Designing Food Containers for the State Railway of Thailand's Northern Train Tourism: Integrating Lampang's Cultural Identity and Industrial Crafts

การออกแบบภาชนะบรรจุอาหารสำหรับการท่องเที่ยวทางรถไฟในภาคเหนือของการรถไฟแห่งประเทศไทย: การบูรณาการอัตลักษณ์ทางวัฒนธรรมอาหารและงานหัตถอุตสาหกรรมของจังหวัดลำปาง

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Abstract

This research aims to synthesize the historical and socio-cultural context of the Wang River Basin and its linkage areas for identifying the food culture identities of Lampang Province. Additionally, the objective is to develop prototypes for food containers rooted in the identity and industrial crafts of Lampang Province for use in the State Railway of Thailand's northern train route. Qualitative research methods, including participatory action research approaches with document analysis, focus group discussions, non–participant observation, and in–depth interviews, were employed with 150 key informants. Content analysis and data triangulation ensured data accuracy and validity.

The findings revealed Lampang's food identity, shaped by the geographical and cultural diversity of the Wang River Basin, encompassing a simple culinary pattern, multi–layered beliefs, and multicultural blending. The food container prototypes, inspired by the Japanese bento style, were designed for individual servings. There were two models:

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one that was based on the Lanna rice container and one that represented the area's fertility. These prototypes have been successfully implemented in SRT northern train route. The food containers are designed to showcase Lampang's simple yet flavorful cuisine, which reflects the region's cultural diversity. Typical dishes served include 'khao niao' (sticky rice), 'nam prik ong' (northern Thai meat and tomato chili dip), seasonal vegetables, and local specialties such as 'sai oua' (northern Thai sausage) or 'kaeng hung le' (Burmese–influenced pork curry). These dishes exemplify the 'Simplicity Pattern of Culinary' identified in the study, utilizing fresh, local ingredients with minimal processing to create a journey's food experience that represents the essence of Lampang's food culture.

Keywords : product design, creative railroad travel, food culture identity, State Railway of Thailand

บทคัดย่อ

การวิจัยนี้ มีวัตถุประสงค์เพื่อสังเคราะห์บริบททางประวัติศาสตร์ สังคมและวัฒนธรรมของลุ่มน้ำวังและพื้นที่เชื่อมโยง เพื่อการระบุอัตลักษณ์ทางวัฒนธรรมด้านอาหารของจังหวัดลำปาง นอกจากนี้ยังมุ่งพัฒนาต้นแบบภาชนะบรรจุอาหารที่สะท้อนอัตลักษณ์และงานหัตถอุตสาหกรรมของจังหวัดลำปาง สำหรับใช้ในการบริการท่องเที่ยวด้วยรถไฟสายเหนือของการรถไฟแห่งประเทศไทย การวิจัยใช้ระเบียบวิธีวิจัยเชิงคุณภาพ รวมถึงการใช้รูปแบบการวิจัยเชิงปฏิบัติการแบบมีส่วนร่วม ร่วมด้วยการวิเคราะห์เอกสาร การสนทนากลุ่ม การสังเกตแบบไม่มีส่วนร่วมและการสัมภาษณ์เชิงลึกกับผู้ให้ข้อมูลหลักจำนวน 150 คน วิเคราะห์ข้อมูลด้วยการวิเคราะห์เนื้อหาและตรวจสอบข้อมูลแบบสามเส้าเพื่อความถูกต้องและความเที่ยงตรงของข้อมูล

ผลการวิจัยพบว่า อัตลักษณ์ด้านอาหารของลำปางได้รับอิทธิพลจากความหลากหลายทางภูมิศาสตร์และวัฒนธรรมของลุ่มน้ำวัง ประกอบด้วยรูปแบบอาหารที่เรียบง่าย พัฒนารูปแบบอาหารจากความเชื่อของพื้นที่ ๆ ซ้อนทับหลายชั้นและการผสมผสานทางวัฒนธรรมจากภายนอก ส่วนต้นแบบภาชนะบรรจุอาหารได้รับแรงบันดาลใจจากกล่องอาหารเบนโตะของญี่ปุ่น โดยออกแบบสำหรับการเสิร์ฟรายบุคคล ประกอบด้วยสองรูปแบบ ได้แก่ บรรจุภัณฑ์ที่ได้แรงบันดาลใจจากกล่องข้าวล้านนา และบรรจุภัณฑ์ที่สื่อถึงความอุดมสมบูรณ์พูนผลของพื้นที่ ต้นแบบเหล่านี้ได้ถูกนำไปใช้ในบริการรถไฟสายเหนือของการรถไฟแห่งประเทศไทยเป็นที่เรียบร้อยแล้ว โดยภาชนะบรรจุอาหารได้รับการออกแบบเพื่อนำเสนออาหารลำปางที่มีความเรียบง่ายและรสชาติที่เป็นเอกลักษณ์และสะท้อนถึงความหลากหลายทางวัฒนธรรม ประกอบด้วยข้าวเหนียว น้ำพริกอ่อง (น้ำพริกเนื้อและมะเขือเทศแบบภาคเหนือ) ผักตามฤดูกาล และอาหารเฉพาะของท้องถิ่น เช่น ไส้อั่ว (ไส้กรอกหมูและเครื่องเทศแบบภาคเหนือ) หรือแกงฮังเล (แกงหมูที่ได้รับอิทธิพลจากพม่า) โดยทั้งหมดสะท้อนให้เห็นถึงรูปแบบความเรียบง่ายของอาหารโดยใช้วัตถุดิบท้องถิ่นที่สดใหม่และผ่านการแปรรูปน้อยที่สุด เพื่อสร้างประสบการณ์ในการรับประทานอาหารระหว่างเดินทางและได้แก่นแท้ของวัฒนธรรมอาหารของลำปาง

คำสำคัญ : การออกแบบผลิตภัณฑ์ การท่องเที่ยวเชิงสร้างสรรค์โดยรถไฟ อัตลักษณ์วัฒนธรรมอาหาร การรถไฟแห่งประเทศไทย

Introduction

The COVID–19 pandemic has significantly impacted Northern Thailand's tourism industry, leading to shifts in tourist behaviors and business models. These changes include preferences for personalized experiences, increased use of technology, and heightened focus on health and safety. Simultaneously, the State Railway of Thailand (SRT), operating under the Ministry of Transport, faces financial challenges while striving to effectively manage railway operations and contribute to the country's economy. To address these issues, the SRT has implemented strategies to generate additional income, including promoting train tourism services. However, the organization faces structural challenges in managing these initiatives, necessitating collaboration with external experts to create memorable train tourism experiences (Namasart, 2022). To effectively manage these services, the SRT should leverage the region's rich history and cultural heritage. In–train dining becomes pivotal for creating a memorable travel experience, incorporating the food culture of the Wang River Basin community and its linkage areas. These communities, encompassing various ethnic groups, contribute to a diverse and rich culinary tapestry aligning with the preferences of train travelers.

The process of designing cultural products involves reassessing cultural attributes and subsequently redefining the design process to create a new product that aligns with societal needs and satisfies consumers through cultural and aesthetic elements. Embedding cultural features into a product not only contributes to economic growth but also serves to showcase and promote the distinctive local culture in the global market (Leong & Clark, 2003; Lee, 2004; Lin et al., 2007). Culture, defined as patterns of human activity and symbolic frameworks, is an evolving process encompassing language, traditions, religion, arts, thoughts, and behavior (Hsu et al., 2011). Hsu et al. (2011) also categorize culture into three tiers: (1) Physical or material culture, which includes items like food, clothing, and transportation–related objects; (2) Social or behavioral culture, encompassing aspects such as human relationships and social organization; and (3) Spiritual or ideal culture, comprising art and religion.

Distinctive cultural attributes are viewed as elements that can be integrated into a product, enhancing its identity on a global scale and enriching the individual consumer's experience (Handa, 1999; Yair et al., 1999, 2001; Hsu et al., 2011). Additionally, aesthetics can be understood through sensory perception (Hekkert & Leder, 2008). Given that design is inherently influenced by exposure to various forms of inspiration and different levels of abstraction, prior research has confirmed that different modalities and representations of inspirational sources have distinct effects on design performance (Cai et al., 2010).

This research has been done by collaborative research initiatives, supported by Lampang Rajabhat University, PMUC, TSRI, MHESI, and the Tourism Authority of Thailand, aiming to integrate forces in organizing creative train tourism in Northern Thailand. With positive

potential, Lampang Province, renowned for its industrial handicrafts, especially wood products and ceramics, adds a unique dimension to the travel experience. This collaboration seeks to seamlessly integrate food culture and innovative container designs, elevating the overall train travel experience and aligning with the broader objective of enhancing the appeal of Northern Thailand's train tourism routes and services.

Research Objectives

1. Synthesizing the historical and socio–cultural context prevalent in the Wang River Basin and its linkage areas and identifying the food cultural identities of Lampang Province and linkage areas.

2. Developing prototypes for food containers rooted in the identity and industrial crafts of Lampang Province and linkage areas to use in the State Railway of Thailand's northern route train travel.

Benefits of Research

Academic and cultural contributions would generate new knowledge regarding the food culture identity of Lampang Province and its connected areas, establish a methodological framework for synthesizing historical and socio–cultural contexts to identify local food identities, and promote the preservation and dissemination of local food culture, fostering pride in cultural heritage. An elevation of cultural tourism through innovative presentation of local cuisine would create economic opportunities for local communities through the development of distinctive products and augment the value and appeal of the State Railway of Thailand's northern route train travel experience.

Literature Reviews

Exploring the Historical Significance of Lampang Province in the Wang River Basin and linkage areas: An Academic Investigation.

Lampang Province in northern Thailand boasts a rich history spanning prehistoric to modern times. Prehistoric evidence includes 600,000–year–old stone tools in Mae Tha District and the "Kho Kha Man" Homo erectus fossil in Ko Kha District. The "Pratu Pha" site features significant prehistoric paintings (Damrikul, 2019).

Lampang's history is linked to the Hariphunchai kingdom ("Mueang Khelang") and later the Lanna Kingdom. Archaeological findings at "Wiang Phrathat Lampang Luang" confirm Lampang's status as a contemporary of the Hariphunchai period (Damrikul, 2019). During the Lanna era, King Mangrai's established the kingdom in the late 20th century B.C. and "Muang Khelang" was a key administrative center in the Wang River basin, with its unique conch shell shape utilizing the river as a natural fortification (Rattanachai, n.d.).

Burmese occupation in the early 22nd century B.C. was followed by power struggles among Lanna cities. Nanthip Chang, Prince Chai Kaew Ratchabut, and Phaya Kawila played crucial roles in reclaiming independence. In 1805 B.E., Phra Chao Hor Kham Duangthip expanded the city eastward (Thamthong, 2020). Following Burmese expulsion, Lanna became a Siamese vassal state. The Chiang Mai Treaty diminished the Lanna royal family's power, with Siamese governance changes including financial reorganization (Uthongsap, 2013).

The city's name evolved from "Mueang Khelang Nakhon" to "Muang Nakhon Lampang" during King Chulalongkorn's reign, reflecting the merging of two cities and leading to the establishment of Lampang Province. This rich history underscores Lampang's significance in northern Thailand's cultural and administrative development.

Cultural Heritage and Identity in Food Practices: A Literature Review

The concept of cultural heritage and identity in relation to food practices has gained significant attention in academic discourse, particularly in the fields of anthropology, sociology, and cultural studies. This literature review examines how food practices, including rituals, seasonal traditions, and local ethnic foods, reflect and reinforce community identity.

1) Food as a Cultural Marker: Food practices serve as powerful cultural markers, embodying the history, traditions, and values of a community. Mintz & Du Bois (2002) argue that food habits are not merely a reflection of culture but are integral to cultural identity formation. They posit that "food and eating are central to our sense of self, our social and personal identity." This perspective is further supported by Counihan & Van Esterik (2013), who emphasize the role of food in constructing and maintaining social relationships and cultural boundaries.

2) Rituals and Seasonal Traditions: Food–related rituals and seasonal traditions play a crucial role in reinforcing cultural identity. Sutton (2001) explores how food memories and practices contribute to the construction of cultural identity in the Greek island of Kalymnos. He argues that repetitive food rituals create a sense of continuity and belonging within the community. Similarly, Holtzman (2006) examines how seasonal food traditions in Japan serve as a means of temporal and cultural orientation, reinforcing national and regional identities.

3) Local Ethnic Foods and Community Identity: The relationship between local ethnic foods and community identity has been extensively studied. Wilk (1999) investigates how Belizean cuisine evolved as a symbol of national identity, demonstrating how local foods can become powerful expressions of cultural distinctiveness. In a more recent study, Ramli et al. (2016) explore how traditional Malay kuih (snacks) serve as a representation of cultural heritage and identity in Malaysia, highlighting the importance of preserving culinary traditions in the face of globalization.

4) Globalization and Cultural Identity: The impact of globalization on food practices and cultural identity is a recurring theme in the literature. Ritzer (2013) discusses the concept of "McDonaldization," arguing that global food chains can lead to cultural homogenization. However, Parasecoli (2014) presents a more nuanced view, suggesting that globalization can also lead to the reinvention and reaffirmation of local food identities as communities seek to distinguish themselves in a global context.

The literature consistently demonstrates that food practices are deeply intertwined with cultural heritage and identity. From daily rituals to seasonal celebrations and local specialties, food serves as a tangible expression of cultural values and history. As communities navigate the challenges of globalization, food practices continue to play a vital role in maintaining and reinventing cultural identities.

Research Methodology

This study employs Cultural Ecology Theory to examine Lampang's food culture within the Wang River Basin's ecological context. It explores how food practices reflect and reinforce community identity through the lens of cultural heritage and identity. Utilizing a community –based participatory action research approach. Qualitative methods, including in–depth interviews, focus groups, and non-participant observation, are used to collect data, with reliability ensured through triangulation and content analysis. An ethnographic perspective guides the interpretation of findings within Lampang's socio–cultural context, aiming to have scholarly insights and empower local communities in preserving their cultural heritage.

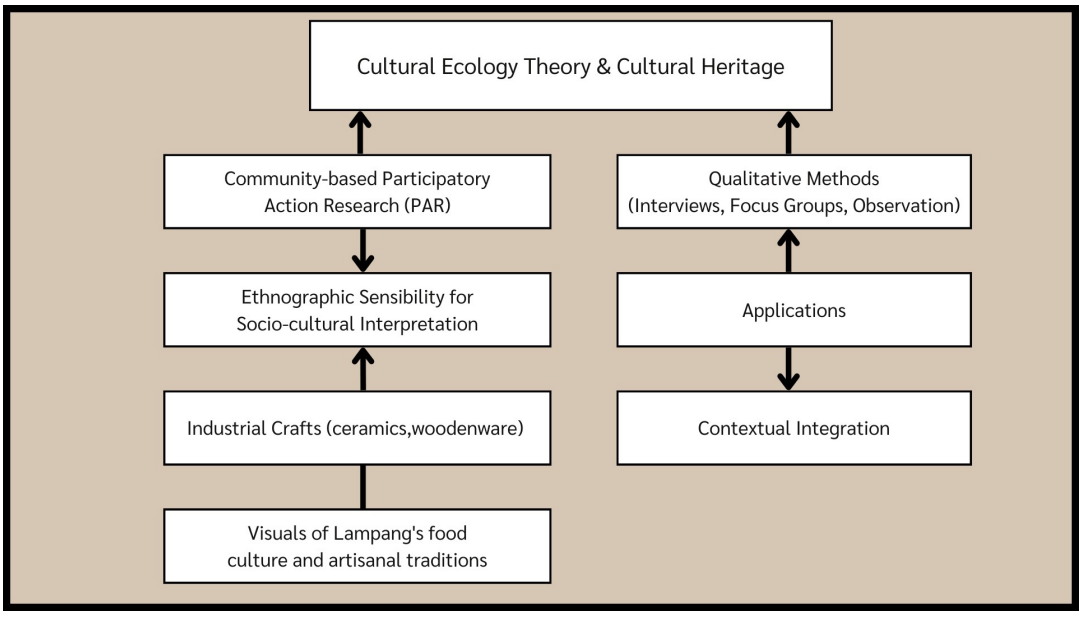


Figure 1 Research Framework (Photos by research team, 2023)

Defining Context of the Study

The primary context scopes have been identified based on a three–dimensional approach to Lampang and the linkage area's food culture. The dimensions include 1) food in rituals and beliefs, 2) seasonal food, and 3) local and ethnic food exclusively. Moreover, the study delves into the design of industrial crafts, focusing specifically on ceramics and woodenware production to showcase food containers originating from Lampang's handicraft industry. The research applies the principle of co–creation, collaboration among various sectors to support community enterprise groups.

Population and Sample

The identified population for the study was 150 individuals, including local scholars, community leaders, and executives from the State Railway of Thailand, food operators, Lampang industrial craft enterprises, government sectors, state enterprises, and local academics. The selection process employed purposive selection methods to ensure a diverse and representative sample.

Instruments

The researcher has selected research instruments by qualitative research and participatory action research methodologies. These instruments comprise data recording forms, focus–group discussion topics and note-taking forms, non–participant observation, as well as in–depth interview topics and forms. Rigorous consideration for the reliability and accuracy of these instruments has been undertaken with input from experts.

Research Locale

The designated research areas span the communities within the Wang River Basin and linkage areas, covering 12 districts of Lampang Province, excluding Ngao District, and an additional 2 districts in Tak Province.

Data Collection and Analysis

Qualitative data collection is a pervasive aspect of all research operations. Subsequently, content analysis is employed, and data saturation is considered. The gathered data undergoes investigation utilizing data triangulation techniques to enhance reliability (Cresswell, 1994).

Results

Comprehensive Study of Lampang's and the Linkage Area's Food Culture and the Synthesis of Its Culinary Identities.

Lampang Province, situated in Thailand's Wang River Basin, is characterized by its diverse topography and strategic location. This geographical diversity has historically attracted numerous ethnic groups, including Lua, Tai Lue, Thai Yuan, and Karen, each contributing to the region's unique cultural tapestry (Potjanalawan, 2016).

The food culture identity of the Wang River Basin is a complex amalgamation of traditions, methodologies, beliefs, and customs passed down through generations. These elements are not isolated to Lampang but are shared across the connected areas of the Wang River Basin, including parts of Tak province. The synthesis of these patterns forms a cohesive regional food identity that transcends provincial boundaries, reflecting the historical and cultural connections of the area. This identity can be categorized into three main aspects:

1. Simplicity Pattern of Culinary

Rooted in the Wang River Basin's diverse ecology, this pattern emphasizes the use of local, seasonal ingredients with minimal processing, characterized by its simplicity, utilizing natural and seasonal ingredients with minimal additives. The region is part of the Khao Niew (glutinous rice) culture, with white and black sticky rice being staple foods. Meals typically consist of one main dish accompanied by mild–flavored side dishes. Seasonal variations in ingredients contribute to diverse taste profiles despite visual similarities in dishes (Chandhasa et al., 2015; Krajangchom & Champawan, 2014; Thongmee, 2015).

2. Multi–Layer Pattern of Belief

This element reflects the region's rich spiritual traditions, incorporating animist beliefs and Buddhist practices. Food plays a central role in rituals and ceremonies. The spirit–feeding rite, a crucial practice, operates on a multi–layered system. The first layer involves offering large, living animals to spirits, with the meat subsequently distributed for various culinary purposes. The second layer includes community and family participation in specialized menus during ceremonies to seek blessings from ancestral spirits (Kowsurat, 2002).

3. Multicultural Blending Pattern

Lampang's position as a historical crossroads is evident in its cuisine. The emergence of a distinctive food identity emerges from the integration of various ethnic food traditions, including Chinese, Shan, Yuan, and Indian–Burmese culinary influences, with local cuisine. This multicultural blending has created a diverse and evolving gastronomic landscape.

A prototype of foodservice containers based on Lampang and the Linkage area's food culture identity: Lampang's industrial handicrafts tailored for the State Railway of Thailand's northern route train travel.

Understanding the constraints and regulations set by the executives of the State Railway of Thailand passenger services, the research team adopts Lin's (2007) concept of creating cultural products. The four–step process involves the Identification Stage, Translation Stage, Development of Design Stage, and the Implementation Stage.

3.1 Identification Stage

In this phase, the research team compiles concepts, policies, limitations, and challenges. Simultaneously, they identify distinctive cultural characteristics in Lampang and its linkage areas,

encompassing social traits, wisdom, rituals, beliefs, artwork, architecture, etc. This exploration forms the foundation for presenting artistic and cultural characteristics translatable into food package design.

3.2 Translation Stage

This stage involves defining artistic characteristics in conjunction with cultural values. Drawing inspiration from food culture, particularly the concept of "Da Khan Khao," commonly observed in daily–life food catering and in spirit–feeding rites ceremonies. The traditional rice bowl, or "Khan Khao," is crafted from simple, locally sourced materials, forming a crucial link in the development of culturally rooted design.



Figure 2 "Da Khan Khao," in Spirit–feeding Rites Ceremonies
(Photos by research team, 2023)

3.3 Development Stage

Advancing concepts and designs, the team determines the color theme, drawing inspiration from atmospheric colors reflecting local ways of life. Two color groups are identified: dark brown and red–brown, and orange–brown and pinkish–orange. The design concept is inspired by a Japanese bento box set and the traditional "Khan Khao," embodying food wisdom and craftsmanship.

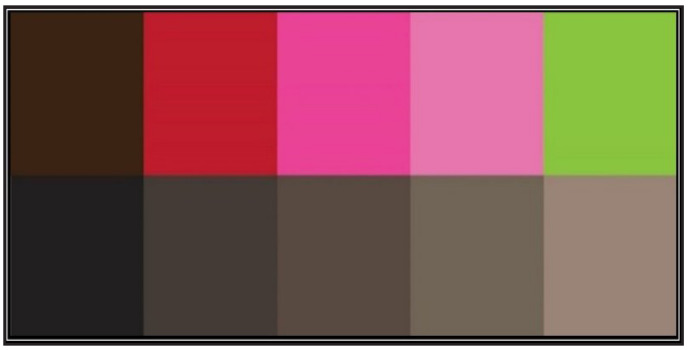


Figure 3 Color Scheme of Entire Project
(Photos by research team, 2023)

Concept 1: Kong Khao or Sticky–rice Containers Culture

The design team conceptualizes a rice box inspired by "Kong Khao," representing a crucial aspect of Lampang's food culture. Crafted from materials such as palm leaves, this container, widely used in Lampang, is versatile, coming in various sizes and suitable for holding rice and other foods conveniently.

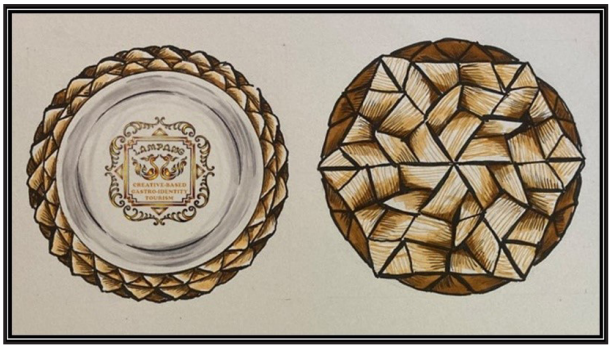


Figure 4 Sketching of the First Concept "Kong Khao" or Sticky–rice Containers Culture
(Photos by research team, 2023)

Concept 2: Fertility Region

An alternative design concept is inspired by the "Puranakhatha" flower vase pattern, showcasing Lampang's craftsmanship and symbolizing regional fertility. The octagonal shape signifies abundance in all directions, emphasizing the plentiful plants and food sources throughout Lampang Province.

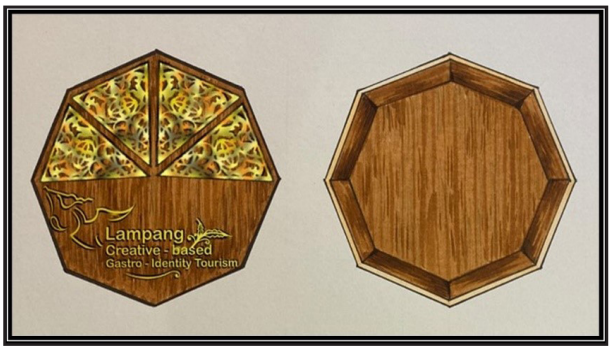


Figure 5 Sketching of the Second Concept "Fertility Region"
(Photos by research team, 2023)

Consideration of ceramic ware as food contacting material

The research team selected high–temperature–firing stoneware for food contacting components, valuing its durability, heat resistance, and cleanability. Two shapes, rounded and octagonal, were prototyped using a clay mixture of 60% pottery stone, 10% feldspar, and

30% quartz, suitable for various molding techniques. The meticulous production process involved 24–hour clay grinding, 200–mesh sieve filtration, and calcination at 1200°C in a controlled atmosphere. Post–calcination tests revealed specific physical properties: 12.5% shrinkage, 3.9% water absorption, 1.22 g/cm³ bulk density, 13.9% apparent porosity, and 1,270 kg/cm² bending strength. This rigorous approach ensured the creation of high–quality, functional ceramic ware for food service applications.



Figure 6 Ceramicware Prototyping and Production
(Photos by research team, 2023)

The inner design of the food containers features the “Pak Kut,” or Paco fern, motif, symbolizing fertility, and a swan pattern, representing positive beginnings in Chinese art. These elements draw from the simplicity of natural plants in the area and incorporate mythical symbolism from Buddhist cosmology.



Figure 7 Inner–side Motif Pattern (Photos by research team, 2023)

3.4 Implementation Stage

The prototype is presented to gather valuable suggestions, and testing on a real northern route train travel ensures alignment with SRT’s requirements before scaling up for production.

3.5 Complete Product Presentation

Product no.1, Kong Khao, or Sticky–rice Containers Culture, and 2) Fertility Region, serve as containers rooted in valuable wisdom, enhancing tourist experiences, increasing profitability, adding value, and supporting Lampang’s crafts and creative city policies.



Figure 8 Inner–side Motif Pattern (Photos by research team, 2023)

The designed food containers not only reflect Lampang's cultural identity but also prioritize functionality and user convenience. The containers are stackable, reducing storage space on trains and facilitating easy distribution. They are made of durable, heat–resistant materials that maintain food temperature and freshness during long journeys and enable tourists to enjoy a variety of local flavors in a single meal. Moreover, the containers are reusable and easy to clean, aligning with sustainable tourism practices. The ergonomic design ensures comfortable handling for both service staff and passengers, contributing to an overall improved dining experience on the train.



Figure 9 PMUC Product Showcase (Photos by research team, 2023)

Conclusion and Discussion

The historical trajectory of Lampang, shaped by diverse ethnic groups settling in the Wang River basin, has fostered a rich cultural identity characterized by diversity and a distinctive food culture. The study identifies three key identities: the simplicity pattern of culinary, the multi–layer pattern of belief, and the multicultural blending pattern, which form the basis for creating two foodservice containers for the State Railway of Thailand's Northern Route Travel.

The first design, "Kong Khao," draws inspiration from superior–level spirit–feeding rites, using sustainable materials like wood and palm leaves. The second, "Fertility Region," is inspired by the Puranakhatha pot, symbolizing fertility in religious contexts throughout Lampang province. Both designs reflect Lampang's unique identity and are tailored for train travel use.

The development process employed the Stanford D.School's five–step design thinking approach: empathize, define, ideate, prototype, and test. This aligns with Chang & Wu's (2007) findings that creative products enhance passengers' travel experiences. Expert validation emphasized the importance of design consistency with train facilities, echoing Suwanphimon's (2005) assertion that tourism routes require facilities comparable to other destinations.

The designed food containers cater to all passengers on SRT's train travel food service, as there are no differences in service classes during the initial implementation. This approach allows all travelers to experience Lampang's culinary heritage. This inclusive strategy not only improves the overall service quality but also serves as a unique selling point to promote tourism in the northern region, offering a taste of local culture that is accessible to all.

The project contributes academically to knowledge about creative products derived from the Wang River Basin's food cultural identity. Economically, it aims to enhance income from train tourism services, benefiting both the State Railway of Thailand and local communities through increased tourism and souvenir sales. Socially, the project raises awareness about Lampang's cultural heritage, fostering a self–reliant environment and potentially mitigating income inequality. This aligns with goals to navigate the middle–income trap and boost national competitiveness. The research's multi–faceted impacts extend beyond economics, encompassing cultural preservation, community empowerment, and societal well–being. It contributes to sustainable development and cultural conservation discourse, making it a valuable scholarly initiative.

By blending traditional cultural elements with modern design and sustainability principles, this project demonstrates how local heritage can be leveraged to enhance tourism experiences and support local economies. The emphasis on user-centric design and cultural authenticity ensures that the final products not only meet practical needs but also serve as ambassadors of Lampang's rich cultural heritage.

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