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Abstract. Khao Lam (Sticky Rice in Bamboo) is a traditional Thai dessert composed of sticky rice, thin coconut milk, thick coconut milk, and salt. This delicacy holds unique historical, cultural, and culinary significance. This study aims to explore the origin and cultural heritage of Khao Lam Hin Rui and document indigenous knowledge for cultural preservation. "Hin Rui" is a small community in Phuket where, in the past, more than 30 households produced Khao Lam Hin Rui. Today, only 5 families continue this tradition. Using qualitative methodology, data were obtained through comprehensive interviews with Khao Lam makers at Ban Hin Rui in Phuket Province. Khao Lam Hin Rui was traditionally enjoyed as an afternoon snack among Phuket locals, often paired with Kopi (Phuket local coffee). Its soft, chewy texture and delightful taste have made it a lasting favorite among the elderly. While Khao Lam generates value and income for the community, younger generations show limited interest in learning this craft. Traditional knowledge of Khao Lam production is currently preserved only among the elderly, and without intergenerational knowledge transfer, this cultural practice faces extinction. In alignment with the Hin Rui community's commitment to cultural preservation, this participatory research systematically documents indigenous knowledge related to Khao Lam production, thereby supporting community-led conservation initiatives.

Keywords: Community-Based Participatory Process, Khao Lam Hin Rui, Traditional Thai Dessert

INTRODUCTION

Khao Lam is a well-known part of Thailand's gastronomic tradition. It is sticky rice steamed in bamboo tubes with coconut milk and salt. In Phuket's Hin Rui community, this dish, known as Khao Lam Hin Rui, is typically eaten as a mid-afternoon snack with Kopi, the traditional coffee. Generations have valued its tender, chewy consistency and balanced flavor. It is still a favorite among older residents.

Hin Rui is a small, simple community in Phuket. It is a popular stop for visitors eager to try its signature product: Khao Lam Hin Rui. The dessert later became an OTOP item, now generating income for locals.

Khao Lam Hin Rui is more than a source of income and reputation for the community; it is a keystone of cultural identity, and the sustainability of this tradition is at risk if knowledge is not purposefully transferred to younger generations.

According to Uncle Thuak, a Khao Lam maker in Hin Rui village, "Khao Lam can bring value and income to our community. But the younger generation isn't interested. Only the elders make it. If my generation dies, no one will continue."



FIGURE 1.

Featuring Uncle Thuak, a Khao Lam maker from Hin Rui village, together with his wife, researchers, and students from the Communication Arts Program at Phuket Rajabhat University.

This sentiment reinforces the main argument: preserving Khao Lam Hin Rui needs targeted efforts to engage youth and actively transfer this heritage, making the dessert a living emblem of community resilience.

Uncle Thuak further noted, "It's regretful if one day I die and no one continues making it. We have done this for a long time. It would be so unfortunate if it disappeared from the community. If Phuket Rajabhat University comes to help us, it will be advantageous for us."

Students from the Communication Arts Program worked with Uncle Thuak from dusk until dawn. This cooperation documents the community's knowledge and supports efforts to preserve Khao Lam expertise.

Despite its recognized economic and cultural value, Khao Lam Hin Rui's continuity relies on intergenerational engagement and formal preservation measures. If knowledge transmission fails, the tradition and its significance to community identity will be irretrievably lost.

OBJECTIVE

This study aims to explore the origin and cultural heritage of Khao Lam Hin Rui and document indigenous knowledge for cultural preservation.

METHODOLOGY

This study used a qualitative methodology, based on the Community-Based Participatory Research (CBPR) framework, which values researcher-community collaboration to generate and verify local knowledge. Research was conducted in Ban Hin Rui, Phuket Province, during 2021–2023 and involved students from Phuket Rajabhat University's Communication Arts Program.

Three in-depth, semi-structured interviews were conducted with active Khao Lam producers in Ban Hin Rui. All informants have extensive first-hand knowledge of the traditional production process and were chosen for their experience, willingness, and standing as knowledge holders. The primary informant, "Uncle Thuak," has produced Khao Lam Hin Rui for decades and is widely regarded as a leading practitioner. The other two informants provided supplementary insights on ingredients, bamboo preparation, and roasting.

Each interview, conducted in Thai at the informants' homes or workplaces, allowed direct observation of the production environment. Interviews were audio-recorded with informed consent and transcribed verbatim. The interview guide included: (1) historical development; (2) ingredient selection and sourcing; (3) step-by-step production, including bamboo preparation and roasting; and (4) challenges in knowledge transfer and community sustainability. Researchers participated in all stages of production, helping document tacit knowledge. Data were analyzed thematically, with codes developed from transcripts to highlight themes of cultural meaning, production, and preservation challenges.

RESULT

History of Baan Hin Rui

Phuket Province features many place names of historical plus linguistic importance, showing the experiences of early settlers.

Ban Hin Rui, though lesser known outside Phuket, is recognized by locals as the birthplace of Khao Lam Hin Rui, a unique sticky rice roasted in bamboo.

The toponym "Hin Rui" comes from the Southern Thai dialect spoken by the local Phuket community. The word "Rui" is a dialectal variant of the Central Thai term "Ruan," which means "friable" or "crumbly."

Oral accounts say that early settlers found the area's soil and rocks unusually friable, unlike those in nearby areas. This led to naming the village Ban Hin Rui, or "Village of Crumbly Stone."

Origin of the Khao Lam Hin Rui

Khao Lam has long been a traditional afternoon snack for Phuket residents, typically served with Kopi, the local coffee. Its soft, chewy texture and sweet-savory coconut milk flavor make it especially popular with older generations. Recently, Khao Lam Hin Rui received OTOP (One Tambon, One Product) status, highlighting its value as a community economic asset.

The primary informant, a longtime Khao Lam producer, reported that the community has been making Khao Lam for over 100 years, passing down knowledge from generation to generation.

Historically, over 30 households in the community produced Khao Lam. At the time of data collection, only 5 families remained active, reflecting a clear decline in practice.

Key Ingredients and Their Selection Criteria

1. Gor Kho or Royal Umbrella brand sticky rice is preferred for Khao Lam, making it more appealing. Other brands are less flavorful. Uncle Thuak uses Royal Umbrella.
2. Fresh, thin coconut milk is necessary. Instant coconut milk should be avoided. Fresh milk yields a sweeter, mellower taste.
3. Thick, freshly squeezed coconut milk adds an oily texture and richer flavor to Khao Lam.

4. Salt is essential, as a slight salty taste is critical for good Khao Lam.
5. In addition to salt and coconut milk, sugar provides sweetness. “Hin Rui’s recipe calls for Khao Lam to be rich but not too sweet. Too much sugar ruins the taste; those who prefer sweeter Khao Lam can dip it in sugar.”
6. Srisuk Bamboo is mainly found in Phuket. Its trunk can reach 10 to 18 meters high with a diameter of 8 to 12 centimeters. The trunk is hard, even, and glossy. The nodes do not pop out. The trunk has a hollow hole and membranes, which are used to make Khao Lam. “When Khao Lam is burnt, it is evenly cooked and has the pleasant fragrance of bamboo. The rice is not wet, but it is soft and sticky. The bamboo membrane prevents the sticky rice from sticking to our hands when we eat.”
7. Coconut shell improves the smell of Khao Lam when it is burnt. It is placed in the bamboo hole to prevent boiling coconut milk from gushing out.
8. Banana leaves must be wiped clean because. Like a coconut shell, it has to be placed in the bamboo hole to prevent the boiling coconut milk from gushing out. Banana leaves also have to support the coconut shell so it will not fall onto the sticky rice.



FIGURE 2. Featuring Pouring coconut milk into bamboo tubes
(Source: Photographs taken by authors)

Production Process and Ingredient Proportions

The distinctiveness of Khao Lam Hin Rui is in its production method: sticky rice is combined with coconut milk, sugar, and salt, then filled into bamboo tubes, which are roasted over charcoal until the rice is fully cooked and infused with the natural fragrance of the bamboo.

The precise recipe varies across producers, showing individual mastery accumulated through years of practice. The primary informant employs strict standards of ingredient hygiene and quality control. A standard daily batch requires the following quantities:

1. 24 kilograms of sticky rice
2. 3 kilograms of sugar
3. 3 bags of 1 gram salt
4. 5-6 kilograms of coconut milk

The most important tip is to use less thick coconut milk than thin coconut milk, in a 1:3 ratio; otherwise, sticky rice will be undercooked, and the coconut milk will float to the surface during boiling.

There are two recipes for Khao Lam Hin Rui: black sticky rice and white sticky rice. The difference is that in the black sticky rice recipe, white sticky rice must also be added, since black sticky rice is hard and requires more coconut milk.

Uncle Thuak said while flavoring Khao Lam, “Most importantly, we must add salt; otherwise, Khao Lam will not be full-flavored. Coconut milk must also be added when it’s still warm, or else it will harden.”

Each step is done meticulously: begin by putting the sticky rice on the stove, adding coconut milk and ingredients, filling the sticky rice, and pouring the coconut milk into the bamboo tubes. All these steps require proficiency and attention. This is why tasty Khao Lam Hin Rui is favored by the people of Phuket.

Daily Production Plan and Labor Demands

The production of Khao Lam Hin Rui is an intensive craft that demands sustained attention to detail throughout every stage of the process. It requires not solely technical know-how but also a strong devotion to quality cultivated through long-term practice.

The primary informant reported that Khao Lam production requires only approximately 3 hours of sleep per night due to the extensive preparation involved, indicating the significant physical demands placed on producers.

The daily production cycle begins in the afternoon, when the producer and family members prepare bamboo tubes and clean both black and white glutinous rice. Approximately 24 kilograms of rice are processed each day, with white glutinous rice accounting for the larger portion due to higher

local demand. The cleaned rice is then soaked for approximately 1 hour before loading into the bamboo tubes.

Late in the evening, the producers prepare and measure the remaining ingredients coconut milk, sugar, and salt in readiness for the overnight production phase. The primary informant stressed the key role of coconut milk preparation in determining the final quality of the product, noting that imprecise handling would adversely affect the flavor. Salt was identified as an indispensable ingredient, described as more essential than sugar for attaining a balanced, full-bodied taste profile.

Production resumes at approximately 11:00 p.m., when all household members participate in warming the coconut milk and loading the rice into the bamboo tubes. Warm coconut milk is then poured over the filled tubes in a way analogous to conventional rice cooking. Exact control of coconut milk quantity is essential: excess causes the rice to become waterlogged, while deficient amounts result in undercooked rice. When filled, each tube is sealed with a plug fashioned from a coconut shell wrapped in a banana leaf. The tubes are then roasted for approximately 1.5 hours, during which consistent heat must be maintained to ensure even cooking and a tender texture.

Upon completion of roasting, which typically concludes at sunrise, the outer bamboo layer is carefully peeled to facilitate consumption. The labor-intensive nature of this process, spanning an overnight cycle, stresses the significant skill and devotion required of Khao Lam producers.

The Roasting Technique

The term ‘Lam’ refers to a traditional method of cooking rice within bamboo tubes, a technique that demands considerable knowledge and technical expertise to execute correctly.

The roasting process begins by arranging the filled bamboo tubes with approximately 4 centimeters of spacing between them to allow adequate heat circulation. Bamboo charcoal is the primary fuel source, with smaller bamboo fragments as a cost-effective alternative. The fuel is distributed evenly around the tubes and ignited progressively to ensure simultaneous and uniform roasting across all tubes.

Throughout the roasting process, continuous fuel replenishment is required. The direction and intensity of the flame must be carefully regulated to ensure heat is directed toward the tubes; failure to maintain this orientation results in irregular cooking. Environmental conditions, particularly rain or strong wind, present additional challenges through disrupting heat control and extending roasting time.

Roasting takes between 1 and 2 hours. Readiness is indicated by the complete evaporation of coconut milk from the tubes and a uniform yellowing of the bamboo surface. The tubes are rotated during this stage to ensure even coloration. Upon completion, the Khao Lam is allowed to cool slightly before the outer bamboo sheath is peeled away to expose the cooked rice for consumption.



FIGURE 3. Featuring Roasting Khao Lam over an open flame
(Source: Photographs taken by authors)

Bamboo Tube Preparation: The Three-Stage Process (“Lid-Jig-Lao”)

Prior to roasting, the bamboo tubes undergo a multi-stage preparation process that constitutes a distinct body of craft knowledge within the overall production system. This preparatory work is carried out by skilled community members and directly influences the quality and usability of the final product.

During participatory observation, researchers documented three community members simultaneously engaged in distinct stages of bamboo tube preparation, each showing a high level of technical competence developed through years of practice.

The first stage, referred to locally as “Lid” (meaning to peel), involves using a large, sharp knife to remove the outer green skin of the bamboo until the white inner surface is fully exposed.

The second stage, “Jig” (meaning “to scrape”), involves using a large knife to scrape and thin the remaining bamboo skin, finishing the tube's surface.

The third and final stage, “Lao” (meaning to sharpen or smooth), requires further thinning and smoothing of the bamboo surface, followed by trimming the nodes to produce a clean, uniform tube ready for filling.

“One informant noted that the practice of thinning the bamboo wall represents a form of indigenous engineering knowledge: a thinner bamboo layer allows consumers to peel the tube more easily after roasting and to re-seal any unfinished portion using an elastic band for later consumption.

The preparation of a single bamboo tube thus involves multiple labor-intensive stages, each calling for distinct skills. The resulting tube functions not only as a cooking vessel but also as an integral part of the product presentation, representing the workmanship and indigenous knowledge of the Hin Rui community.



FIGURE 4.
Featuring Bamboo Tube
Preparation: The Three-Stage
Process (“Lid-Jig-Lao”)
(Source: Photographs taken by
authors)

Distribution and Community Reach

Khao Lam production practices vary across Southern Thailand, with each locality developing distinct techniques and flavor profiles (Suwannal & Jirathamarat, 2024, pp. 323–335). The Hin Rui variant is distinguished by its characteristic balance of sweetness, richness, and saltiness, and is particularly associated with the household of the primary informant, whose product has become a well-recognized local standard.

The primary informant begins each production day in the early-morning hours, assisted by two household members. By approximately 8:00 a.m., the completed Khao Lam is ready for distribution. Sales are conducted at multiple fixed locations, including Ban Khian Fresh Market, Thalang Hospital, Phuket Town, and Phuket Rajabhat University, indicating the product’s established local presence.

**FIGURE 5.**

Featuring Uncle Thuak riding his motorcycle to sell Khao Lam
(Source: Photographs taken by authors)

Key Quality Indicators of Khao Lam Hin Rui

1. The bamboo must be Spiny Bamboo (Srisuk Bamboo) because it has membranes inside, which make Khao Lam easy to peel and more appetizing. The bamboo must be over a year old.
2. An essential ingredient is salt. If sugar is added without salt, Khao Lam will be tasteless.
3. The coconut milk must be oily and clean. The coconut used to make coconut milk must not be a young coconut, as it makes the milk less oily and less rich.
4. When adding coconut milk for Khao Lam, do not add too much or too little. Too little coconut milk will make Khao Lam uncooked. On the other hand, it will be watery if too much coconut milk is used.
5. The coconut residue is used to make Khao Lam corks. It must not be too old or too young. If it is too old, it will burn when roasting.
6. The unique Khao Lam Hin Rui has three mouthwatering flavors: sweet, oily, and salty.

Knowledge Transfer

The process emphasizes systematically documenting indigenous knowledge to support community-led conservation, aiming to bridge the gap between the elderly knowledge holders and younger generations who show limited interest in the craft. We also submitted the book 'The Story of Khao Lam Hin Rui' to the 'Krungsri Higher Education Volunteer Development: Willingly Sharing Knowledge for Society' competition, where it received a national-level award. This achievement led to the widespread dissemination of knowledge on this subject through media outlets across the country, bringing great pride to the community.



FIGURE 6. Featuring The Story of Khao Lam Hin Rui was broadcast on Thai PBS television station, and 50 copies of the book were distributed to interested readers from across the country.



FIGURE 7. Featuring Organizing knowledge dissemination activities within the community

DISCUSSION

The findings of this study show that Khao Lam Hin Rui is not simply a traditional dessert but a complex cultural artifact that embodies the identity, ingenuity, and communal values of the Hin Rui community in Phuket. The careful production process from the selection of Spiny Bamboo (Srisuk Bamboo) to the precise balance of ingredients and the controlled roasting technique shows a sophisticated body of indigenous knowledge refined over generations. This is consistent with UNESCO's (2003) definition of intangible cultural heritage, which holds that traditional artisanal skills and associated knowledge constitute a living cultural manifestation deserving of organized documentation and preservation.

A major challenge identified in this study is the intergenerational knowledge gap. The decline from over 30 producing households to only 5 active families shows a significant erosion of cultural practice. This phenomenon is consistent with broader patterns of traditional knowledge loss documented in other Thai communities, in which modernization, economic pressures, and changing ways of life among younger generations contribute to the discontinuation of craft-based traditions. The testimony of Uncle Thuak stresses the importance of the situation: the survival of Khao Lam Hin Rui depends not only on economic viability but on the willingness of younger community members to engage with and inherit time-intensive production practices.

The participatory approach applied in this research, involving students from Phuket Rajabhat University in the documentation process, demonstrates a practical model for community-based cultural conservation. By engaging academic institutions with local communities, this approach facilitates knowledge transfer while simultaneously raising awareness among younger participants. This joint model reflects the principles of Community-Based Participatory Research (CBPR), which emphasizes co-learning and shared ownership of knowledge between researchers and community members (Israel et al., 2005). The OTOP status of Khao Lam Hin Rui further presents an opportunity to leverage cultural heritage for sustainable economic development, provided that production knowledge is preserved and transmitted effectively.

Furthermore, the scarcity of Spiny Bamboo (Srisuk Bamboo) poses an environmental constraint that threatens the durable sustainability of Khao Lam production. This illuminates the intersection of cultural safeguarding and environmental protection, suggesting that preservation initiatives must go beyond documentation to include the cultivation and management of natural resources integral to the practice. Future research and community actions may benefit from combining environmental management strategies alongside cultural documentation efforts.

CONCLUSION

This study documents the indigenous knowledge, cultural heritage, and production practices associated with Khao Lam Hin Rui, a traditional Thai dessert rooted in the Hin Rui community of Phuket Province. Through qualitative interviews with key knowledge holders, the research has captured the historical origins of Khao Lam Hin Rui, the specialized techniques involved in its production, and the community's deeply embedded cultural relationship with this food-related tradition. The data confirm that Khao Lam Hin Rui constitutes a significant form of intangible cultural heritage that is currently at risk of disappearing due to the decline in active producers and limited engagement among younger generations.

The community-based participatory approach implemented in this research proved effective when bridging scholarly research with local preservation needs. By involving students from Phuket Rajabhat University in the documentation process, the project not only produced a systematic record of Khao Lam production knowledge but also fostered direct engagement between the academic community and local knowledgeholders. This joint model offers a replicable framework for cultural conservation initiatives in other communities encountering similar challenges of knowledge loss.

To ensure the enduring sustainability of Khao Lam Hin Rui as both a cultural heritage and an economic asset, it is recommended that the Hin Rui community, in collaboration with local government bodies and educational institutions, develop structured knowledge transfer programs targeting younger generations. Additionally, ecological preservation efforts focused on the sustainable cultivation of Spiny Bamboo (Srisuk Bamboo) should be integrated into wider heritage preservation strategies. Upcoming research may expand the scope of investigation to include comparative studies of similar traditional food practices in other communities, as well as longitudinal assessments of the impact of participatory documentation on community-level cultural sustainability.

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