

ETHNOBIOLOGICAL STUDY OF CHINGKUI, TRADITIONAL FOOD FROM LAMNO, ACEH JAYA, INDONESIA

Ethnobiological Study Of Chingkui, Traditional Food From Lamno, Aceh Jaya, Indonesia

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Abstrak

Studi ini berjudul Studi Etnobiologi Chingkui, Makanan Tradisional dari Lamno, Aceh Jaya, Indonesia bertujuan untuk mendokumentasikan dimensi etnobiologi chingkui, dengan fokus pada keanekaragaman tumbuhan, signifikansi budaya, dan transmisi pengetahuan. Pendekatan etnobiologi kualitatif digunakan melalui wawancara semi-terstruktur, observasi partisipan, dan dokumentasi etnobotani yang melibatkan 60 informan dari tiga desa di Lamno. Studi ini mengidentifikasi 13 spesies tumbuhan dari 13 famili yang digunakan dalam pembuatan chingkui, masing-masing memiliki fungsi kuliner, pengobatan, dan simbolis. Temuan menunjukkan bahwa chingkui mewakili warisan biokultural yang mengintegrasikan pengetahuan ekologis, spiritualitas, dan identitas komunal, dengan perempuan memainkan peran sentral dalam melestarikan pengetahuan tradisional.

Kata kunci: chingkui, etnobiologi, makanan tradisional, keanekaragaman biokultural, Aceh Jaya.

Abstract

This study entitled Ethnobiological Study of Chingkui, Traditional Food from Lamno, Aceh Jaya, Indonesia aimed to document the ethnobiological dimensions of chingkui, focusing on plant diversity, cultural significance, and knowledge transmission. A qualitative ethnobiological approach was employed through semi-structured interviews, participant observation, and ethnobotanical documentation involving 60 informants from three villages in Lamno. The study identified 13 plant species from 13 families used in chingkui preparation, each possessing culinary, medicinal, and symbolic functions. Findings revealed that chingkui represents a biocultural heritage integrating ecological knowledge, spirituality, and communal identity, with women playing a central role in preserving traditional knowledge.

Keywords: chingkui, ethnobiology, traditional food, biocultural diversity, aceh jaya.

INTRODUCTION

Indonesia is among the world's most biodiverse and culturally diverse nations. This ecological richness extends beyond its ecosystems to encompass a wide variety of traditional foods that embody local knowledge, ecological adaptation, and cultural identity [1–2]. As indicated by several scholars in the field, traditional food systems have been shown to contribute to nutritional security. Furthermore, these systems play a crucial role in the maintenance of cultural heritage, spirituality, social cohesion, and environmental stewardship within indigenous and local communities [3–5].

In the province of Aceh, a traditional food that is deeply rooted in community life is *chingkui*, which is primarily prepared by the Lamno people in Aceh Jaya. The preparation of *chingkui* involves a diverse array of local plants selected for their culinary qualities as well as symbolic and cultural meanings, highlighting the intersection of biodiversity use and cultural expression [6–8].

Ethnobiology provides a comprehensive framework for investigating the dynamic interactions between communities and biological resources. This framework focuses not only on the use of species but also on the underlying traditional knowledge systems and cultural practices that govern such relationships (9–11). These knowledge systems, frequently termed Traditional Ecological Knowledge (TEK), are imperative for the sustainable management of natural resources and the conservation of biodiversity [12,13].

Despite its cultural and ecological significance, there is a paucity of documentation in scientific literature regarding *chingkui* and other similar traditional foods. The ongoing processes of rapid modernization, cultural shifts, and globalization have the potential to disrupt the continuity of traditional food practices and the associated knowledge. This, in turn, poses a significant threat to the preservation of local food sovereignty and biodiversity [14–16].

The objective of this study is to document and analyze the ethnobiological dimensions of *chingkui* as it is currently practiced in Lamno, Aceh Jaya. The study will focus particularly on the plant ingredients used, the cultural roles associated with its use, and the knowledge transmission mechanisms employed in its preparation and consumption. This research makes a significant contribution to the broader understanding of the role of traditional foods in sustaining biodiversity, cultural identity, and community health. Consequently, it supports efforts toward sustainable food systems and cultural preservation.

MATERIALS AND METHODS

Study area

The present study was conducted in three villages located in Lamno, Jaya Subdistrict, Aceh Jaya Regency, Aceh Province, Indonesia: Krueng Tunong, Teumarem, and Sabet (see **Figure 1**). The site, situated at approximately 5°25' N, 95°30' E, encompasses an area of 40–50 hectares, with elevations ranging from 50 to 150 meters above sea level. The topography is marked by hilly terrain, river systems, and dense tropical vegetation. Teumarem, a region spanning 25–35 hectares at 30–80 m elevation, is characterized by gently undulating terrain, predominantly utilized for residential dwellings, agricultural activities, and domestic gardens. Sabet (approximately 5°23' N, 95°20' E) encompasses an area of 20–30 hectares at an elevation of 50–100 meters, exhibiting a diverse topography and a high diversity of both cultivated and wild tropical plant species.

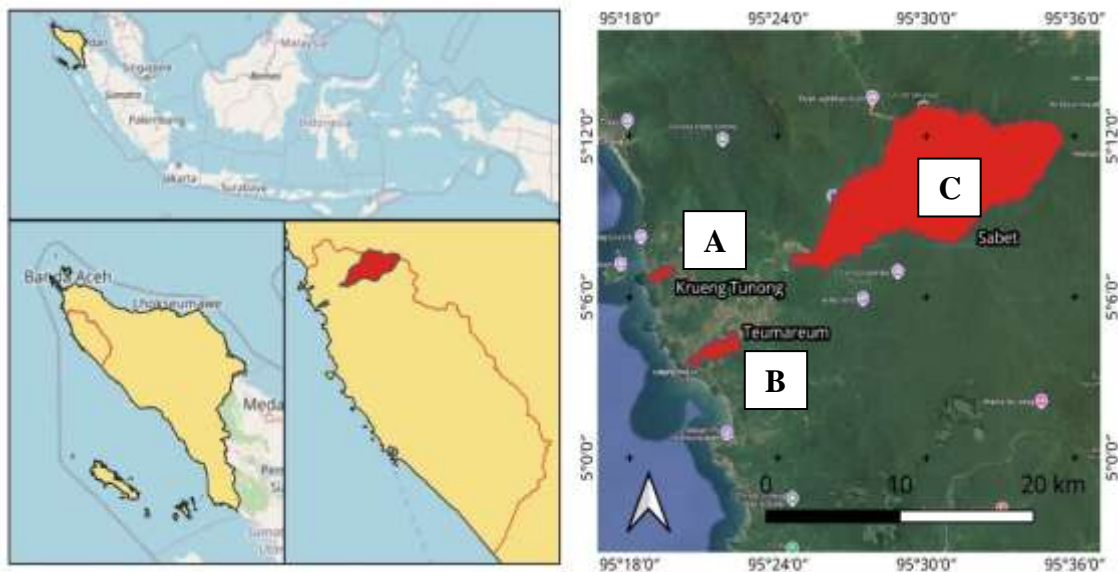


Figure 1. Map of the research locations in Lamno, Jaya Subdistrict, Aceh Jaya Regency, Aceh Province, Indonesia. A. Krueng Tunong, B. Teumarem, C. Sabet.

Research design

A qualitative ethnobiological approach was adopted, integrating ethnographic techniques with ethnobotanical documentation, in accordance with established frameworks [6,7]. This methodological approach facilitated a comprehensive and systemic understanding of the cultural, ecological, and social dimensions of *chingkui*.

Data collection methods

a. Semi-structured interviews

To this end, semi-structured interviews were conducted with 60 key informants, including traditional food makers, community elders, cultural practitioners, and local scholars. The selection of informants was conducted through purposive and snowball sampling techniques to ensure the acquisition of comprehensive knowledge. The interview questions encompassed a range of topics, including the utilization of plants, the methods of sourcing these plants, the techniques employed for their preparation, the symbolic meanings attributed to them, and the ritual associations that are associated with them. A series of interviews were conducted in both Bahasa Aceh and Indonesian. These interviews were subsequently transcribed, and the resulting text was translated into English for the purpose of analysis.

b. Participant observation

Participant observation was carried out during *chingkui* preparation events, religious and cultural ceremonies, and routine household cooking. The observations were meticulously documented through field notes, photographic records, and video footage, facilitating a comprehensive triangulation of the data with the insights derived from interviews.

c. Collection of Plants and Ingredients

The plant specimens and other ingredients utilized in the preparation of *chingkui* were obtained during field visits with local guides. Botanical identifications were conducted with the assistance of local experts and verified using standard floras [6]. Voucher specimens were meticulously preserved and subsequently deposited in the esteemed Biology Education Laboratory at the Faculty of Teacher Training and Education, Syiah Kuala University, in Banda Aceh, Indonesia.

Data Analysis

The data were analyzed using a combination of descriptive and thematic approaches. Descriptive statistics were employed to summarize demographic characteristics and plant usage. A thematic analysis was conducted to interpret the symbolic, medicinal, and cultural dimensions of plant use. This analysis was conducted in accordance with the coding and categorization of field notes and interview transcripts.

Ethical considerations

Prior informed consent was obtained from all participants before data collection. The present study was conducted in accordance with the ethical standards of the International Society of Ethnobiology [8,17], ensuring full respect for local cultural knowledge, intellectual property rights, and community values. The respondents' anonymity and confidentiality were preserved throughout the study.

RESULTS AND DISCUSSION

This study underscores the multifaceted role of *chingkui* in the Lamno community—not merely as a food product, but as a cultural artifact embedded with ecological, medicinal, symbolic, and spiritual dimensions. The findings emphasize the potential of local food systems, particularly those grounded in indigenous knowledge, to offer insights into sustainable health practices, cultural resilience, and biodiversity conservation.

Demographic characteristics of respondents

A total of 60 respondents participated in this study, selected as key informants with substantial knowledge of *chingkui*. The distribution of informants across the three villages was equitable.

The subjects of this study were recruited from Krueng Tunong (n = 20), Teumarem (n = 20), and Sabet (n = 20). The socio-demographic characteristics of the respondents are presented in **Table 1**.

Table 1. Socio-demographic characteristics of respondents (n = 60)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	23	38.3
	Female	37	61.7
Age group (years)	30–39	6	10.0
	40–49	11	18.3
	50–59	19	31.7
	≥ 60	24	40.0
	Occupation	Traditional cook	25
	Farmer	18	30.0
	Community elder	9	15.0
	Local cultural practitioner	8	13.3
Educational level	No formal education	19	31.7
	Primary school	23	38.3
	Secondary school	13	21.7
	Higher education	5	8.3

Source: Data Analysis (2025)

The demographic data presented in **Table 1** reveal a preponderance of female key informants, constituting 61.7% of the sample. This observation lends credence to the assertion that these individuals play a pivotal role in the preservation and transmission of traditional culinary knowledge. This finding aligns with ethnobiological literature emphasizing women's contribution to maintaining food traditions in indigenous societies [17–21]. The predominance of informants over the age of 50 (71.7%) underscores the concentration of traditional knowledge among older generations, a phenomenon that is prevalent in oral societies grappling with cultural erosion due to modernization [22–25]. The generally low level of formal education further supports the dominance of oral and experiential knowledge transmission [19,24], reinforcing the urgency of implementing gender- and generation-sensitive conservation programs to safeguard food-based ethnobiological knowledge [20,21].

Species Diversity and Cultural Use

The preparation of *chingkui* involves a diverse range of plant species, primarily sourced from surrounding natural habitats and home gardens. A total of 13 plant species belonging to 13 different families were documented as essential ingredients. These include aromatic leaves, spices, and medicinal herbs, each serving distinct culinary and symbolic functions. The documented species are listed in **Table 2** and illustrated in **Figures 2A–2M**.

Table 2. Plant species used in the preparation of *chingkui*, along with their local names, parts used, and functions

No	Scientific name	Local name	Family	Part used	Function in <i>chingkui</i>
1	<i>Pandanus amaryllifolius</i>	Daun pandan	Pandanaceae	Leaf	Provides aroma and natural green color.
2	<i>Paederia foetida</i>	Daun sekembong	Rubiaceae	Leaf	Balances taste; holds symbolic value in local tradition.
3	<i>Nothopanax scutellarium</i>	Daun mangkokan	Araliaceae	Leaf	Garnish; believed to aid digestion.

4	<i>Curcuma longa</i>	Kunyit	Zingiberaceae	Rhizome	Colorant and preservative; traditional medicine.
5	<i>Piper nigrum</i>	Lada hitam	Piperaceae	Fruit (seed)	Adds spiciness and warmth; antimicrobial.
6	<i>Cocos nucifera</i>	Kelapa	Arecaceae	Grated flesh	Adds texture and energy; provides savory taste.
7	<i>Oryza sativa</i> (glutinous)	Beras ketan	Poaceae	Grain	Sticky base; holds ceremonial significance.
8	<i>Pluchea indica</i>	Beluntas	Asteraceae	Leaf	Flavor enhancer; possesses antioxidant properties.
9	<i>Polyscias fruticosa</i>	Berlangkas	Araliaceae	Leaf	Distinct aroma; used in traditional medicine.
10	<i>Syzygium polyanthum</i>	Daun salam	Myrtaceae	Leaf	Adds flavor; symbolizes vitality.
11	<i>Murraya koenigii</i>	Daun kari	Rutaceae	Leaf	Enhances aroma; aids digestion.
12	<i>Abrus precatorius</i>	Saga rambat	Fabaceae	Leaf	Natural fragrance; antimicrobial.
13	<i>Ocimum tenuiflorum</i>	Ruku-ruku	Lamiaceae	Leaf	Aromatic base; used in traditional healing.

Source: Data Analysis (2025)

The table illustrates the Lamno community's extensive knowledge in utilizing native plant species not only as culinary ingredients but also as integral components of their medicinal and cultural practices. The observed ethnobotanical richness is indicative of a profound and enduring relationship between human populations and their environment, a relationship that is deeply entrenched within the framework of local ecological knowledge systems.





Figure 2. Thirteen plant species used in the preparation of *chingkui*:
(A) *Pandanus amaryllifolius*, (B) *Paederia foetida*, (C) *Nothopanax scutellarium*,
(D) *Curcuma longa*, (E) *Piper nigrum*, (F) *Cocos nucifera*, (G) *Oryza sativa*,
(H) *Pluchea indica*, (I) *Polyscias fruticosa*, (J) *Syzygium polyanthum*,
(K) *Murraya koenigii*, (L) *Abrus precatorius*, (M) *Ocimum tenuiflorum*
Source: Data Collection (2025)

As shown in **Table 2** and **Figure 2**, *Chingkui* consists of thirteen plant species belonging to thirteen families. Each species was selected for its unique culinary, medicinal, and symbolic uses. This diversity demonstrates profound ecological knowledge and underscores the concept of biocultural diversity—the interconnectedness of biodiversity and cultural heritage [26–30]. Ingredients such as *Curcuma longa*, *Pandanus amaryllifolius*, and *Piper nigrum* have multiple uses as flavoring agents, health enhancers, and spiritual symbols [28, 30, 31]. These dual-use practices are documented in ethnobotanical studies and represent living traditions of sustainable plant use. Maintaining this plant-based knowledge is critical for both cultural identity and conserving local agrobiodiversity.

Preparation Techniques

The traditional preparation of *chingkui* follows a series of methodical steps that integrate ecological knowledge with culturally embedded practices. Based on interviews and participant observations, seven main stages were identified, each embodying culinary techniques and symbolic meanings. These activities are often communal, led by elder women as bearers and transmitters of tradition.

Table 3. Stages of *chingkui* preparation and associated cultural practices

Step	Preparation Stage	Description	Cultural Context and Symbolism
1	Ingredient Selection	Fresh ingredients (e.g., glutinous rice, coconut, herbs) are selected from gardens or wild areas	Emphasizes ecological intimacy and food sovereignty
2	Soaking of Glutinous Rice	Rice is soaked overnight for optimal stickiness	Represents patience and readiness; often begins with a prayer
3	Grating Coconut and Grinding Herbs	Coconut flesh is grated; turmeric, pepper, and other spices are ground into paste	Women collaborate; the aroma signals communal preparation
4	Mixing and Seasoning	Rice is mixed with the coconut-spice blend	Reflects harmony, balance, and local taste preferences
5	Wrapping in Leaves	Mixture is wrapped in banana or other aromatic leaves	Leaves symbolize protection and purity; wrapping is a meditative act
6	Steaming	Packets are steamed over wood fire	Use of fire signifies transformation and continuity
7	Serving and Ritual Offering	<i>Chingkui</i> is distributed during communal meals or religious events	Serves as an offering of gratitude, unity, and ancestral connection

Source: Data Analysis (2025)

The preparation of the subject is characterized by a dualistic approach, combining a functional aspect with a ritualistic component. For instance, leaf-wrapping is frequently accompanied by *doa* (prayers) or *sholawat*. The communal aspects of intergenerational learning are fostered through observation and participation. In events such as *kenduri*, *maulid*, or *peusijuek*, specific plants are selected for their symbolic properties. For example, turmeric is chosen for its cleansing properties, pandan (*Pandanus amaryllifolius*) is selected for its association with sanctity, and sekembong (*Paederia foetida*) is chosen for its representation of balance. This practice reveals the intricate relationship between spiritual cosmology and culinary tradition.

The seven structured stages of *chingkui* preparation (**Table 3**) reflect the integration of ecological knowledge with socio-cultural practice. Each stage is imbued with ritual significance, often led by elder women, signifying intergenerational knowledge transfer [33–37]. Communal activities such as coconut grating, spice grinding, and leaf-wrapping are not merely technical steps but moments of collective learning and spiritual reflection [34,36]. The symbolism of fire, leaves, and timing resonates with spiritual cosmology embedded in cooking practices [35,37]. This aligns with broader ethnographic findings that culinary techniques often encode ethical and cosmological relationships between people and nature [33,38].

Symbolic and Spiritual Significance

The preparation and consumption of *chingkui* serve purposes beyond mere nutrition, functioning as a medium for spiritual expression, social cohesion, and ecological ethics in Lamno. The selection of plants is not limited to their sensory or medicinal properties; it is also influenced by the symbolic meanings that are deeply rooted in Islamic teachings, local customs (*adat*), and ancestral wisdom.

A close examination of the data revealed the presence of three major symbolic functions, as identified through thematic analysis: protection, purification, and balance. These elements are interwoven with the selection of ingredients and the performance of ritual practices.

Table 4. Symbolic meanings of selected plants used in *chingkui*

Scientific Name	Local Name	Symbolic Meaning	Ritual Use Context
<i>Curcuma longa</i>	Kunyit	Purification, spiritual cleansing	Used during <i>peusijuek</i> (blessing ceremonies); symbolizes inner and outer purity
<i>Pandanus amaryllifolius</i>	Daun pandan	Sanctity, peace of mind	Included in ceremonial <i>chingkui</i> for sacred events
<i>Paederia foetida</i>	Daun sekembong	Balance and humility	Believed to harmonize “hot” and “cold” food elements
<i>Syzygium polyanthum</i>	Daun salam	Vitality and protection	Offered in <i>kenduri</i> as a prayer for health and unity
<i>Ocimum tenuiflorum</i>	Ruku-ruku	Spiritual connection, healing	Burned as incense or infused during illness rituals
<i>Piper nigrum</i>	Lada hitam	Strength and courage	Added to enhance <i>semangat</i> (life force) in the dish

The symbolic meanings of specific plants used in *chingkui* (**Table 4**) reflect a syncretism of Islamic teachings and local customs beliefs. For example, *Curcuma longa* (turmeric) is associated with purification rituals, while *Pandanus amaryllifolius* represents sanctity and peace [39–41]. These attributes are central to ceremonies such as *maulid*, *peusijuek*, and *kenduri*, where food acts as a spiritual medium. The concept of *barakah* (blessing) and the idea that aromatic herbs are “pleasing to the unseen” illustrate how food mediates relationships between the physical and metaphysical realms [42,43]. Studies in agrarian and maritime societies similarly emphasize food’s role in spiritual ecology and communal identity [40,42,43]. Thus, *chingkui* is not merely consumed for sustenance but is an embodiment of sacred knowledge and ritual cohesion.

The Transmission of Knowledge and the Preservation of Culture

The dissemination of traditional knowledge concerning *chingkui* is predominantly facilitated by oral traditions, apprenticeship programs, and ritual practices, which are predominantly transmitted among female members of the Lamno community. This intergenerational transmission ensures the preservation of ecological knowledge, culinary skills, and cultural values.

The process of learning commences informally during childhood and continues through participation in communal ceremonies. The custodianship of this knowledge is primarily entrusted to female relatives, particularly grandmothers, mothers, and other elder women in the family.

Table 5. Modes of knowledge transmission related to *chingkui*

Mode of Transmission	Description	Primary Contexts	Key Actors
Oral tradition	Recipes, stories, symbolic meanings shared verbally	Daily cooking, storytelling sessions	Elder women, community elders
Apprenticeship	Hands-on learning by assisting experienced individuals	Ritual events, cooking preparations	Daughters, nieces, young women
Observational learning	Watching elders during food preparation	Home kitchens, ceremonies	Children, young adults
Ritual participation	Engagement in traditional and religious ceremonies involving <i>chingkui</i>	Maulid, weddings, peusijuek	Community members
Song and chant	Use of local chants while preparing or serving the food	Special ceremonies	Cultural practitioners

As described in **Table 5**, knowledge transmission of *chingkui* occurs primarily through oral traditions, apprenticeships, and ritual participation—processes that are often female-led and rooted in everyday life. This is consistent with global ethnobiological patterns, where informal learning environments and ritualized practices are crucial for cultural sustainability [44–48]. However, modern pressures such as youth migration, urbanization, and shifting aspirations pose risks to this knowledge system [46,48]. In response, local initiatives—including cooking workshops, school programs, and culinary festivals—have emerged to revitalize interest and foster intergenerational dialogue [44,46]. These efforts underscore the importance of community-based strategies to sustain traditional knowledge in the face of socio-economic change [45,47].

CONCLUSION

This ethnobotanical study demonstrates that *chingkui*, a traditional food of the Lamno community, serves as more than a culinary artifact; it embodies a complex system of ecological knowledge, medicinal practice, spiritual belief, and cultural identity. The diversity of 13 plant species from 13 different families used in its preparation reflects deep local ecological awareness and multifunctional plant use grounded in biocultural traditions. Women, particularly elder generations, play a central role in transmitting this knowledge through oral traditions, ritual participation, and apprenticeship, underscoring gendered dimensions of cultural resilience.

The symbolic meanings ascribed to ingredients such as turmeric (*Curcuma longa*), *pandan* (*Pandanus amaryllifolius*), and *sekembong* (*Paederia foetida*) reveal a rich spiritual ecology in which food is a medium for expressing cosmological values like purification, balance, and protection. Rituals associated with *chingkui* further reinforce its function as a tool for community cohesion and intergenerational continuity. Despite challenges from modernization and youth migration, local initiatives such as community workshops and cultural events offer promising pathways for safeguarding and revitalizing this heritage.

Overall, *chingkui* represents a living repository of ethnobiological knowledge, emphasizing the importance of preserving traditional food systems as part of broader efforts in cultural conservation, biodiversity protection, and sustainable health strategies. Further interdisciplinary research and community-based policy support are essential to ensure the continuity and adaptive potential of such indigenous knowledge systems.

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