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Pempek Palembang: history, food making tradition, and ethnic identity

Farida Ratu Wargadalem^{1*} , Wasino² and Leli Yulifar³

Abstract

Pempek is one of the renowned dishes from Palembang, famous throughout Indonesia, particularly in South Sumatra. Crafted from a blend of ground fish meat, tapioca, water, and seasonings, this dish is typically served with *Cuko* sauce. The resulting flavor is a harmonious combination of saltiness, spiciness, and umami, thereby making *Pempek* an exquisite culinary creation. *Pempek* holds a significant place in the cultural, historical, geographical, and lifestyle identity of Palembang and has also endured through time. Therefore, this study explained the origin and development of the traditional food, *Pempek*, and its influence on society, ultimately shaping it as a Palembang identity. A historical approach was utilized in the study, which involved several stages, such as heuristics, source criticism, interpretation, and narration (historiography). The result showed that the production of *Pempek* depended on the availability of raw materials in the South Sumatra region, such as fish, sago, and brown sugar. Its history was traced back to the Srivijaya Inscription (682 AD) and the Sultanate of Palembang, a cultural hub that introduced various foods, including *Pempek*. The *Nginum* culture supported the development of *Pempek* distinct flavor and aroma, making it a daily staple. In the early twentieth century, *Pempek* started to be produced on a limited basis for sale, eventually becoming a widespread industry. The archives from various government and private sector events showed that *Pempek* has become increasingly famous in Indonesia and around the world over the last 20 years. This growth can be attributed to the fact that *Pempek* is a significant souvenir for migrants, a symbol of Palembang City, and has a positive impact on the local economy. Therefore, future studies need to explore developments in the production of *Pempek* and its impact on the economy of South Sumatra.

Keywords *Pempek*, Ethnic food, Ethnic identity, Historical research, Indonesia

Introduction

The concept and definition of traditional food have been widely explained from various perspectives, including expert, social, European consumer, and product ingredients[1]. Generally, traditional food is considered one

of the cultural elements and a significant component of the identity of people in a particular region. It refers to the daily food consumed by the local population, including staple foods, snacks, and specialties passed down through generations. These ingredients are processed using recipes that have been known for a long time and have become an integral part of the local culture [2, 3]. Over hundreds or even thousands of years, ethnic groups in Indonesia have developed farming methods and culinary arts that reflect their local cultural tradition. As a result, traditional food and culinary products are widely spread across various islands in Indonesia and represent a valuable cultural asset with a long history [4, 5].

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Traditional food is characterized by its local authenticity, which stems from natural resources and culinary techniques deeply ingrained in the surrounding environment and cultural tradition [6, 7]. Furthermore, it is closely tied to the transmission of generational knowledge, reinforcing its designation as a product with a denomination of origin [8]. Traditional food possesses distinctive sensory characteristics associated with regional identity and is highly valued by consumers [9]. Local products have emerged as a viable alternative to the growing popularity of foreign processed food products [4, 10].

Every region has a particular type of food that serves as a symbol of the local heritage and cultural pride, passed down from one generation to another [11]. One such example is *Pempek*, the renowned specialty of Palembang in South Sumatra, Indonesia [12]. *Pempek* is prepared using the following ingredients: ground fish meat, tapioca, and seasonings such as salt and granulated sugar. This dish is made from ground fish, meat, tapioca, water, salt, and sugar. It has become an integral part of the cultural identity, history, geography, and lifestyle of

the Palembang people. *Pempek* has endured to this day because of its unique value proposition compared to conventional foods, and its authenticity evokes cherished memories of the past [10, 13]. The popularity of *Pempek* extends beyond Palembang, as it is often sought after as a souvenir or a delicacy for visitors to the region [14, 15].

The geographical location of South Sumatra Province is closely tied to the existence of *Pempek*. This region is crisscrossed by major rivers, collectively known as Batanghari Sembilan, including the Musi River, Klingi River, Bliti River, Lakitan River, Rawas River, Rupit River, Batang Ari Leko River, Ogan River, and Komering River, which flow into the Musi river [13, 16, 17], as shown in Fig. 1.

The Batanghari Sembilan region is a significant source of fish, and fishing is a major livelihood for the local people. The variety of fish available in the region includes *belida* fish (*Chitala*), shark catfish (*Pangasius hypophthalmus*), giant snakehead (*Channa micropeltes*), cork fish (*Channa striata*), catfish (*Clariidae*), and *juaro* fish (*Pangasius polyuranodon*). Historical records from the nineteenth century indicate that cork fish, *lais* fish



Fig. 1 Map of Rivers in South Sumatra, Indonesia

(*Kryptopterus bicirrhys*), *gendut* fish, and *jangutan* fish (*Ompok hypophthalmus*) were the preferred fish at that time [18]. These fish are found in rivers and ponds across various regions [19].

The abundance of fish in Batanghari Sembilan serves as a source of livelihood for the local population. During the months of April–June, a rare event occurs after flooding known as the homecoming fish, where small fish such as *seluang* fish (*Rasbora argyryotaenia*), *mungkus* fish (*Schismatogobius risdawatiae*), *pisang-pisang* fish (*Pterocaesio diagram*), *julung-julung* fish (*Zenarchopterinae*), and others migrate upstream [20]. Additionally, fish preservation involves processing it with sago starch, which is derived from the trunk of the enau tree.

Based on its geographical location, coastal South Sumatra is generally unsuitable for agriculture. Early agriculture emerged and developed in the valleys of Bukit Barisan at about 500 m above sea level. Palembang City, a significant urban center situated to the east, has its rice and *enau* (*Arenga pinnata*) or sago (*Metroxylon*) starch procured from upstream areas [21] (the upstream areas are around Palembang City, so the stock of enau starch is abundant). This also encourages people in the eastern part of South Sumatra to utilize fish and enau starch to meet their food needs. The abundance of fish and enau starch inspired culinary creativity, creating various dishes, the most renowned of which is *Pempek*.

The study examined the historical background of *Pempek*, emphasizing the abundant availability of its ingredients in the surrounding environment. This natural abundance not only makes it easier to prepare delicious *Pempek* but also accounts for its widespread popularity among the people. Nature contributes significantly by providing essential raw ingredients, enhancing the delightful taste and ease of preparation. Additionally, the *Nginum* tradition in Palembang further reinforces its appeal. This tradition entails people gathering to chat and rest around 10 am and 4 pm, during which *Pempek* is served because it is the most favored food due to its deliciousness, ease of preparation, and affordability. As a result of these factors, this dish has become an integral part of Palembang City's development and identity. These unique attributes set it apart from preliminary studies on the subject.

Culinary heritage is considered a global asset and local resource that provides opportunities to foster historical narratives with respect to the social, environmental, economic, and political aspects [22]. Based on prior studies, exploring the localized aspects of *Pempek* as a traditional food, from its historical origins to its role in shaping the identity of Palembang City, proves to be an engaging endeavor. The main focus of this study is the historical emergence and development of *Pempek* and

its significant influence on the local population, thereby making it an integral part of Palembang's identity. In order to clarify this issue, several key questions will be addressed: (1) What is the historical emergence of *Pempek*? (2) How did it evolve over time? (3) What impact has it had on the local population? (4) What evidence supports its status as a symbolic element of Palembang's identity? The primary objective of this study is to provide an in-depth exploration of the history of *Pempek* as a traditional dish, its evolutionary journey, and its significant influence on the community, ultimately bolstering its status as a defining element of Palembang City's identity.

The study area focuses on the production and marketing processes of *Pempek* in Palembang, especially in South Sumatra. This investigation aims to explore the critical role played by the rivers and natural resources in this region in terms of shaping local culinary traditions and nurturing a unique cultural identity [23, 24]. The rivers in this area contain a diverse array of fish, serving as the primary raw ingredient for preparing *Pempek*. The present study analyzed how these natural resources, in conjunction with the supportive Palembang community, interact to shape the cultural identity of the city.

Study area

The study area is related to locality and culture, focusing on Palembang City as a cultural area as well as a center of government and trade. This position has existed since the time of the Sriwijaya Kingdom until now. So, Palembang is the center of power, economy, and civilization, because it is the foundation for the inland population with the products they produce (agriculture, plantations, forest products) to be traded in Palembang, as well as buying imported goods. As a result, the city became the barometer of the "face" of South Sumatra Province. Culture rested in this city, and then spread throughout the region through the Batanghari Sembilan Rivers.

Literature review

The present study focused on a series of related reviews of ethnic foods. Chairy and Syahrivar [25] conducted a study on the traditional food of North Sumatra, known as *Bika Ambon*, a locally made cake prepared with eggs, tapioca starch, sugar, and coconut milk in addition to its ingredients are readily available in the region. This dish has become a culinary attraction in North Sumatra, attracting both local and international tourists to Medan. Fatimah et al. (2021) carried out a similar study in West Sumatra, examining *Rendang Lokan*, a variation of *rendang* made from clams (*Lokan*) [11]. The study investigated how this dish reflects the unique characteristics of the Minangkabau community and its ability to adapt to local environmental conditions while preserving cultural

identity. *Rendang Lokan* originated in coastal Minangkabau communities, adapting to local natural resources and economic circumstances. Furthermore, Rajagukguk and Arnold [26] conducted a study on *Tempoyak*, a traditional food widely consumed by the Malay community in Southeast Asia, particularly in Indonesia and Malaysia. It is produced through the fermentation of durian fruit mixed with salt and has become an integral part of Malay tradition, especially during the durian season. The three previous writings above show that traditional food can be the identity of a region. The existence and sustainability of these foods are closely related to the community's ability to adapt to the natural environment in which they live, ensuring that the raw materials are readily available.

This study focuses on the comprehensive exploration of *Pempek* as a traditional food, covering a wide range of topics, including its production, processing, marketing, and socio-cultural significance. Multiple studies have contributed to the understanding of *Pempek* from various perspectives. Nofitasari [27] studied the nutritional quality and taste of *Pempek*, particularly focusing on the use of different fish types as the main ingredient. Tarmizi [28] studied the use of milkfish (*Chanos-chanos*) garnished with blood cockle (*Anadara granosa*) in *Pempek* preparation. Dewi [29] examined how the *mocaf* and cornflour ratio, as well as the boiling time, influenced the organoleptic characteristics of snakehead fish (*Channa striata*) in *Pempek* preparation. Wahyudi [30] analyzed the chemical, physical, and organoleptic characteristics of *Pempek lenjer* made from sea and freshwater fish. Alhanannasir et al. [31] conducted an analysis on freeze-drying, pressure, cooking time, density, and lightness of instant *Pempek*. Dwipa and Wachidyah [32] studied the production of snakehead fish *Pempek* with sago starch substitution as a thickening agent, using organoleptic tests to observe various quality aspects such as color, aroma, texture, and taste. Ririsanti et al. [33] investigated the impact of carageenan on the preference for catfish *Pempek*. Lastly, other previous studies, especially those conducted by Veronica, Febriani and Sari [34], investigated the development of entrepreneurship in communities producing rice-based *Pempek*. These studies collectively emphasize the diversity of *Pempek*, relying on various fish and shellfish types, different flour, and varying preparation

methods, all of which significantly influence its organoleptic characteristics.

The present study also focuses on the production and marketing efforts of *Pempek*. Pambudhi et al. (2018) explored the establishment planning of a modified local Palembang food business named *Pempek Beranak* in the Jember area of East Java [35]. This venture introduced a distinct name and appearance for *Pempek*, exhibiting innovative approaches in the traditional cuisine context. Similarly, Ananda and Tahiruddin [36] investigated strategies for incorporating technology into the handling of *Pempek* fishery products with the aim of enhancing their economic worth. These efforts exemplify attempts to elevate the economic value of this traditional food through technological advancements and diverse variations. The social and cultural dimensions of *Pempek* are also explored in academic works. Efriyanto et al. [37] conducted an inventory of the most significant traditional foods in Palembang, emphasizing the history, concept, and role of *Pempek* in this community. Wargadalem [12] stated that *Pempek* is a symbol of Palembang identity, tracing its historical evolution from the era of the Sriwijaya Kingdom. The study also focused on the significant role of this ethnic food in improving the economic well-being of families in this City.

Method

This qualitative study adopted narratives a method rooted in the philosophy of history. It aims to interpret the past by skillfully connecting various seemingly disjointed and unstructured facts into a coherent narrative [38–40]. This approach is applied to clarify the multifaceted aspects of *Pempek*, commencing from its historical origins to the transformation into the most preferred traditional cuisine in Palembang. Primary data collection (heuristics) were collected through archival colonial searches, such as Indonesia National Archives (Jakarta), Palembang Bundle Number 62.2, because they are contemporaneous in the historical method. Furthermore, primary data were gained through field observations of the manufacturing process of *Pempek* and conducting in-depth interviews with 30 informants. Table 1 below illustrates a sample from this research.

Table 1 Sample of study

Category	Total outlets	Stall size	Workers	The quantity of raw materials	Equipment
Small-Medium sized Enterprise (SME)	4	2/3 m–23 m	2–10 workers	5 kg–10 kgs/day	Manual
Medium-Large Enterprise (MLE)	5	24 m–80 m	11–33 workers	11 kg–100 kgs/day	Machine

The informants interviewed were categorized as follows: there were four small and medium-sized business owners, and five medium-large enterprise owners. Informants from the "consumers" category consisted of eight individuals, informant from the "workers" category totaled ten, two historians, and two cultural experts. The interviews took place over a period of 30 to 60 min and covered topics such as history, philosophy, raw materials, recipe variations, sales, influence, and significance for the people of Palembang. Observations were conducted at Pempek production sites in Palembang, ranging from small-scale businesses (such as, in the 26 Ilir area, see Fig. 9) to medium and large-scale operations, for instance, *Pempek Pak Raden*, *Pempek Beringin*, *Pempek Flamboyan*, *Pempek Sentosa*, *Kemas*, and others, see Fig. 10). Secondary data were obtained from journals, books, and internet sources. Medium-sized *Pempek* businesses are typically characterized by the quantity of raw materials used. For example, at *Pempek Sentosa*, each production run requires hundreds of kilograms of tapioca starch and ground fish, mixed with water in a 1:1 ratio, resulting in a variety of *Pempek* types, shapes, and flavors. The high quantity of raw materials leads to machine processing. The size of stalls in small to medium-sized *Pempek* businesses ranges from two to 23 m, while medium-large enterprises can have stalls measuring from 24 to 80 m. The number of employees in small to medium-sized businesses typically ranges from 2 to 10 individuals, while medium-large enterprises employ 11 to 33 people. The daily use of raw materials (tapioca starch and fish) in small to medium-sized businesses is typically in the range of 5 to 10 kg, while medium-large enterprises use 11 to 100 kg per day. Small to medium-sized businesses often still manually produce *Pempek*, while medium-large enterprises use machinery for grinding and mixing.

Workers are responsible for all processes, starting from the purchase of raw materials, processing *Pempek* from scratch to presentation, and sales. Observations were focused on raw materials, the equipment used, the manufacturing process, cooking, and the sales process. In one of the industrial *Pempek* production facilities, it was found that all workers must maintain cleanliness (both in terms of personal hygiene and attire). All equipment used in the manufacturing process, raw materials, and the production area must be kept clean to ensure the production of quality products (this is a standard set by the Food and Drug Supervisory Agency of Palembang City's Health Department). In general, these standards apply to other *Pempek* production businesses in the city as well. The main constraints in this research are the significant costs associated with studying a larger number of *Pempek* businesses. Apart from that, time and effort pose challenges

in reaching respondents and locations related to *Pempek* products and sales.

Result and discussion

History of *Pempek* food

Humans have given meaning to food since prehistoric times, shaping cultures by deciding what kind of animals or ingredients to use, when to prepare food, and why it should be served [25]. Initially, *Pempek* was referred to as *Kelesan*. Based on an interview with Nurjanah (July 10, 2022), it was mentioned that *Kelesan* means ingredients consisting of cleaned fish meat that has been "*Pirik*" (mashed or crushed). The fish meat is mixed with tapioca starch, salt, and water. Everything is "*Kelesed*" into one, formed into elongated rounds, and boiled. "*Pirik*" involves pressing with a tool called "*Piri'an*," which is made of which is made of round, slightly oval-shaped brass with a radius of around 8–10 cm. The bottom of the tool has holes, allowing the mashed meat to come out through these holes.

Since the era of the Palembang Sultanate, spanning from the 17th to the nineteenth century, *Kelesan* has held a special place in the homes of the Palembang community. The evolution of this culinary tradition has been influenced by elements from both Chinese and Arab cultures [41, 42]. Specific culinary dishes were developed in the palace, leading to various traditional foods enjoyed by different groups today, for example, *Bolu Delapan Jam* (cake made with eggs, sugar, butter, cream, and margarine, which is steamed for eight hours), *Engkak Ketan* (cake made from sticky rice flour, eggs, sugar, and baked), *Maksubah* (cake made from eggs, sugar, cream, butter, and baked). As time passed, the dishes that were once exclusive to sultans and nobles became available to people of all social statuses.

With the growing recognition of *Kelesan* within the community, its production expanded, leading to the emergence of viable businesses. The women who prepared this dish needed sellers to expand their sales outreach, and they decided to employ the Chinese, who were primarily engaged in trade. These sellers, who are mostly men, initially sold *Pempek* around the *Guguk Pengulon* area (A group of people who live around the mosque and are responsible for caring for the Palembang Agung Mosque), which was partly submerged in water in the early twentieth century, mandating the need for the use of boats. As land reclamation efforts commenced in the early twentieth century, these resellers transitioned to selling *Kelesan* door-to-door [37, 43]. The Chinese male resellers were known as "Apek", and customers called out "Pek, empek" when they wanted to buy *Kelesan*. This habit of calling out "pek...mpek" gradually led to the name *Kelesan* being changed to "Pempek/Empek-empek",

with *Kelesan* becoming one of the wide varieties of *Pempek* [44, 45].

Pempek contains many nutrients and functional compounds, which include proteins, carbohydrates, vitamin E, fats, and minerals. Fish is an essential component of the human diet, providing proteins with all necessary amino acids, lipids with omega-3 fatty acids, and other vitamins and minerals [46]. Consumption of fish is beneficial to human health and helps prevent cardiovascular diseases. Several epidemiological and clinical studies have been conducted to determine the health effects of fish consumption [7, 47, 48]. There are significant studies from various countries in Asia concerning the preventive and promotive health links between traditional food practices and increased life expectancy [49]. Conversely, the major rivers in South Sumatra have abundant fish species, including *belida* (*Notopterus chitala HB lopis*), *gabus* (*Channa striata*), *sepat siam* (*Trichogaster pectoralis*), *toman* (*Channa micropeltes*), *kehung* (*Channa lucius*), *tenggiri* (*Scomberomorus*), *kakap merah* (*Lutjanus argentimaculatus*), and *parang-parang* (*Chirocentrus dorab*). Among these, *tenggiri kehung*, and *parang-parang* are the most commonly used [37, 50]. *Tenggiri* is the most widely used ingredient in preparing *Pempek* due to its richness in marine fat, making it beneficial for human health [51]. The two main ingredients of *Pempek* are preserved in the form of *Kelesan*. This traditional food is easy to make and uses various types of fish, including *putak* (*Notopterus chitala HB lopis*), *gabus* (*Channa striata*), *sepat siam* (*Trichogaster pectoralis*), *toman* (*Channa micropeltes*), *bujuk* (*Channa lucius*), *tenggiri* (*Scomberomorus*), *kakap merah* (*Lutjanus argentimaculatus*), and *parang-parang* (*Chirocentrus dorab*). According to studies, mackerel, *parang-parang*, and *gabus* are the most widely utilized types of fish [37, 50]. *Tenggiri*, a fatty fish and a good source of marine fat, is one of the most widely used raw materials for making *Pempek*, and its consumption is beneficial for human health [51].

The Sriwijaya Kingdom *Talang Tuo* inscription from 684 AD is the oldest source of information about sago. The inscription stated the following, "...may what is planted here, coconut, areca nuts, enau, sago, and various trees, their fruits can be eaten...". The inscription mentioned a variety of plants, including coconut, areca nuts, enau, sago, and other fruit-bearing trees, planted in the *Criksetra* garden for the benefit of all beings by King Dapunta Hyang Sri Jayanasa. Pollen analysis of the *Talang Tuo* site soil confirmed the existence of a diverse range of plants, including those belonging to the *Palmae*, *Graminae*, and *Annonaseae* families, as written in the inscription. Some plants, such as the *Palmae*, *Graminae*, and *Annonaseae* families, are still

found in the location [52–54]. Sago and enau trees are still prevalent in South Sumatra, and their trunks can be processed into starch. Although currently, *Pempek* is processed from tapioca (*Manihot esculenta*) starch, the name remains "sago". In addition, sugar can also be derived from coconut trees, and both types of sugar are crucial ingredients in making *Cuko* (*Pempek* sauce). The significance of *Cuko* cannot be overstated since it is an essential component of *Pempek*.

Pempek is traditionally served alongside *Cuko* sauce, an essential component of this dish. *Cuko* sauce is prepared by boiling water, brown sugar, tamarind, garlic, chili, and salt. The brown sugar used in the sauce is obtained from enau or palm trees and cooked until it transforms into a solid reddish form. It is also obtained from coconut fruit water and cooked until it solidifies. *Cuko* sauce is inseparable from traditional food, to the extent that there is a saying, *cuko dak becuko, tengah duo*, translating to the selling price of *Pempek*, which remains the same even without this dish. This implies that when *Pempek* is purchased, it is automatically served with *Cuko* sauce.

During the Sultanate of Palembang (seventeenth–nineteenth century), traditional food made from fish and tapioca starch flourished, particularly in Palembang. As the center of government, Palembang is the focus of the *Uluhan* (inland) community, making it a hub for the development and sale of *Kelesan* [18, 55]. Additional supporting data come from the customs of the Kayu Agung community in South Sumatra, who use *Kelesan* as a snack while trading and carry pottery made of clay. According to Novi:

The people of Kayu Agung have a tradition where, when a young person gets married, their parents provide capital in the form of a boat and pottery tools like water containers, rice storage jars, rice cookers, stoves, piggy banks, children's toys, and so on. All of these items are transported by a Kajang boat (a traditional boat) that also serves as a house. Household necessities are exchanged through barter with the products of the communities they visit, resulting in the exchange of pottery items for rice, tapioca starch, and more. Tapioca starch and fish from their catch are processed into Kelesan (interview conducted on June 5, 2022).

There are quite a few of these items, fitting the size of the *Kajang* Boat (a traditional boat). The newlyweds will navigate the rivers until they have sold all their items, simultaneously introducing the method of making *Kelesan* (selling and teaching how to make it). Therefore, *Kelesan* is a cultural creation of the riverine communities. *Pempek* is distributed throughout South Sumatra via the Batanghari Sembilan River. For instance, the

name 'Kelesan' becomes 'Kalosan' in the Komering area, according to the local dialect.

The process of making and eating *Pempek*

Pempek is a widely popular appetizer or side dish in Palembang, and it can be enjoyed at any time [37]. This traditional food is readily available in various locations, such as street and roadside vendors, as well as stalls and restaurants. Similar to other food industry sectors, the traditional food sector should continue to innovate and develop its products to maintain or expand market share and profitability [56]. Over time, this traditional food has evolved in terms of types, ingredients, shapes, and sizes, culminating to 21 varieties.

The Palembang people have learned that any food made from fish and sago mixed with water to form a basic dough can be called *Pempek*. It is from these ingredients that *Pempek* is made and developed into a variety of foods. Initially, it was only consumed as a preserved food known as *Kelesan*, prepared by boiling and frying and consumed immediately. Most Indonesians love spicy food. Therefore, chili and its derivatives are often added during the cooking process or as a complement to the dish [11]. This causes *Pempek* to change by adding a sauce called *Cuko*, made from brown sugar, chili, and garlic. Other developments are given coconut milk sauce called *Celimpungan* and *laksan*, seasoned sauce called *Tekwan* and *Model*, and additional noodles called *Rujak Mie*. Currently, *Pempek* has expanded to include sausage, cheese fillings, and even colorful varieties.

The basic ingredients of *Pempek* are ground fish meat and sago obtained from the Palembang traditional market. The fish include *tenggiri*, *kakap merah*, *parang-parang*, and others, which are usually imported from

Sungsang (Musi River estuary) [12, 18, 57]. Several tons of fish are brought into Palembang in large amounts daily. For example, Hen (30 years old) can collect and distribute three tons of *tenggiri* daily to traders in traditional markets. In such markets, the fish are cleaned, and the meat is removed and ground using a special grinder (as shown in Fig. 2). Furthermore, it is marketed directly to *pempek* entrepreneurs or individuals. One of the buyers, a *Pempek* entrepreneur named Bude (50 Years old), stated:

I buy ground fish meat from the Kuto traditional market. They deliver it to my house on average 20 kilograms every day. I usually use parang-parang fish and snapper fish, which are processed into pempek and sold from morning to evening in the Kuto Market (interview conducted on Aug 20, 2022).

Ground fish and sago or tapioca are prepared by mixing 1 kg fish meat, $\frac{1}{2}$ L water, and $\frac{1}{2}$ kg sago, salt to taste, three eggs, and seasonings to make *Pempek* dough (as shown in Fig. 3). The result can be processed into various kinds of *Pempek*, either eaten with *Cuko* or sauce. The type of *Pempek* can also be distinguished based on the cooking method, such as boiled, steamed, fried, or *Tunu* (grilled), as shown in Figs. 6 and 8.

The basic dough can be molded into various shapes, including the lengthwise *Pempek Lenjer* in both large and small sizes. The *Lenjer Besak* (large) is boiled until it floats and then drained, cut into pieces, and served immediately. Meanwhile, *Pempek Kecil* (small) is boiled like a large one and with the same ingredients. *Pempek Keriting* is made using the *piri'an* tool (*Pempek* maker by pressing) and boiled until cooked. *Pempek Ada'an* is made by mixing ground fish meat, water, salt, sugar, sliced shallots,

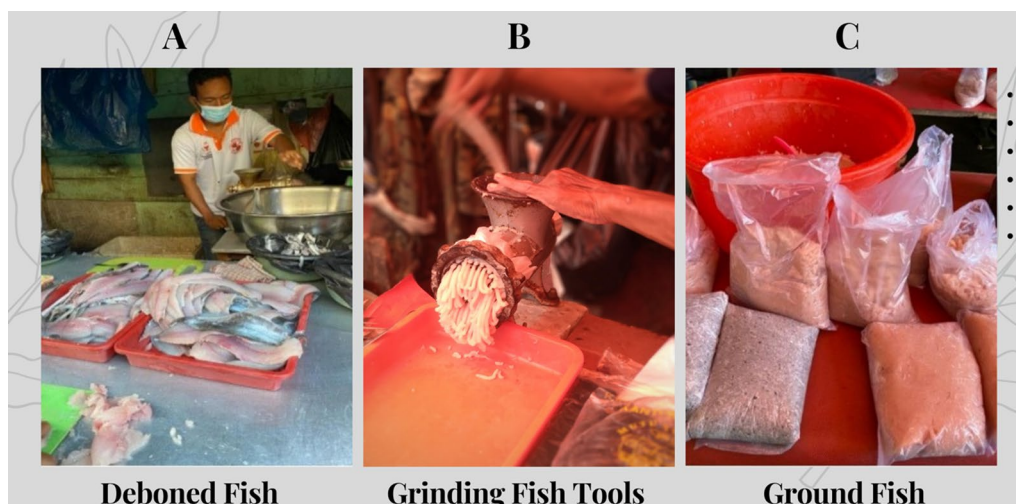


Fig. 2 Ground fish Meat. Source: Private Documentation by Farida R. Wargadalem

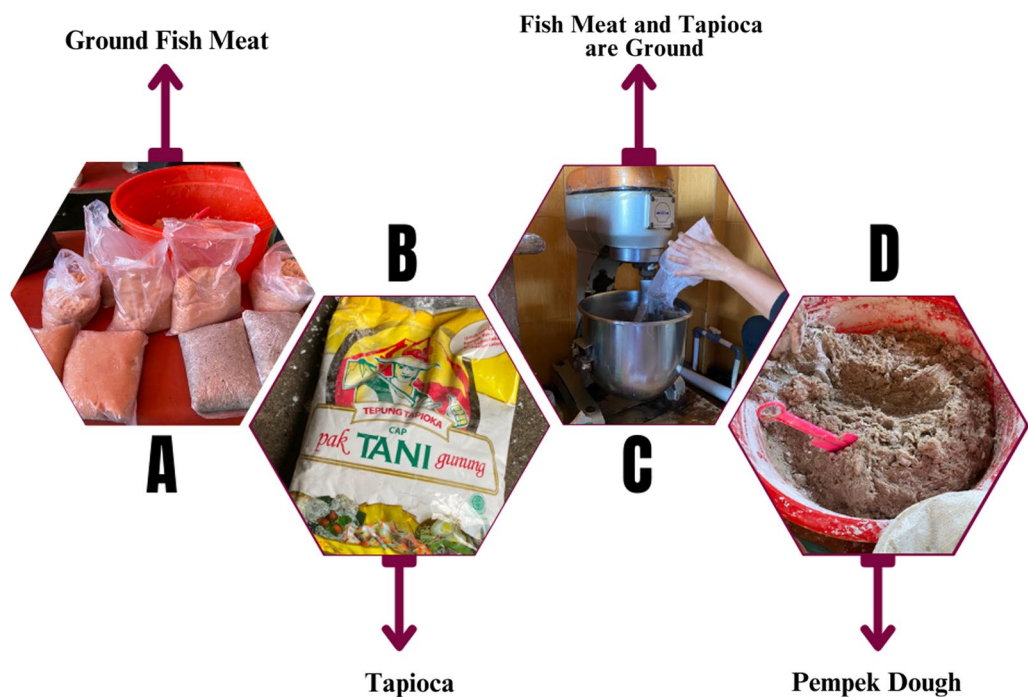


Fig. 3 How To Make *Pempek* Dough. Source: Private Documentation by Farida R. Wargadalem

sliced green onions, coconut milk, sago, and eggs until a soft dough is formed with a distinctive smell. The basic ingredients of *Pempek Ada'an* are slightly different than other types, with less sago, spring onions, sliced shallots, eggs, and a smaller amount of coconut milk, resulting in a softer dough with a unique smell (as shown in Figs. 4 and 5).

There are several variations of *Pempek*, which are made with additional ingredients, including *Pempek Kapal Selem*, *Pempek Telok*, *Pempek Lenggang*, *Pempek Tofu*, *Pempek Martabak*, *Rujak Mi*, and other (as shown

in Table 1). *Pempek Kapal Selem* and *Pempek Telok* have the same shape and contents, with *Pempek Kapal Selem* concave and filled with one egg, while *Pempek Telok Kecil* is slightly flattened and filled with a little beaten egg. *Pempek Tofu* is filled with tofu and deep-fried, with the softer dough spread over the tofu slices first (as shown in Fig. 6). Another variation is *Pempek Pistel*, which is filled with sautéed young papaya slices, shallots, garlic, crushed *ebi* (dried shrimp), and ground pepper before being fried or boiled. *Rujak Mi* consists of cooked *Pempek* combined with noodles, cucumber



Fig. 4 How to make *Pempek*. Source: Private Documentation by Farida R. Wargadalem

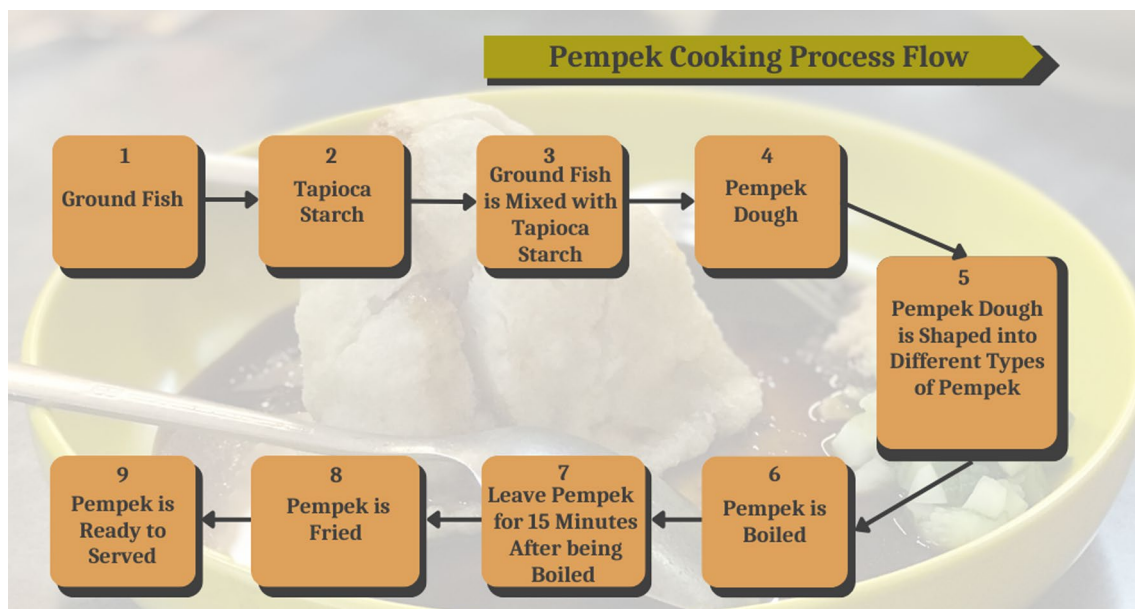


Fig. 5 Pempek cooking process flow



Fig. 6 Various types of *Pempek*. Source: Private Documentation by Farida R. Wargadalem

slices, vermicelli, and tofu slices and is typically served with *Cuko* (as shown in Fig. 8).

There are three types of *Pempek* that are cooked using hot coals with the dough formed into flat rounds and sprouts. The cooking process involves turning *Pempek* until it is fully cooked. Once cooked, it is split open, filled with *ebi* dough and seasonings, and served with *Cuko*. Another grilled *Pempek* is "*Lenggang*", which is "*Pempek Lenjer*" sliced and put into a beaten egg and

grilled in a bowl made of banana leaves and eaten with *Cuko*.

Cuko plays a significant role as the primary condiment served with *Pempek*, as shown in Fig. 7. Its ingredients include coconut or brown sugar from *Lubuk Linggau* Regency (a sales center), garlic, and chili. The composition is as follows: half a kilogram of granulated sugar, sweet soy sauce, tamarind, and a quarter kilogram of brown sugar, garlic, and chili, cooked together in 800 ml

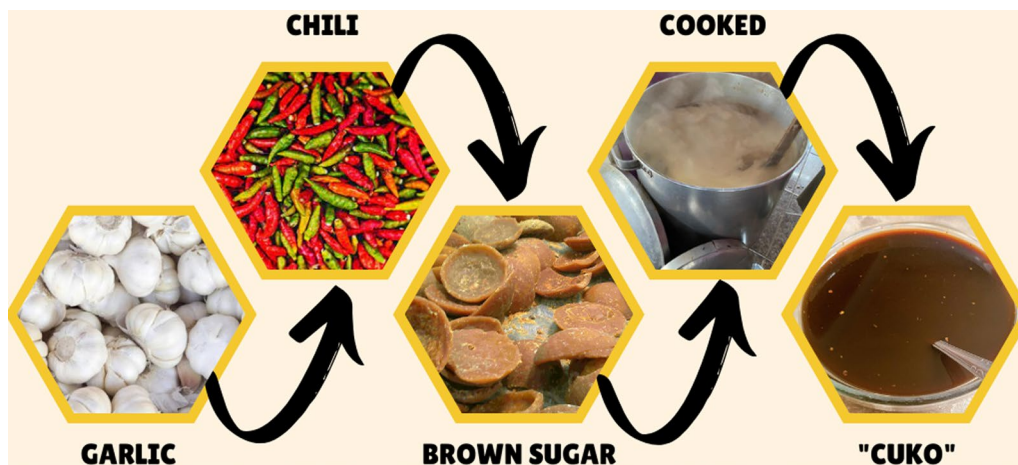


Fig. 7 The process of making *Cuko* Sauce. Source: Private Documentation by Farida R. Wargadalem



Fig. 8 A new type of modified traditional food made from *Pempek*. Source: Private Documentation by Farida R. Wargadalem

of boiling water. After the boiling process, the mixture is allowed to rest for a while, and it is then ready to be served alongside *Pempek* (as shown in Fig. 7).

Another variation of *Pempek* served with a flavored broth is *Tekwan* and *Model*. *Tekwan* is prepared by making a soft dough shaped into small thumb-sized rounds, which are then boiled in hot water. Immediately, it starts floating on the surface, and these are lifted and sieved. The broth is prepared by boiling medium-sized shrimp pieces in water. Subsequently, a mixture of finely ground spices (garlic and chili), slices of spring onions, water-soaked glass noodles, slices of jicama fruit, wood ear

mushrooms, chives, salt, and vinegar are added. This aromatic broth is served warm and garnished with crispy fried shallots. *The Model* has the same broth as *Tekwan* but a slightly different shape. The finished *Pempek* dough has a palm-sized shape, filled with slices of tofu, and boiled in hot water. It is cut into pieces and then served with broth alongside sweet soy sauce, ground chili, slices of celery leaves, and a sprinkling of fried shallots (as shown in Fig. 8).

Other types are *Celimpungan* and *Laksan*, which are still categorized as *Pempek* because the basic ingredient is *Pempek* dough with coconut milk. *Celimpungan*

is a round ball similar in size to a ping pong ball, and the sauce is made by seasoning coconut milk with shallots, garlic, candlenut, turmeric, ginger, white turmeric, fingerroot, lemongrass, and salt. After cooking, all the seasoning ingredients are mashed and sautéed, then mixed with slightly hot coconut milk and served with fried onions. *Laksan*, characterized by its slightly reddish-yellow color, is made using the same dough as *Celimpungan* but flattened out into a wider shape. It is then cooked in a pot of coconut milk, which is seasoned with mashed spices, including shallots, garlic, galangal, red chilies, bay leaves, salt, and a little sugar (as shown in Fig. 8). *Pempek* is enjoyed in various settings, from being served in homes and sold on the roadside to traveling vendors, restaurants, cafes, and hotels, each with their loyal customers.

Another example is a group of people from Java who started producing and selling *Pempek* by traveling from one place to another. Over time, their efforts expanded, and they were able to purchase bicycles and motorcycles. The production site is now a hub with affordable prices, charging IDR 1000 or USD 0.068 per *Pempek*. Therefore, this shows that becoming a *Pempek* entrepreneur is feasible for locals and immigrants (Fig. 9).

Food can be a powerful symbol of identity and social cohesion [58], and in Palembang, women often make *Pempek* for breakfast because it is easy to make with widely available raw materials. When fish, which is the traditional base product used, is unavailable, housewives become creative and use various ingredients to make different types of *Pempek*. Although the global food system is highly homogenized and relies on a few major staple crops such as rice, wheat, and corn, many people in different countries still use traditional plant-based ethnic foods [59]. For example, in Palembang, wheat flour mixed with water is cooked and thickened, then eggs and sago are added to make *Pempek Ada'an*. They also process sago starch with hot water and add eggs, sliced spring leeks, and onions. It is then fried with a "dos... dos" sound and called *Pempek Dos*. *Pempek Godo-Godo* is made by mixing flour, eggs, sliced vegetables, and water, then frying the mixture. *Pempek Nasi* (rice) uses leftover rice from the night, processed in the morning by mashing it, adding eggs and salt, stirring in sago, and frying. Other varieties of *Pempek* are made by incorporating ebi, *ragu* shrimp, and other ingredients into the batter and frying it, then serving it with *Cuko*. *Cuko* is a sauce made with garlic, brown sugar, chili, and tamarind, and can be



Fig. 9 *Pempek 26 Ilir Palembang Traditional Market Center*. Source: Private Documentation by Farida R. Wargadalem

served warm with water called *Cuko ada'an*. In the olden days, chili was not included in the *Cuko*. Therefore, it could be eaten by children (Table 2).

The popularity of *Pempek* has led to its maintenance and growth even currently, with efforts to preserve its recipe and serving procedure for future generations. Therefore, to maintain its taste, raw materials are still imported from Palembang, despite the spread of *Pempek* businesses across different cities in Indonesia. *Pempek* is an integral part of the culture of the Palembang people

and is typically served during *nginum*, a social gathering carried out from 10.00 am to 04.00 pm, where parents discuss their daily lives. *Pempek* is the preferred food item during such gatherings because it is the easiest to make and serve. With its unique blend of sour, spicy, salty, and sweet flavors, *Pempek* is widely popular among people of all ages and ethnicities.

The *Pempek* industry has experienced rapid growth over the past two decades, evolving from a daily food staple during *nginum* to a small-scale home-based and large-scale industry. *Pempek Pak Raden* is a pioneer in this industry, and it is professionally managed with significant capital (as shown in Fig. 10). The popularity of this traditional food has spread throughout Indonesia. Interestingly, the owner of this business still sources raw materials from Palembang and employs local workers to maintain the special flavor, particularly *Cuko*. Other *Pempek* entrepreneurs also follow suit by sourcing ingredients from their origins to ensure taste and quality [60].

The popularity of *Pempek* has grown significantly in Indonesia, and Palembang has become synonymous with this traditional food. One of the driving factors is the various sports events, such as the 2004 National Sports Week (PON) [61], the 2011 Sea Games [62, 63],

Table 2 Various types of *Pempek*

Number	Variation	Number	Variation
1	Lenjer/Kelesan	9	Pistel
2	Lenjer Kecil	10	Gendeum
3	Keriting	11	Godo-godo
4	Adaan	12	Martabak
5	Kapal Selem	13	Rujak Mie
6	Telok Kecil	14	Tunu
7	Tahu	15	Lenggang
8	Warna-Warni		



Fig. 10 *Pempek* Restaurant. Source: Private Documentation by Farida R. Wargadalem

the International Musi Triboaton (IMT) since 2012 [63], the 2013 Islamic Solidarity Games [64], the 2014 ASEAN University [62], the 25th Asian Triathlon Championship in 2017 [63], and the 2018 Asian Games [65]. Furthermore, *Pempek* holds a special significance during various economic, social, cultural, and religious events, both at the national and international levels. It is a favorite delicacy that is enjoyed and often taken as a souvenir during these occasions. As a result, its demand increases, encouraging more people to engage in this business. Based on data from the Ministry of Cooperatives and SMEs of The Republic of Indonesia in 2021, there are currently 3,006 *Pempek* SMEs in Palembang City. This information was obtained in the second year since the outbreak of the COVID-19 pandemic. At the initial stages of the pandemic in 2020, there was an 80% decrease in the sales turnover of SMEs in Palembang City, totaling 45,827 across the entire region (Source: Department of Cooperatives and SMEs of Palembang City, 2020, and 2021). It is evident that the number of SMEs has significantly increased compared to the pre-COVID-19 period when there were only 3000+ business players. This indicates that *Pempek* has made a substantial contribution to the rise in domestic income. From the aforementioned explanation, it is also evident that this traditional food is the identity as well as one of the defining characteristics of Palembang City.

Conclusion

The presented findings indicate that the availability of raw materials such as fish, tapioca starch, and palm sugar in the local environment provides an opportunity to be utilized in the best way, namely in the creation of the traditional food, *Pempek*. The existence of this food is supported by the cultural practice of "nginum," which has developed in the community. This culture involves gathering and eating twice a day for a short break after working in the fields, trading, and other activities. The most easily prepared food for these occasions is *Pempek*, which has led to the further development of *Pempek*. In the early twentieth century, *Pempek* began to be marketed from house to house, even to villages. This condition has continued to develop until today.

This research provides an understanding that an easily accessible culinary product with an affordable price (price determined by variations in shape and flavor), featuring a distinct taste, has been able to attract the interest of all local and immigrant communities. As a result, Palembang, South Sumatra, has become synonymous with *Pempek*. All of this has had a significant impact on the economy, benefiting small, medium, and large-scale entrepreneurs, and it has also expanded to various regions throughout Indonesia. This has contributed to

enhancing Palembang's image as the place of origin of the culinary dish, *Pempek*. This article has successfully portrayed the importance of preserving and developing traditional food. Various innovations offer opportunities for traditional food to continue evolving in the future. However, this research still has limitations, such as a lack of in-depth analysis of the challenges faced by *Pempek* entrepreneurs, which should be a focus for further research. Additionally, limited time and inadequate funding are constraints in developing this study. These circumstances provide opportunities for further investigation, both by the author's team and other researchers.

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Author contributions

Farida R. Wargadalem contributed to data collection, editing, and writing. Wasino contributed to the methodology and corrections. Leli Yulifar contributed to the data collection.

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Availability of data and materials

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declarations

Ethical approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The author declares that he has no conflict of interest in the publication of this research. This study did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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