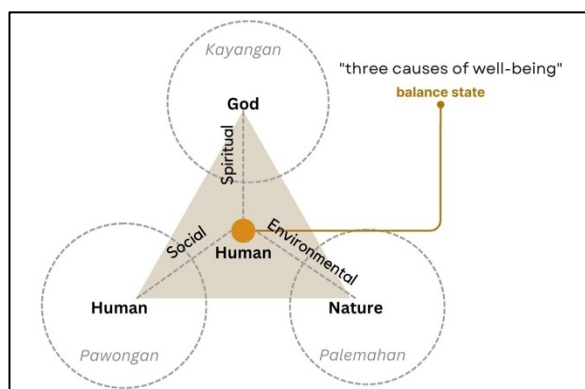


Figure 3: The Concept of *Tri Hita Karana*

The people of Kemiren are deeply guided by the philosophy of *Tri Hita Karana* (Figure 3), an ancient Hindu concept meaning "three causes of well-being" (Khrisna, 2008). This philosophy emphasizes the need for harmony between humans and the divine (spiritual), humans and nature (environmental), and humans and each other (social). Despite the community's shift away from Hinduism, this philosophy has persisted through generations, becoming a core part of the local cultural identity. This worldview shapes their agricultural and cultural practices, fostering a balance that is essential for both societal and environmental harmony.

2.2 Synergized Agricultural Cycle and Local Taboos

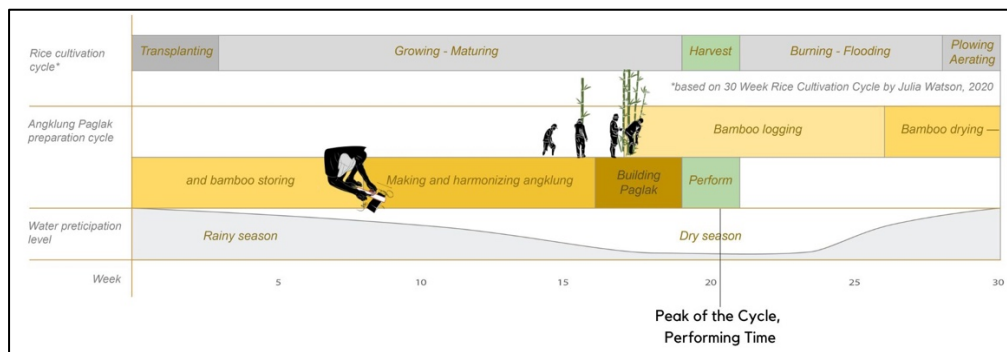


Figure 4: Synchronization of Angklung Paglak Craftsmanship and Rice Cultivation Cycle

The craftsmanship of Angklung Paglak is tightly interwoven with the agricultural cycle, aligning with each phase from bamboo cultivation to instrument construction and ultimately to performance during the rice harvest. Local artisans begin gathering and preparing bamboo while the rice crops grow, culminating in performances during harvest—a season of communal hope and gratitude for abundant crops. This cycle is upheld by a community-wide collaboration where each person plays a role; men typically handle the physical aspects of construction, while women support by preparing food and other essentials. Local taboos also regulate bamboo harvesting, which is allowed only on *Pahing* day—specific days in the Javanese calendar when bamboo is believed to become "bitter" and less susceptible to pests (Utomo et al, 2018). Additionally, logging is avoided from December to February, when bamboo is believed to be "nurturing" new shoots. These beliefs preserve bamboo resources, ensuring sustainable use over time.

2.3 Community Involvement and Environmental Engagement

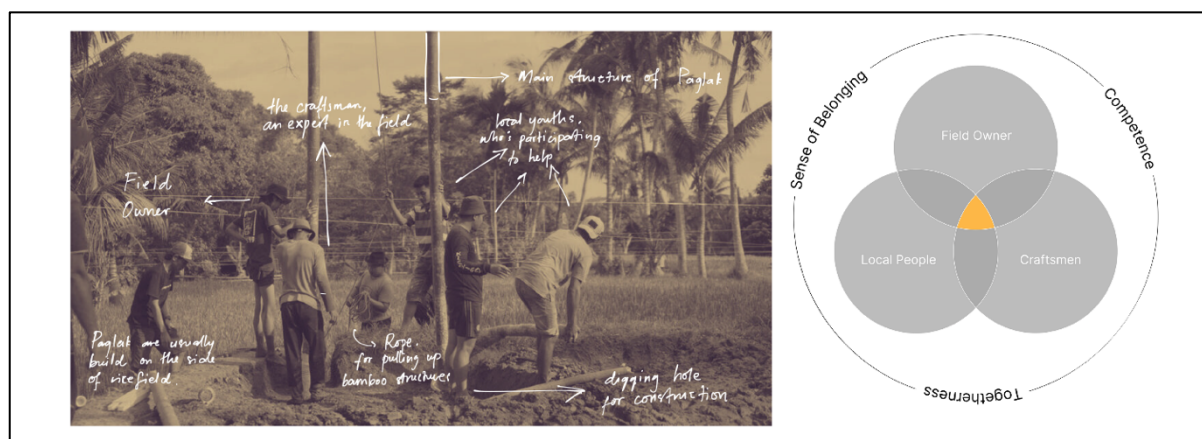


Figure 5: Social Role and Proactive Community Efforts

Angklung Paglak embodies a deeply collaborative practice that reinforces community ties and collective environmental responsibility. Every aspect of its production and performance involves diverse community members—experts and non-experts, men and women, adults and children. While women often support by providing meals, men engage directly in the construction and performance. This shared responsibility cultivates a sense of belonging, competence, and togetherness, uniting the community around a common cultural purpose. Three primary social roles drive this involvement: the field owners, local residents, and the craftsmen, each contributing uniquely to the success of Angklung Paglak. This inclusive structure strengthens social cohesion and fosters a proactive approach to sustaining both cultural and environmental resources.

2.4 Designing Living Concept

The concept of *Designing a Living* or the *Mono-Koto-Imi* framework (Figure 6) offers a useful perspective for analyzing Angklung Paglak and its role in shaping community life. Originating from Japanese terms, "mono" (thing), "koto" (activity), and "imi" (meaning), this framework suggests that an artifact within a community can "design" or significantly influence the daily lives of those who engage with it regularly (Suzuki and Miyazaki, 2007).

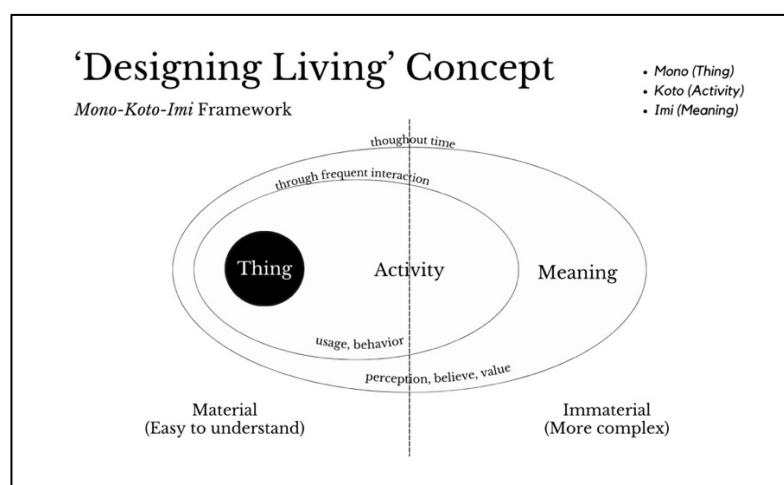


Figure 6: Designing Living Concept

Unlike contemporary human behavior design, where artifacts often shape isolated behaviors or activities, traditional artifacts such as Angklung Paglak embody deeper, enduring values. Their function within a tradition creates not just actions but a cohesive cultural identity, fostering a strong, intergenerational bond among community members. This framework aligns well with this research, as it enables an artifact-centered approach to exploring the interactions and behaviors that arise from continuous engagement with the artifact. Over time, the repeated use and communal experience of Angklung Paglak foster layers of meaning that contribute to the cultural and social structure of Kemiren Village. Through this process, Angklung Paglak transcends its role as a mere musical instrument, becoming an influential component of the community's socio-environment.

2.5 Indigenous Knowledge of Angklung Paglak for Modern Challenge

Traditional practices like Angklung Paglak provide valuable solutions to modern environmental and social challenges by fostering ecological balance, community unity, and sustainable resource management. First, through *Ecological Balance and Sustainable Resource Management*, the practice of harvesting bamboo for Angklung Paglak is guided by local taboos and agricultural cycles. For instance, bamboo is harvested only on specific days, like Pahing, when it is believed to be bitter and pest-resistant. This approach prevents over-harvesting, promotes sustainable bamboo growth, and reduces ecological disruption, showing how traditional knowledge aids in sustainable resource use.

Second, *Community Unity and Social Cohesion* are reinforced during Angklung Paglak performances, which bring the community together to celebrate and express gratitude for the rice harvest. This fosters social cohesion and a collective sense of responsibility, building resilience and strengthening social support networks vital for handling environmental or economic challenges. Finally, the *Integration of Indigenous Knowledge in Modern Agriculture* allows Angklung Paglak practices to guide the agricultural calendar, aligning planting, harvesting, and resource use with environmental rhythms. This approach offers a model for incorporating indigenous knowledge into modern farming, supporting culturally adaptive and ecologically sound agricultural practices.

3. Conclusion

Through this research, findings reveal Angklung Paglak as a profound example of how spiritual beliefs, communal traditions, and agricultural knowledge intersect to create a sustainable cultural system. These practices not only support ecological harmony but also strengthen social bonds, illustrating a deeply integrated approach to sustainability. Recognizing and preserving this traditional knowledge offers valuable insights for addressing today's environmental and social challenges. By adapting these lessons, we can incorporate a holistic, community-centered perspective into modern socio-environmental strategies, demonstrating that traditional wisdom remains a relevant and impactful resource for contemporary sustainability efforts.

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Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

In the preparation of this manuscript, generative AI and AI-assisted technologies were utilized to enhance language clarity and readability. These tools were employed solely to refine the text and did not contribute to the generation of substantive content, interpretation, or conclusions presented.

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