

From Leftovers to Lifelines: *Unava Marunthu* and the Cultural Ecology of Fermented Rice in Rural Tamil Nadu

OPEN ACCESS

Volume: 13

Special Issue: 2

Month: February

Year: 2026

P-ISSN: 2321-788X

E-ISSN: 2582-0397

Citation:

Thendral, S. Tamizh, and Rajiny Ch. "From Leftovers to Lifelines: *Unava Marunthu* and the Cultural Ecology of Fermented Rice in Rural Tamil Nadu." *Shanlax International Journal of Arts, Science and Humanities*, vol. 13, no. S2, 2026, pp. 196–203.

DOI:

<https://doi.org/10.34293/sijash.v13iS2-Feb.10212>

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Abstract

Fermented rice is a traditional cereal-based food widely consumed across South and Southeast Asia, valued for its simplicity, digestibility, and cultural significance. In Tamil Nadu, fermented rice locally known as pazhaya sadham is closely associated with the indigenous food philosophy of unava marunthu, which views food as both nourishment and medicine. Rooted in everyday rural life, this practice reflects an intimate relationship between diet, climate, labour, and sustainability.

The present study documents household-level preparation methods, consumption practices, and commonly used accompaniments of fermented rice in the Chunampet area of Tamil Nadu. The study focuses on how inherited culinary knowledge is practiced in contemporary rural settings through routine food habits. Fermented rice continues to be prepared using simple household methods and consumed primarily as an early-day meal, reflecting its role as a cooling, filling, and easily digestible food.

The study underscores the relevance of fermented rice as an expression of unava marunthu, where leftover utilization, bodily well-being, and cultural continuity converge. Documenting such indigenous food practices contributes to the preservation of traditional knowledge systems and highlights their role in promoting sustainable and health-supportive diets.

Keywords: Fermented Rice, Pazhaya Sadham, Unava Marunthu, Indigenous Food Knowledge, Rural Food Practices, Sustainable Diets.

Introduction

Traditional food practices function as living expressions of cultural philosophy, ecological adaptation, and everyday knowledge. In Tamil society, food is not perceived merely as sustenance but as *unava marunthu* a belief system that understands food as medicine, capable of sustaining the body, regulating health, and supporting labour. This philosophy continues to shape dietary choices in rural Tamil Nadu, where food habits are closely aligned with climate, occupation, and routine.

Fermented foods occupy a central place within this worldview. Through natural processes, fermentation transforms ordinary ingredients into foods that are believed to be lighter, more digestible, and beneficial to bodily balance. Among these, fermented rice (*pazhaya sadham* or *pazhayathu*) remains one of the most enduring traditional foods. Prepared by soaking cooked rice in water and allowing it to ferment naturally, it is typically consumed with simple accompaniments such as curd, onion, and green chilli.

In agrarian settings, fermented rice serves practical as well as cultural purposes. Its preparation from leftover rice reflects a sustainable household practice that minimizes food waste, while its consumption as a morning meal aligns with early work schedules and physically demanding labour. The cooling nature of fermented rice further reinforces its association with bodily comfort in hot climatic conditions in daily life.

However, changing lifestyles, modernization of kitchens, and shifts in food preferences have influenced how traditional foods are prepared and consumed. While the practice of fermented rice consumption persists, its material forms such as vessels used or rice varieties selected are gradually evolving. There is limited documentation on how these changes manifest at the household level in specific rural contexts.

Therefore, the present study aims to document the preparation practices, consumption patterns, and accompaniments of fermented rice among households in the Chunampet area of Tamil Nadu. By situating fermented rice within the framework of *unava marunthu*, the study seeks to highlight the continued relevance of indigenous food knowledge in contemporary rural life.

Review of Literature

Fermented Rice in Historical and Cultural Context

Fermentation of rice is among the earliest food-processing practices in Asia and has been documented as a culturally embedded method for preserving food and improving digestibility. Das et al. (2016) describe fermented rice as an adaptive dietary practice that emerged in agrarian societies to reduce food waste and ensure food availability under climatic constraints. In the Indian context, Ray and Montet (2017) note that rice-based fermented foods are deeply intertwined with regional food cultures, appearing in diverse forms such as *pazhaya sadham*, *pakhala bhat*, and *poita bhat*.

Within Tamil food traditions, fermented rice has long been associated with bodily cooling and digestive balance, aligning with indigenous understandings of food as medicine. Gopalan et al. (2018) emphasize that such traditional food practices are shaped not by formal medical prescriptions but by experiential knowledge transmitted across generations.

Traditional Preparation Practices

Household-level preparation of fermented rice is typically characterized by spontaneous fermentation, where cooked rice is soaked in water and allowed to ferment naturally without the addition of starter cultures. Ray et al. (2016) explain that lactic acid bacteria naturally present in the environment play a crucial role in this process. Mishra et al. (2019) further highlight that the simplicity of preparation reflects inherited culinary skills rather than standardized or industrial methods.

These preparation practices are often learned informally within families and communities, reinforcing cultural continuity. According to Steinkraus (2004), such traditional fermentation methods exemplify indigenous biotechnologies that rely on natural processes and local knowledge.

Ingredients and Accompaniments

Rice serves as the primary ingredient in fermented rice, while accompaniments such as curd, onion, and green chilli are commonly consumed alongside it. Swain et al. (2020) report that polished white rice is most frequently used in rural households due to availability and taste preference, despite growing awareness of traditional rice varieties. Ghosh et al. (2021) note that curd is often added for its perceived digestive and probiotic benefits, reinforcing cultural beliefs related to gut health and bodily balance.

The inclusion of raw onion and green chilli has also been discussed as a culturally informed practice. According to Sahoo and Das (2018), these ingredients are believed to stimulate appetite and improve digestion.

Vessels Used for Fermentation

Earlier studies document the widespread use of earthen or clay pots for fermenting rice. Reddy and Rani (2018) observe that such vessels were traditionally valued for their porosity and temperature-regulating properties. However, recent research indicates a gradual shift toward stainless steel and aluminium vessels in rural households due to convenience and hygiene considerations (Patra et al., 2019).

This transition reflects broader patterns of modernization within rural kitchens, where material changes coexist with traditional culinary knowledge (Gupta, 2020).

Fermented Rice, Labour, and Sustainability

Several scholars have emphasized the role of fermented rice in supporting physically demanding agricultural work. Patra et al. (2017) describe fermented rice as a filling and hydrating meal that aligns well with early work schedules in farming communities. Sahoo et al. (2018) further report that fermentation improves mineral bioavailability and reduces anti-nutritional factors, enhancing the functional value of rice-based diets.

From a sustainability perspective, fermented rice has been recognized as an example of indigenous food practices that minimize waste and promote efficient resource use. FAO (2020) highlights the role of traditional fermented foods in supporting food security and sustainable diets, particularly in rural and low-income settings.

Contemporary Relevance of Fermented Rice

Recent studies argue that traditional fermented foods remain relevant in modern dietary contexts due to their nutritional, cultural, and environmental benefits. Roy et al. (2021) emphasize that documenting such practices is essential for preserving indigenous knowledge systems. Kumar et al. (2022) further suggest that traditional fermented foods offer valuable insights for developing sustainable and culturally appropriate dietary models.

Methodology

A cross-sectional descriptive study was conducted in the Chunampet area Chengalpattu District of Tamil Nadu to assess household consumption patterns and preparation practices of fermented rice (pazhaya sadham). A total of 100 rural households consuming fermented rice were selected using purposive sampling.

Data were collected through face-to-face interviews using a structured, pre-tested questionnaire administered to adult household members responsible for food preparation. Information was gathered on frequency and timing of consumption, type and variety of rice used, preparation methods, soaking duration, vessels used, accompaniments, and quantity consumed.

Portion sizes were estimated using traditional household measures (small, medium, and large bowls) and validated through direct observation. Data were analyzed using descriptive statistics, and results were expressed as frequencies and percentages. Informed consent was obtained from all participants, and confidentiality was maintained throughout the study.

Results and Discussion

Details of Consumption of Fermented Rice in Chunampet Area Households

Food consumption patterns reflect the choices and routines that influence dietary intake in a community. In Chunampet, fermented rice locally known as “*pazhayathu*” or “*pazhaya sadham*” is one such traditional food that continues to be part of daily life for many, particularly among rural and agricultural households.

Fermented rice is typically prepared by soaking cooked rice in water overnight, allowing natural fermentation to occur. It is often consumed the following morning with curd, buttermilk, or raw onion and salt. This food is valued for its cooling effect on the body, digestive benefits, and probiotic content, making it especially suitable for hot climates and those engaged in physical labour.

Cultural and Practical Factors Influencing Consumption

- **Traditional Value:** The dish is deeply rooted in Tamil rural culture and often passed down through generations.
- **Convenience:** It is inexpensive, easy to prepare, and requires minimal cooking, making it a practical choice for early morning meals before fieldwork.
- **Health Benefits:** Many households perceive fermented rice as good for gut health, energy, and hydration especially for those working under the sun.

Table 1 Details of Consumption of Fermented Rice in Selected Households

Frequency of Consumption	N	(%)
One time a day	87	87
Two times a day	13	13
Three times a day	0	0
Total		100
Time of Consumption		
In the morning	87	87
Afternoon	0	0
Evening	0	0
Both morning and afternoon	13	13
Total		100
Rice Varieties		
Locally available white rice	100	100
Brown rice/black rice	0	0
Other traditional rice	0	0
Total		100
Type of Rice used		
Ponni rice	100	100

Ration rice	0	0
Other rice	0	0
Total		100
Method of Rice used		
Parboiled rice milled	98	98
Parboiled rice hand pound	2	2
Raw rice milled	0	0
Raw rice hand pound	0	0
Total		100
Preparation of Fermented Rice		
Soak the leftover rice with plain water	96	96
Soak freshly cooked rice with plain water	4	4
Soak freshly cooked rice with half plain water and half rice water	0	0
Total		100
Soaking Hours		
12 hours	100	100
12-24 hrs	0	0
More than 24 hrs	0	0
Total		100
Vessels used for FR Preparation		
Mud pot	0	0
Stainless steel	61	61
Aluminum	39	39
Total		100
Consumption Pattern		
Only plain FR	14	14
FR with curd	15	15
FR with curd and onion	31	31
FR with curd, onion and green chilli	40	40
Total		100
Type of Curd used		
Home made	49	49
From stores	16	16
Both	21	21
Total	86	100
Type of Onion used		
Small onion	26	26
Big onion	27	27

Both	18	18
Total	71	100
Quantity		
A big bowl (900-1100g)	53	53
Medium bowl (700-500g)	31	31
Small bowl (500-700g)	16	16
Total		100

Fermented rice is a culturally significant and nutritionally beneficial food that remains an integral part of the dietary pattern in Chunampet. The following analysis provides deeper insights into how, when, and in what manner households consume this traditional dish.

Frequency and Timing of Consumption

- 87% of the households consume fermented rice once a day and 13% consume it twice a day, indicating it is most commonly a morning meal.
- All respondents who consume fermented rice have it in the morning, with 13% also including it in the afternoon.

The high morning consumption aligns with its cooling, energizing properties and easy digestion, making it ideal before starting a day of agricultural labour.

Cereals Used for Fermented Rice

- 100% use locally available white rice, specifically Ponni rice, a popular variety in Tamil Nadu.
- No use of brown rice, black rice, or other traditional varieties was reported.

This shows a clear preference for polished white rice due to taste, availability, cost, or familiarity, despite traditional and indigenous grains being more nutritious.

Rice Type and Preparation

- 98% use parboiled milled rice, while only 2% use parboiled handpounded rice.
- 96% prepare fermented rice by soaking leftover rice in plain water, and the soaking time for all respondents is 12 hours.
- Soaking is mostly done in stainless steel vessels (61%), followed by aluminium vessels (39%). No households reported using traditional mud pots.

The dominance of stainless steel and aluminium indicates a shift from traditional practices (like using clay pots), likely due to convenience and availability. Short, uniform soaking periods suggest a standardized routine followed by most households.

Pattern of Consumption

- The most preferred form of fermented rice was with curd, onion, and green chilli (40%), followed by curd with onion (31%).
- Smaller proportions consumed fermented rice with curd only (15%) and plain fermented rice (14%).
- This shows that the majority of households prefer combinations with curd and vegetables, as they enhance both taste and nutritional benefits.

Accompaniments

- **Type of Curd used**
 - 49% preferred homemade curd.
 - 16% used store bought curd.

- 21% consumed both types depending on availability.
- This indicates that homemade curd remains the most preferred choice, likely due to better freshness, natural taste, probiotic benefits, and lower cost.
- The use of both homemade and store bought curd shows that convenience and availability also influence consumption patterns.
- **Type of Onion used**
 - 26% preferred small onion.
 - 27% used big onion.
 - 8% used both varieties.
 - Big onions were slightly more preferred, possibly due to easier availability, lower cost, and convenience in preparation.
 - The near equal preference for small and big onions, and use of both types, suggests flexibility based on personal taste, the type of dish, and seasonal factors.

Quantity of Intake

- 53% of participants consumed a large bowl (900–1100 g) of fermented rice.
- 31% consumed a medium bowl (700–900 g).
- 16% consumed a small bowl (500–700 g).
- The data show that fermented rice is generally consumed in substantial quantities, reflecting its role as a staple and filling meal.

These portion ranges were determined through direct observation and participant reporting, reflecting the customary household measures traditionally used by farming families in the study area. In rural Tamil Nadu, particularly among agricultural workers, energy dense and water rich meals such as fermented rice (pazhaya sadam) are consumed in large quantities to meet the high caloric and hydration demands associated with field labor.

A significant portion of the population consumes a substantial quantity, reflecting the meal’s importance in meeting energy needs, especially for those engaged in physical labour.

Fermented rice remains a deeply embedded part of the daily diet in Chunampet, particularly as a morning meal. Its preparation and consumption practices showcase a blend of tradition and practicality. While modern conveniences have replaced certain traditional tools (e.g., stainless steel over mud pots), the essence of the dish remains unchanged.

Promoting the use of traditional rice varieties and diverse accompaniments could enhance its nutritional value, while awareness campaigns can preserve this culturally rich and gut friendly practice for future generations.

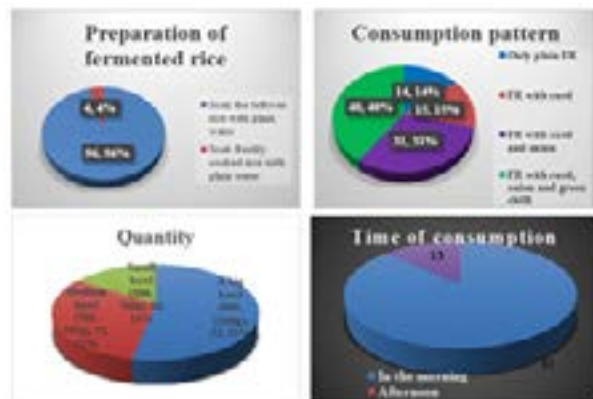


Figure 1 Details of Consumption of Fermented Rice

Conclusion

The present study affirms that fermented rice remains a meaningful and functional component of everyday dietary practices in the Chunampet area of Tamil Nadu. Rooted in the Tamil food philosophy of *food thy medicine*, fermented rice continues to be understood not merely as sustenance but as food that supports bodily comfort, digestion, and the physical demands of rural life. Its continued consumption reflects a deep cultural logic in which food, health, labour, and environment are closely interconnected. Although changes are evident in the materials and resources used such as the preference for polished rice varieties and modern fermentation vessels the fundamental practice of preparing and consuming fermented rice has remained largely intact. The persistence of simple preparation methods and traditional accompaniments such as curd, onion, and green chilli demonstrates how inherited culinary knowledge adapts to contemporary household contexts without losing its core significance.

Fermented rice also represents an everyday practice of sustainability, particularly through the utilization of leftover rice and the reliance on minimal processing and local resources. As a filling, hydrating, and easily digestible meal, it continues to meet the practical needs of individuals engaged in physically demanding occupations, reinforcing its role as a staple rather than a supplementary food. By documenting household-level practices, this study contributes to the preservation of indigenous food knowledge that is often transmitted informally and remains underrepresented in academic discourse. Recognizing fermented rice through the lens of *unava marunthu* allows for a broader understanding of traditional food systems as living cultural practices that embody resilience, sustainability, and embodied wisdom. Such documentation is essential not only for cultural preservation but also for informing contemporary discussions on sustainable and health-supportive diets rooted in local traditions.

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