



Implementation of ISO 22000 for Globalizing Serabi Traditional Food: “Unleashing Internationalization Potential”

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Abstract: Traditional food globalization offers a rare chance for culinary diversity to be globally shared and appreciated. Indonesia has various types of delicious traditional food, including Serabi, a traditional-small-sized Indonesian pancake. However, the primary use of coconut milk as a key ingredient has presented challenges in positioning Serabi as an internationally recognized cuisine. This research aims to examine the fulfillment of the requirements for implementing ISO 22000 in making Serabi (coconut milk raw material) and how to make Serabi an international food. The data were garnered with interviews with five Serabi sellers around South Jakarta regarding how to make Serabi (raw materials, method and presentation). The research results present three findings. First, the internal factors where serabi can be modified into various types/variants, and it is possible to use dairy milk as a substitute for coconut milk and change the cooking style. Second, serabi has opportunities to become an international food by following the health regulations. Finally, developing national standards regarding traditional food raw materials and promoting it at various international events.

Keywords: ISO Implementation, Serabi Traditional Food, Food Safety Management, Internationalization, Cultural Preservation

1. Introduction

This study continues our previous research paper 'The Importance of ISO 22000 on Traditional Food in Indonesia, Case in Rendang Catering' presented in TGDIC 2016. Rendang is the only food from Indonesia elected in 2011. An online poll of 35,000 people by CNN International chose rendang as the number one dish in reviews of their "World's 50 Most Delicious Foods (Readers' Pick)", (Festivalia et al., 2017; Cheung, 2017. At the Food for Thought Session at the Ubud Food Festival, a culinary expert from Gadjah Mada University, Murdijati Gardjito, stated that the impact of Rendang pooling has inspired to promotion other dishes or snacks from Indonesia, which has more than 3,259 local culinary (Wahyuni, & Saputro, 2019). As one of the countries with the most diverse cultural diversity, Indonesia has long gained worldwide recognition for the cultural diversity within society, including the element of food which rich in various side dishes, snacks, and desserts.

The traditional food represents the cultural diversity of a region, as it uniquely represents each ethnic community within the region (Wibisono et al., 2020). In its development, traditional culinary arts changed into non-traditional culinary delights through cross-cultural communication in colonialization and globalization. Food heritage is closely associated with traditional food that been transferred from one generation to another, including ingredients, method of cooking, taste and linked with special occasions. Rahman (2020) further mentioned some of the famous Indonesian foods in the world, such as *Nasi Goreng*, *Gado-gado*, *Soto Ayam*, *Sate Ayam*, *Rendang*, *Tempe Goreng*, and *Sop Buntut*.

One of the traditional snacks that is not included in the list of 100 Most Popular Snacks in the World is Kue Serabi. Serabi is one of the most popular snacks made since 1923 from the Javanese traditional language "surabhi". Its meaning is "fragrant" referring to the various plants with good smell, such as *campaka*, jasmine, nutmeg, and others (Cahyono, 2022). In many parts of Indonesia, Serabi has become part of people's lives and represents various cultures. Serabi is similar to a pancake, but the size is smaller and thick. It is often baked using a clay mold and a traditional stove. Then, it is served with sprinkles of sweet, salty, spicy, and *kinca* (Risqienna et al., 2023). The linguistic diversity has made Serabi have various names. For example, Sundanese in West Java call it Surabi, the Betawi people call it Kue Ape, while the people of Central Java, especially Solo, call it Srabi. Since the taste is quite delicious, Surabi become an iconic souvenir from Yogyakarta, namely Srabi Solo Notosuman.

According to Rinawati et al. (2017) the self-confidence of a community in a region can be enhanced by strengthening culinary identity. It can be performed by promoting Serabi to enhance its popularity thus it is available not only in traditional markets in remote areas but also in more modern markets. This study is part of such an objective for a wider market segment.

The ingredients of Serabi are affordable and easy to be cooked. Serabi is made using preservatives wheat flour or rice flour as the main ingredient, yeast, and coconut milk. Coconut milk or cream (*santan*) is authentic ingredients from Indonesia available fresh or canned and in packets. Traditional Serabi the recipe is 120 grams of wheat flour, 120 grams of rice flour, 700 ml thick coconut milk, one tablespoon of baking powder, two eggs, beaten and a sufficient amount of salt (Triwati& Fatimah, 2021).

Equipment to prepare Serabi is wheat flour scale, measuring cup for water, mixing spoon, bowl for the batter, egg beater (also used for mixing the batter), pot for heating the Serabi sauce, spoon for scooping the batter, molds, stove/brazier, charcoal (or firewood), spoon for removing the cooked Serabi, container for placing the cooked Serabi and bowl for the Serabi sauce. The cooking steps are by mixing all the starter ingredients, stirring until well combined, let it sit for about 22 minutes, mix wheat flour, rice flour, starter, baking powder, and salt, stir until evenly mixed, and gradually pouring in coconut milk while kneading until the coconut milk is absorbed. The mixture becomes dough, add the chicken eggs, mix well until evenly distributed, heat the Serabi mold on, greased with oil, pour a small amount of the batter into the mold, put on the stove and wait until cooked, then remove from the mold.

The appeal of convenience foods depends on several key factors: color, shape, taste, and texture. Serabi is often referred to as the Indonesian pancake. It has gained considerable popularity and has the potential to serve as a compelling alternative to the traditional pancake. While pancakes are typically decorated with toppings such as honey, maple syrup, strawberries, and whipped cream, Serabi offers a wider range of flavors, toppings, and fillings and, most importantly, avoids using flavor enhancers and artificial colors. This culinary delight not only appeals to Indonesian taste but also has the potential for international recognition as a versatile breakfast staple or indulgent treat at any time of day. Serabi comes in two different varieties: sweet Serabi and savory Serabi (Cahyono, 2022). In addition, as noted by Risqienna et al. (2023), the Serabi varieties have expanded to include an impressive 23 varieties.

Despite its health problems and susceptibility to spoiling, coconut milk remains an important ingredient in Serabi. Coconut milk which is also the same as coconut oil consumption results in significantly higher LDL-cholesterol, which could be found than non-tropical vegetable oils. This should inform choices about coconut oil consumption (Neelakantan et al., 2020) and coconut milk not allowed to be put on bowl using aluminum or cast iron will result in a discolored sauce or cause a chemical reaction. Choose either stainless steel, glass or enameled saucepans (Holzen, 2021). Coconut oil only could be used for maximum 6 hours at a temperature of 35C after that could cause organoleptic damage, changes in aroma (off-flavor) and odor (off-odor) in food products containing fat caused by the process of rancidity (Petriani et al., 2019). According to Tulashie et al., (2022) coconut milk could be substituted to milk which were healthier and less fat, and does not easily get stale. Using milk was one of the implementations of comprehensive food safety in ensuring public health and mitigating the risk of potentially life-threatening illnesses.

In traditional markets, Serabi is made using a clay oven, which is fragile and prone to breakage, and charcoal, which can leave unsightly black marks on the molds. In addition, the use of charcoal produces smoke that not only poses a health risk to the seller, but also has the potential to pollute the surrounding air. This not only puts the seller's well-being at risk but also risks damaging the brand's reputation in the long term. Nowadays, people possess high awareness of healthy food and the environment. To fulfill standard, quality, and safety requirement, we suggest using a modern stove or furnace burner and mold which has been created and which does not need charcoal, could reduce smoke and leaves no ash and hygiene (Festivalia, et al., 2017; Tulashie et al., 2022).

In order to successfully penetrate international markets, it is essential to improve the quality of the product and to adapt it to the standards and expectations of the global market. Indeed, achieving international quality standards for food products is a complex and time-consuming endeavor. Especially when aiming for ISO international standards, the process involves several stages. It begins with the imperative task of engaging the National Body Standardization (BSN) to collaborate with stakeholders in developing regulations pertaining to traditional foods like Serabi and other snacks. The ultimate goal is to establish robust standards that instill confidence in consumers, including foreigners, thus encouraging them to consume and purchase these food items without hesitation. The National Standards Body (BSN), operating as a Non-Ministerial Government Institution (LPNK), plays a pivotal role in orchestrating and overseeing all initiatives related to standards and conformity assessment within Indonesia.

BSN's flagship product, the SNI, is a comprehensive standard that applies throughout the country. This standard plays a crucial role in strengthening food safety and regulating production processes within the food industry. The first crucial step is to include traditional Indonesian snacks, such as Serabi, within the scope of the SNI, ensuring that these popular delicacies meet the established standards.

After standardization in the national stage, the next step to the regional stage, regional cooperation between ASEAN countries in the food sector, is cooperation in Integrated Food Security (AIFS). AIFS aims to strengthen national food security programs and activities and develop regional food security initiatives and reserve mechanisms. In the international arena, food safety standards refer to the Codex Alimentarius (International Food Standards) managed by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO).

Apart from following international provisions, a number of countries generally also add food safety standard regulations, including ASEAN members. It has been explained that changing the Serabi ingredient from coconut milk to milk clearly fulfills the health element, which is of course a requirement in ISO. The potential for success is clearly high, but the journey ahead is undeniably challenging and complicated.

Over the last few decades, the food supply chain has become a complex and highly controlled structure within food companies, mainly due to globalization and scientific advances, since it's well known that small-scale mistakes can lead to global food poisoning catastrophes (Griffith, 2006). This way, mismanaging the food production chain may harm a consumer's health and risk food manufactures reputation. Today, the biggest responsibility of food manufactures, way beyond mere aspects of taste, innovation, or nutrition, is to ensure high-quality food products, which should be clean and safe for consumers (Chung et al., 2020). Food quality embraces a wide range of subjects, among them, food safety (FS). A Food safety hazard is defined in ISO 22000:2018 as a "biological, chemical or physical agent in food with the potential to cause an adverse health effect".

The consequences of unsafe food can be serious. ISO's food safety management standards help organizations identify and control food safety hazards, at the same time as working together with other ISO management standards, such as ISO 9001. Applicable to all types of sellers, ISO 22000 provides a layer of reassurance within the global food supply chain, helping products cross borders and bringing people food that they can trust. Briefly, ISO 22000 helps organizations improve the traceability of their products and achieve greater transparency regarding operations.

2. Methodology

Interviews are a robust data-gathering approach that is used in a variety of fields. They are extremely useful when attempting to get insight into a specific group of people's characteristics, preferences, opinions, or beliefs. This study conducted in-depth interviews with five Serabi sellers in South Jakarta to unshed their experience. The selection of South Jakarta as the wide range informed the research site of traditional snack shops catering to different consumer segments. The interview list covered topics such as food safety implementation (ISO 22000), snack production processes, ingredients, variations, cooking techniques, traditional vs. modern shapes, stove types (traditional charcoal vs. modern), and serving methods. A complete literature review was also carried out, including academic articles, books, and scientific papers on Serabi, street food, cultural products, culinary tourism, and related fields. This literature review provides a theoretical framework for contextualizing and understanding the research findings.

3. Results and Discussion

The respondents interviewed were five Serabi producers and sellers with different educational backgrounds and ages. In question; (1) Do you know that there is an international standard food safety application (ISO 22000)?, three respondents answered that they have heard it and three people answered that they don't know. On Question (2) Is standard (ISO 22000) important for food safety standardization?, three respondents answered: Important but difficult to implement, while the rest answered they didn't know; (3) Do you maintain cleanliness when cooking Serabi? All respondents answered: Yes, always maintain cleanliness; (4) How do you maintain cleanliness when cooking Serabi? All respondents generally answered simultaneously: Use clean air, keep cooking utensils and cooking environment clean, wear plastic gloves, and use good and fresh food ingredients; (5) How do you cook Serabi? All respondents generally stated: Using the traditional method passed down from generation to generation, using rice flour and coconut milk as raw materials; (6) Have you ever tried replacing (replacing) coconut milk with cow milk? Three respondents answered: Yes, I have substituted coconut milk for cow's milk once, but it's important to understand the flavor and texture implications. Coconut milk has a typical tropical taste, while cow's milk has a milder taste, besides the cost of making it is expensive too. Another question that is no less important is: What heating technique is used to cook Serabi? Three respondents answered: Using gas stove heating while the rest still use charcoal. The next question is about the reasons why you use a gas stove? Answered with: To make it more practical considering the difficulty of finding charcoal and faster in the understanding process and reducing smoke pollution; (7) Do you make variations of Serabi toppings other than the original flavor? On average, they make sweet, salty and fruit toppings, sweet from chocolate, salty from fruit cheese from bananas and jackfruit, but some make savory variants from smoked meat and sausages; (8) Do you agree if Serabi is presented in a more modern way? 3 respondents agreed because all age groups and classes can accept it and is acceptable internationally, while the rest answered Disagree, it is better with the current traditional appearance to maintain cultural heritage. Final question: What is the correct presentation of Serabi if you want to introduce it internationally? Generally, respondents think banana leaves are used as wrapping to maintain

Indonesia's original characteristics. If banana leaves are difficult to find, then look for other alternatives, as long as there are still natural green nuances such as leaves.

Based on interviews with five Serabi producers, it was revealed that replacing coconut milk with cow's milk is very possible so that Serabi can be introduced internationally in countries where coconut milk is not available. When asked about: Why do you prefer to cook Serabi using a gas stove, not charcoal? Most of the participants stated that using a gas stove reduces smoke pollution and cooks faster besides having difficulty finding charcoal this is in line with a previous study about Anti-Pollution Serabi.

The success of implementing a food safety management system (FSMS) depends on the motivation of the entire organization. One of the most compelling incentives for adopting management systems such as ISO 14001, ISO 22000 or IFS 5 is the increased confidence it instills in customers, as noted by Alessandra et al. (2011), especially if the organization is certified by a third party. While an FSMS alone does not automatically produce safe food, its proper implementation and compliance with the standard can guarantee customers a minimum level of food safety. This in turn increases confidence in the products produced by the certified organization. Given the heightened food safety awareness of today's consumers and their increasing desire for not only safe but also high-quality products, the implementation of FSMS serves as a key factor in securing certain products. Internationally recognized food safety standards provide assurance that the certified organization is capable of producing safe products, effectively preventing illness and loss caused by unsafe food. This ultimately fosters greater customer confidence in both the products themselves and the organization as a whole.

Traditional food is regarded to be an important feature of a particular culture. Because of globalization, there is a larger need for specific dishes, prepared safely and consisting of healthy ingredients (Korunovski & Koccevsk, 2016). Serabi as traditional food to widely recognized and enjoyed on an international scale: we start by understanding the the history, ingredients, cooking techniques, and regional variations to appreciate its authenticity and uniqueness. Consider creating small adaptations to suit international tastes (spice levels, reducing heat, dietary preferences). Using high-quality Ingredients. Served with the best plating to attract customers. Create some innovation without leaving the authenticity of the dish. If possible, share the story of the food (cultural context). Collaborating with Chefs or international chefs in some events and promotions can generate interest. Create Food Events and Festivals that invite participants from local and international. Create an online website and social media by sharing pictures, recipes, and cooking tips. Create Cooking Classes to teach how to prepare the food. Besides that, action we should Collaborate with local tourism boards to promote your traditional cuisine as part of the region's culinary tourism offerings and get Government Support: Seek support and funding from government agencies or organizations that promote cultural and culinary exports. Few researches have examined food events and festivals. Food events and festivals, as a form of food tourism, can play an important role in introducing a tourist to new styles and different traditions on their holidays (Holzen, H. V. (2021).

The first thing to we should do to promote Surabi, a traditional snack thru promoting that we production of Serabi currently adhering to health procedures outlined in ISO 22000 and HACCP, which are international standards governing high food safety in production. The deployment of cutting-edge solutions also enables customers to focus more on health and safety guidelines in the context of the new normal. The Director General made the point that this industry, which is closest to society, should be able to benefit from technology to make things simpler and more convenient for customers.

In order to bring Serabi to the international stage, one of the initiatives is to advocate for our National Body Standard (BSN) to establish standardized guidelines for the traditional snack Serabi and implement ISO 22000 protocols. Food systems involve the production, processing, distribution, and consumption of food. For food security and food production systems, the food and beverage industry needs to be more proactive in utilizing innovation to meet consumer demands in a modern fashion as a result of these changes in consumer behavior. We are interested in raising the topic of Serabi with a richer and more varied topping (stuffing) with a modern touch that can accommodate the tastes of various ages and nationalities to be appointed and promoted on the international stage and will replace the pancake The increasing interest of tourists in local culinary destinations is a great opportunity to develop gastronomic tourism in Indonesia (Wahyuni & Saputro, 2019)

Nowadays we still found food products that do not meet standard, quality, and safety requirements. There is still a lack of knowledge, skills, and responsibility of food sellers about quality and food safety, especially in small industry and home industries. Lack of purchasing power for food products quality and high security level. On the other side, we are now having a high awareness of healthy foods and try to involved in activities that avoid unhealthy food and food which are not non-polluting. On the other hand, there are groups of people who need guidance to have the skills that can provide prosperity in their lives.

There are some critical points involved in the successful implementation of ISO 22000:2018 related to internal, external factors and regulation Body. The internal factor such as the Coconut milk still use for ingredient of Serabi even actually is not healthy and easy to be stale. Based on interviews with five Serabi producers one of the respondents said "Substituting cow's milk for coconut milk in serabi is possible, but it's important to understand the implications for both flavor and texture. Coconut milk has a distinct tropical flavor, whereas cow's milk has a milder taste. To compensate for this flavor difference, you might want to consider adding a bit of coconut extract

or even a small amount of shredded coconut to your cow's milk mixture", other producers agree that Coconut milk could be substitute to milk which were healthier and less fat and not easy to get stale. Using Milk was one of the implementation of comprehensive food safety in ensuring public health and mitigating the risk of potentially life-threatening illnesses and Producer Serabi in the traditional market which using charcoal could put individuals at immediate risk but also exposes brand to reputational damage in the long run. To fulfill standard, quality and safety requirements we suggest using a modern stove or furnace burner and mold, which no need charcoal, reduce smoke, and leaves no ash and hygiene. External factors such as people (specifically subcontractors), infrastructure (mainly transportation), externally developed elements of the food safety management system, control of externally provided processes, products or services, competence and external communication as noted in the "People" factor stated in is the Standard, the organization's human resources should provide guarantees of their skills to fulfill a task. Therefore the Standard demands that in case of absence of duly trained and prepared workforce, it will be required to hire external services, like subcontractors. These external services must comply with all requisites defined by the organization, but they must adapt to the requirements demanded by the Standard. For regulation Body Encouraging the National Agency for Standardization to make a regulation with stakeholders regarding standard traditional foods such for Serabi or others. So, foreigners do not hesitate to eat and buy the food. Giving support to introducing Serabi to the international community with an Exhibition at an International events or as one of the snacks in hotels or tourist Areas.

4. Conclusion

The primary objective of this study was to explore and analyze the multifaceted dimensions of Safety food, specifically focusing on their educational background, economic aspects, and environmental considerations. To achieve this, a range of documentary materials were utilized, derived from some research, which provided valuable insights into these areas of investigation. Furthermore, the researcher conducted interviews with 5 Serabi sellers in south Jakarta, aiming to investigate their perceptions and experiences regarding food as a cultural product and culinary tourism. The interviews were designed to gather information on various aspects, including how to make and the composition of ingredients, the making process behind food choices, the sensory experience of tasting food, how to serve, and the overall enjoyment derived from the culinary experience.

The researcher also examined the concept of Food health through these interviews, exploring aspects such as the selection of food items, the flavor profiles of different cuisines and the overall experience. By employing a combination of documentary and literary studies, this research offers a comprehensive and nuanced understanding of the educational, economic, and environmental dimensions of safety food standards. Moreover, the insights gained from the interviews with domestic tourists shed light on the significance of food as a cultural product and the role of culinary tourism in shaping cultural experiences. The integration of primary and secondary sources enhances the validity and reliability of the findings, contributing to the overall scholarly discourse on safety food.

Recommendation for strategy for Food Safety Handling Policy: (1) Conducting the study of the policy and rules which have to be done with the related institute (Department of Foreign Affairs, Department of Health, and The Supervisor Board of Tourism); (2) Arranging the regional rules on food safety and Controlling of the existence of food street vendors on food safety and give the strict sanction for those who break the rules; (3) Providing special event to promote culinary product; (4) Providing the infrastructure and standard which has the impact promote the local product; (5) Writing safety guarantee that the food is without preservative and other nutrition information; (6) Making an effort of many parties such as academician, government, businessmen, culinary community; (7) Training for food handlers by collaborating with the university through the program of research, community service activities to increase the skill and knowledge in local food production. In the future, we aim to connect the proposed deep learning to another Indonesian traditional food.

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