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Diversity of Indonesian soto

Bara Yudhistira^{1*} and Ani Fatmawati²

Abstract

As an archipelago country, Indonesia has a variety of ethnicities and cultures. In addition to local cultures, Indonesian culture has been influenced by a diversity of external cultures and foods in its development. One of the foods influenced by a culture from abroad is soto. Soto is varied, and its varieties are found in different regions throughout Indonesia. Soto is a food of Chinese origin that has been acculturated and adopted by Indonesian local cultures such as the Javanese, as well as by several other countries including India and Europe. During its development, soto was adapted to the cultures and natural resources found in each region of Indonesia, forming unique varieties of soto according to the ingredients used. Up to 75 unique forms of soto were identified in this study. Varieties of soto are distinguished by the type of broth and herbs used.

Keywords: Indonesian cuisine, Herbs, Soup, Spices, Traditional food

Introduction

As a large country, Indonesia has a large variety of regional specialties and more than 5300 native Indonesian foods [1]. More than 300 indigenous ethnic groups are found in Indonesia, each with a variety of traditional foods [2]. Soto is one of the Indonesian culinary icons that are easily found in almost every region in Indonesia in many different forms. Regions that have a certain soto with particular characteristics can make soto an icon of the area. This regional icon can be significant to the identity of the area. In 2012, the Ministry of Tourism and Creative Economy of the Republic of Indonesia established 30 Indonesian culinary icons [3]. In 2011, the results of the CNN survey named 40 different varieties of soto as Indonesian delicacies [4]. Soto was chosen as one of Indonesia's culinary icons and is a part of Indonesian diplomacy; therefore, it will always be presented at official international meetings and banquets [5].

Because soto is an authentic Indonesian culinary icon, it will be presented at state dinners. Soto, also called Indonesian soup, is expected to become popular in other countries. The selection of soto as one of Indonesia's

culinary icons is based on its widespread occurrence [6]. It is easy to find soto everywhere because soto can be found in almost all regions of Indonesia. Furthermore, soto can be categorized as a universal food because it can be served at many types of occasions and can be enjoyed by various ethnic groups. Soto can also be served at any time: morning, afternoon, or evening. Therefore, it is appropriate that soto was chosen to be one of Indonesia's foods of diplomacy. At present, the Republic of Indonesia Creative Economy Agency (Bekraf RI) encourages soto to be better known to the world so that it can benefit Indonesian foods [3].

Soto illustrates the Indonesian concept of *Bhinneka Tunggal Ika* (Unity in Diversity) in Indonesian food. Serving a soto menu follows the way of the ancestors by saving meat or other protein ingredients. In the past, most Indonesian people lived in large families with many children. With limited economic capacity, parents still wanted to provide the best food for their children to allow for their optimal growth. Soto is a healthy and delicious alternative menu. Soto already contains meat as a source of protein; vegetables as a source of fiber and vitamins; and rice, rhombus rice (*ketupat*), rice cake (*lontong*), potatoes as sources of carbohydrates. These three main categories of ingredients are served in a hot condition [7].

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Main text

History of soto

Soto is one of Indonesia's culinary categories that includes soupy dishes made from meat or vegetable broth and contains shredded meat or chicken, vermicelli, and bean sprouts, among other ingredients. It is usually served with rice or rice cake [8]. Although soto is a part of the Indonesian culinary tradition, it is not originally from Indonesia. In *Cross Java culture: the Asian network* (1996: 488) by Denys Lombard, it was said that soto comes from the word *cao du* (*chau tu*), which is a Chinese word [9]. The word *sao du* (*sao tu*) or sio to in Hokkien is the origin of the word soto [10]. Thus, the word *cao* means grass, *shao* means cooking, and *du* means stomach, beef offal, or tripe [11].

The relationship between Indonesia and China has a very long history. The Indonesian Archipelago plays a significant cultural and economic role in the Nanyang region, an area bordering the South China Sea. The archipelago has long been a melting pot, and as natural acculturation and assimilation have occurred throughout Indonesia, substantial changes have occurred in local cuisine [12]; food, clothing, and speech constitute the primary elements of performativity as an indigenous population assimilates [13, 14]. Because Javanese people have been in contact with China since time immemorial, it is likely that this north Javanese coastal community is indeed descended from China but has long “answered”, at least from the Kublai Khan expedition to Singhasari in the 12th century until the 15th century Sam Po Kong, and more intensely from the 18th century in the Islamic Mataram era until the colonial period [15].

Chinese cultural foods and spices influence the appetite of the Indonesian people who refer to its culinary traditions. Turner (2011: 47) notes that the word *cao* (grass) is an Indonesian spice [16], while the word *sao* (cooking) illustrates that Chinese descendants are very good at cooking. *Cao* and *sao* means stomach or innards or tripe (*du*) which usually comes from cows or buffaloes. The reason why Chinese people use innards in soto is not certain. It is suspected that this is due to the habit of the Cantonese (from Guangzhou) of eating animal innards and that this habit was retained when these populations migrated to Indonesia [16].

The Chinese make use of beef that is not considered good for consumption by the indigenous people in Indonesia [17]. In Central and East Java, the price of beef is the cheapest; according to the results of research, Semarang and Surabaya have cheap meat prices [18]. Accordingly, Semarang can be identified as the site of the beginning of soto development in the 19th century. Because Semarang has the strong position of being a region of meat producers at low prices, its soto uses raw materials from animal protein sources. According to the

theory of the spread of knowledge of a culinary recipe, it seems that the laws of hissing and creativity apply to the propagation of soto in Java. Budiyanto and Wardhani [15] mention that individuals spreading these soto menus may directly or indirectly transmit their recipes to other individuals. This thesis asserts that a meme—in this case, a recipe for soto—can spread exclusively through direct demonstration and direct learning, by word-of-mouth transmission, or through the medium of print based on Anonim [19] in Budiyanto and Wardhani [15]. Meanwhile, the Javanese variants of soto originate due to the process of individual creativity, which is founded in the habits of each regional culture; for example, cuisine in the southern part of the city of Semarang heavily features bay leaves in most dishes, while Pantura is more selective in the use of this spice. The city of North Coastal since the colonial era has served as a hub for several groups involved in intercontinental trade: Arabic, Chinese, European, Indian, and Javanese people [9]. From Kudus to the west of Pesisiran; through Semarang, Pekalongan, and Pemalang in central Java; and to Lamongan, Madura, and Surabaya in the east, soto accompanied and colored the tastes of travelers and traders passing through and settling down, which gave rise to settlements such as Pekojan, Kauman, and various Chinatowns [15].

Development of soto

Chinese people in Indonesia have played a significant role in the appearance of soto in Central Java, especially in the city of Semarang in the 19th century. This was related to the abundant livestock in Semarang, which was mentioned in *the Lust de Inlander Vleesch* article stating that meat prices were cheap in the city [16]. The development of soto in the 19th and 20th centuries cannot be known for certain because a soto recipe could not be found within cookbooks that were published in Semarang. In the book *Ooost Indisch Kookboek* (East Indies cookbook) and *Groot Nieuw Volledig Indisch Kkokboek* (New and Most Complete Indies Cookbook), there is no recipe for soto. However, according to past research, it is stated that “native Javanese often make broth with the name Soto” (Van de Burg, 1904: 47). Therefore, soto was a food that was well-known by native Javanese people and had spread to the national scale. A major ingredient used to make soto is from beef offal or tripe (*babat sapi*), which is prepared and added into the soto broth. Because beef offal or tripe itself is not used in Dutch colonial food recipes, the record of soto from this time is very limited [20].

According to Chinese tradition, soto is a common food eaten for its health benefits, where the broth serves to warm the body during the winter to avoid cold [16]. Soto uses innards because Chinese people use a variety

of food ingredients including beef offal. Furthermore, meat use was dominated by European needs. Another factor influencing soto at the time could have been the low meat-purchasing power of Chinese and original Javanese. Soto has taken on the image of a folk cuisine (*volksvoedsel*) due to its use of innards. Because of this and the fact that it was considered unhygienic, it was not accepted by colonial cookbooks. However, this view differs from that of the original Javanese, who accepted and adopted Soto as their daily food. In the Bromartani newspaper, October 11th, 1892, it was reported that soto had been bought and sold by the Chinese at a reported event [21]. Empirically, Java and some parts of Indonesia's original food is not soup type. Many Javanese people, particularly in villages and remote areas, still heavily consume traditional dishes such as *pincuk*, a delicacy consisting of banana leaves formed into a cone, and *suru*, a dish featuring banana leaves shaped into a makeshift spoon or small shovel. It is still common throughout Java to eat by hand, without the incorporation of eating utensils such as spoons, forks, knives, or chopsticks. Unlike Indonesia, where the climate is stable year-round, China and the Netherlands experience distinct seasons and significant variation in temperature, and soup emerged in these countries as a popular dish to warm the body and fight the cold in the winter. Chinese and Dutch immigrants and traders brought soup with them to Java, which influenced local cuisine and inspired the people of Java to incorporate bowls and spoons in their meals [12].

At the beginning of the 20th century, soto recipes, namely *Soto ayam* (soto with chicken meat), were included in the cookbook *Onze Rijsttafel* (without years: 64) by E.W.K. Steinmetz [11]. Subsequently, Balai Pustaka published a recipe for *Soto hajam* (read: Soto ayam) in a Sundanese language cookbook *Djeung Amis-Amis Cuisine* (Cuisine and Various Sweet Processed) in the middle of 1934. Later, in 1948, a book published by *Boekoe Masak-Masakan* mentioned soto ayam [22]. The use of chicken meat was a consequence of the war, which caused the population of livestock (especially cattle and goats) to decline, while the maintenance of chickens remained relatively safe with a stable market supply.

This event had an impact on the recipe for Soto, providing evidence that Soto had been accepted in the colonial and Indonesian cuisine [16]. Furthermore, there was gastronomic creativity in replacing beef with chicken meat, as well as the development of various types of soto in the social and cultural circles of the communities of various regions. Additionally, gastronomic creativity was prompted by the variety of processing materials and their distinctive tastes [21]. Therefore, colonialization not only causes negative impacts, but can also leave a positive influence on traditional aspects of food [23].

The Indonesian government has, since the 1950s, carried out a program to improve the condition of food and national nutritional quality. This program encourages the consumption of animal protein, which in turn affects the development of the types of soup. The diversity of meat in soto ingredients includes chicken, beef, buffalo, goats, and offal. In addition to this variety of ingredients, the diversity of soto type tastes in Indonesia is influenced by the Chinese, Indians, Europeans, and Javanese [24]. Various authentic Indonesian foods have been influenced by or adopted from other countries [23]. This phenomenon can be attributed to the processes of migration, trade, and colonization. Acculturation can occur when people move from one area to another, where they encounter different cultures and norms, thus creating diversity [25]. Acculturation by mouth and stomach is always a resistance-free path. Immigrants to Java attempted to replicate dishes from their homelands, but because the typical ingredients were not often available in the Nanyang region, these immigrants began adjusting and tailoring recipes according to the situation. Over the centuries, Chinese refugees and Dutch travelers streamed into Indonesia, marrying local people, bearing children, and even being buried in Java, far from the lands of their ancestors overseas [12].

Types of Indonesian soto

Soto can be found in almost all regions of Indonesia, although it occurs with different names and compositions. Based on Fig. 1 and Table 1, the variety of soto in Indonesia can be seen. The figure shows that the regions with the highest amount of soto are southern Java (13.33%), the north coast of East Java (12%), Madura and Osing (8%), and the Sundanese region (8%). Soto in each region has a taste that is in accordance with the local community. Soto is a type of acculturation food that has nevertheless found a new home in the kitchens of Indonesian people [12]. There are 49 recorded soto recipes [8] and 75 types of soto from 22 culinary regions in Indonesia [26]. Of these 75 types, 81.33% or 61 varieties were found throughout Java, whereas Sumatra Island, West Nusa Tenggara, Borneo Island, and Sulawesi Island lay claim to 9.33%, 4%, 2.67%, and 2.67% of the soto varieties, respectively [27].

There were 42 variations of soto-making ingredients from the 75 types of soto recorded, including 28 (66.67%) vegetable ingredients and 14 (33.33%) animal ingredients [26]. The most widely used ingredients are chicken meat (50.67%), bean sprouts (38%), vermicelli (34.67%), eggs (29.33%), and beef (29.33%). Furthermore, soto can be categorized based on the main ingredient of its broth or its broth color. Soto can be based on chicken broth (52%), beef broth (41.33%), or other broth (6.67%). According to broth color, soto can be categorized as



clear soup broth (34.67%) or colored soup broth (65.33%). The type of soto with the highest number of spices is soto padang (35.56%), followed by soto ngelo using goat meat (33.33%), soto magetan (33.33%), soto nangka (31.11%), and soto ambengan (28.89%). The most widely used spices in soto are garlic (98.67%), shallots (86.67%), pepper (73.33%), ginger (70.67%), turmeric (57.33%), and lemongrass (57.33%) [26]. The traditions of Chinese cuisine affect the herbs used in soto. Most of

China experiences four seasons, and the country thus lacks the natural abundance of herbs and spices that grow in Indonesia. The rich and heavy (*machtig*) taste characteristic of Indonesian cuisine is all but absent in Chinese gastronomy, which primarily features simpler and milder condiments such as garlic, ginger, pepper, and chili. In contrast, Indonesia's herbs and spices are plentiful; the most popular seasonings include *kunyit* (turmeric), *lengkuas* (*Alpinia galanga*), *kencur*

Table 1 The soto type in Indonesia based on region [26]

Region	Local name	English name
Aceh	Soto Aceh	Aceh soto
North Sumatera	Soto Medan	Medan soto
Minangkabau	Soto Padang	Padang soto
Jambi	Soto Tengiri	Tengiri soto (mackerel soto)
Bangka Belitung	Kuah Soto daging Soto Belitung	Meat soup soto Belitung soto
Lampung	Soto mie udang	Shrimp noodle soto
Betawi	Soto Betawi Soto mi Jakarta Soto Tangkar	Betawi soto Jakarta noodle soto Tangkar soto
Sunda	Soto Bandung Soto Banten Soto mi Soto kuning Bogor Soto Tasik Soto usus	Bandung soto Banten soto Noodle soto Bogor yellow soto Tasik soto Intestine soto
Cirebon	Soto Bongko Soto Cirebon Soto ayam kuah kuning	Bongko soto Cirebon soto Chicken yellow soup soto
Pekalongan	Soto Pekalongan Soto Grombyang Soto Tegal Tauto Soto Slawi	Pekalongan soto Grombyang soto Tegal soto Tauto Soto Slawi
Semarang	Soto Kudus Soto kemiri Soto Semarang Soto Bangkong Soto Blora	Soto Kudus Candlenuts soto Soto Semarang Soto Bangkong Soto Blora
Dulangmas	Soto Kedu sapi Soto Kedu ayam Soto Sokaraja sapi Soto Sokaraja ayam Soto Banyumas	Kedu beef soto Kedu chicken soto Sokaraja beef soto Sokaraja chicken soto Soto Banyumas
Yogyakarta	Soto ayam ¹ Soto ayam Ngasem Soto bening Soto Lenthok Soto sapi ¹	Chicken soto ¹ Ngasem chicken soto Limpid soto Lenthok soto Beef soto ¹
Surakarta	Soto ayam ² Soto ayam Gading Soto ayam Timlo Soto Kualo Soto sapi ²	Chicken soto ² Gading chicken soto Timlo chicken soto Crock soto Beef soto ²
North coast of East Java	Soto Ambengan Soto Madura sapi Soto Madura ayam Soto Lamongan Soto Kikil Soto Kediri ¹ Soto bebek Surabaya Soto Sulung Soto kenari	Ambengan soto Madura beef soto Madura chicken soto Lamongan soto Kikil soto Kediri soto ¹ Surabaya duck soto Sulung soto Walnuts soto
South East Java	Soto Kediri ² Soto daging Trenggalek Soto ayam Trenggalek Soto rujak Soto ayam khas Blitar Soto ayam Lombok Soto kambing Ngelo	Kediri soto ² Trenggalek beef soto Trenggalek chicken soto Rujak soto Blitar typical chicken soto Lombok chicken soto Ngelo goat soto

Table 1 The soto type in Indonesia based on region [26] (Continued)

Region	Local name	English name
	Soto Magetan	Magetan soto
Madura and Osing	Soto Pamekasan	Pamekasan soto
	Soto Madura sapi	Madura beef soto
	Soto Madura ayam	Madura chicken soto
	Soto daging ²	Meat soto ²
	Soto babat	Tripe soto
Sasak	Soto Sumenep	Sumenep soto
	Soto iga Lombok	Lombok rib soto
	Soto ayam ³	Chicken soto ³
Dayak	Soto nangka	Jackfruit soto
	Soto Mahakam	Mahakam soto
Banjar	Soto Banjar	Banjar soto
Minahasa	Soto ayam bersanta	Coconut milk chicken soto
Bugis	Coto Makassar	Coto Makassar

²Different numbers indicate different types

(*Kaempferia galanga*), *kemiri* (candlenut), *daun salam* (Indonesian bay leaf, *Syzygium polyanthum*), *bawang merah* (red shallot), *keluwak* (*Pangium edule*), *serai* (lemongrass), and shrimp paste [12].

There are many soto varieties in Indonesia, each of which is influenced by available natural resources and culture (Figs. 2, 3, 4, 5, and 6). For example, there has been a creative process of Indonesian natives who helped Chinese shopping and cooking, and they succeeded in imitating and recompiling (hybrid) the spices they knew based on taste memories, as well as the advantages and disadvantages of spices and by adjusting religious values and a culture that is limiting. The type of soto that exists is formed by a process of creativity

that already has a unique concept-sense of culture that grows from each culture. Environmental factors related to natural resources directly or indirectly affect the evolution of the taste of a menu, for example, changes from buffalo to cattle in the case of Soto Grombyang that occurs due to difficulty in obtaining and the high price of buffalo meat because buffaloes are rarely used in rice fields. The absence of one or more spices in the area led to spice innovation and creativity [15]. The essential esthetic of food, according to Rahman [24], is to describe indigenous cultural identity. This happens due to the variety of available ingredients across the nation, which are limited. In general, the name soto is based on the name of the origin or raw material of soto.



Fig. 2 Soto Kediri, comes from Kediri, East Java. It is containing chicken, vermicelli, eggs, bean sprouts, leeks, and celery. Another ingredient that distinguishes soto Kediri from other soto is the use of spices such as *kencur* and roasted coriander in addition to the use of grilled shrimp paste and fried pecans to strengthen the savory taste [28]. It is use coconut milk for soup (retrieved from https://id.wikipedia.org/wiki/Soto_Kediri)



Fig. 3 Soto Sukaraja, it is a clear soup. Other additional ingredients are bean sprouts, vermicelli, and *kerupuk merah* (red crackers). The meat used can be chicken or beef [28]. Soto Sukaraja comes from Sukaraja, Banyumas, Central Java (retrieved from https://id.m.wikipedia.org/wiki/Soto_Sukaraja)



Fig. 4 Soto betawi, served with tripe, intestines, and meat from cow legs and lungs. Soto sauce is brownish yellow due to the high concentration of cardamom. The dish's savory taste comes from meat and coconut milk or cow milk broth [28]. Soto Betawi is a popular soto in the Jakarta area (retrieved from <https://m.tribunnews.com/travel/2019/03/08/5-kuliner-soto-lezat-di-jakarta-cicipi-soto-betawi-hingga-soto-padang>)

Emerging ingredients of soto

When soto is served, there are additional and emerging ingredients added such as fried shallots (48%), leeks (42.67%), celery (37.33), and lime (29.33%) [32]. Each type of soto from each region has its own character. All materials used in a regional soto are easily found in that area [33]. Essentially, all culinary products are the result of modification and creation, including soto, which now has dozens of varieties throughout regions in Indonesia [21]. Indonesian cuisine can essentially be categorized around the world on the basis of six main islands. Each one has unique characteristics of food culture each are



Fig. 5 Soto padang; it has a clear broth with slight browning and has a soft cinnamon flavor. After adding the *sambal merah*, the dish becomes even more delicious. Soto padang can be served with *ketupat*, vermicelli, *perkedel kentang*, *kerupuk merah*, celery, and chopped onion [28]. *Ketupat* is a rice-based food wrapped webbing of young coconut leaves, or *janur* (in the Javanese language) [29], and it is usually wrapped in rhombic shape [30] (retrieved from https://en.wikipedia.org/wiki/Soto_Padang)



Fig. 6 Soto banjar; it has a fragrant aroma due to its typical spices, such as onion, garlic, cinnamon, nutmeg, and cloves. The *gurih* taste (savory/ *umami* taste) comes from the use of coconut milk. Other ingredients used are vermicelli, boiled eggs, and *perkedel* [28]. *Perkedel* is one of the Indonesian soto side dishes, can be made from potatoes, taro or cassava which is crushed then shaped round and fried or steamed [31] (retrieved from <http://bumburesto.com/recipe/cara-membuat-soto-banjar-dengan-bumbu-instan/>)

shaped by the region's natural conditions, history, and culture [34].

Peranakan food has had a great influence on Indonesian cuisine over the centuries of acculturation. Chinese loanwords referring to food and cooking utensils prevail in Indonesian culinary vocabulary. This is the only popular medium not met with rejection, too, but most of all, because nobody is going to reject good food. Opportunities should be created for Peranakan food from all regions to be served and given prominence, and young chefs should be encouraged to find innovative ways to present Peranakan food in more diverse ways or even to prepare fresh, Peranakan-like dishes [35]. Peranakans are a Chinese group born in Indonesia that occurs when Chinese male migrants marry indigenous women and re-form Chinese communities and produce a group of Peranakan Chinese [36].

Because soto is a side dish, its medicinal aspects have received little consideration. However, soto contains herbs and spices, namely, garlic, shallots, pepper, ginger, turmeric, and lemongrass, that have certain health benefits. Seasonings are rich sources of phytochemicals [37, 38] which are a broad group of plant-derived bioactive compounds that have potential disease-preventing properties. This group comprises flavonoids, phenolic compounds, carotenoids, plant sterols, glucosinolates, and other compounds containing sulfur. There are over 6000 known flavonoids [39]. Herbs and spices are natural ingredients which have been commonly used not only for the flavoring of foods but also for their health attributes. The components of antioxidants, antimicrobials, and

anticancer present in herbs may allow them to improve human health and medical status [40].

Conclusion

Indonesian soto is not only influenced by foreign cultures, but has also been adopted within the context of existing natural resources, creating much diversity in the soto of Indonesia. The culture of soto in Indonesia is now spread throughout the nation. Soto has experienced developments that are adapted to the natural and cultural resources in Indonesia.

Abbreviation

Bekraf RI: Republic of Indonesia Creative Economy Agency

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BY and AF are interested in the manuscript writing and the findings analysis. BY and AF have been involved in the process of data collection and preparation of the analysis. The final manuscript was read and accepted by all contributors.

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