

TRADITIONAL FOOD AMONG THE KADAZAN-DUSUN OF EAST MALAYSIA: CULTURAL IDENTITY PRESERVATION, COMMERCIALIZATION AND NUTRIENT INFORMATION

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ABSTRACT: This research aimed to study the commercialisation of traditional food as a medium of cultural identity preservation among Sabah ethnic groups in the era of industrial revolution 4.0. Additionally, this paper sought to analyse the nutrient composition of Kadazan-Dusun traditional food, namely *tuhau* and *bambangan*. In more specified terms, this research attempted to study the signification of traditional food as a symbol of cultural identity; to examine the impact of commercialisation in influencing the authenticity of traditional food as well as a platform for cultural identity preservation; to identify the level and method of traditional food commercialisation; and to analyse the nutrient composition of traditional food (the original versus modified preparation versions) among the Kadazan-Dusun ethnic. Both qualitative as well as quantitative data were gathered through participant observation, interviews, and questionnaire survey and lab experiment. Respondents and informants consisted of Kadazan-Dusun traditional food retailers and consumers residing in the South West Coast, North West Coast and upper inland regions of Sabah. The findings show that commercialization and modernization do influence the authenticity of traditional food but do not diminish the ethnic cultural identity. The commercialization level of traditional food is varied in nature depending on the location or the zone. Social media and Internet accessibility have been identified as significant contributing factors toward changes in the marketing approach. Other contributing factors include time and budget constraints as well as business location. The traditional method of consumption resulted in better post prandial blood glucose response compared to the modified version. The rice meal with traditional pickled *bambina* and cooked *bambangan*, respectively differed in nutrient composition, but were comparable in their effect on blood glucose levels after consumption. The results of this study offer sociocultural, socioeconomic as well as health implication towards the Kadazan-Dusun communities as well as the society in general

Keywords: Kadazan-Dusun; Traditional Food; Commercialisation; Cultural Identity; Nutrient Information

INTRODUCTION

Symbolically, traditional food is synonymous with the cultural identity of a particular community. For Sabah, located on Malaysia's portion of the Borneo Island in South East Asia, the heterogeneity and distinctiveness of the state's ethnic traditional foods are courtesy of its multicultural makeup that consists of the Kadazan-Dusun, Bajau, Murut, Melayu- Brunei, Bisaya, and Bugis, among others. The West Coast Bajaus are well known for their concept of *duang* and foods such as *kalas* and *pinjaram*; whereas the East Coast Bajaus is popular for their *putu* and *sagol*; the Kadazan-Dusun are famous for *hinava* and *nonsom*; the Murut are famed for *linopot* and *umbus*; and the Melayu-Bruneians and Bisayas are synonymous with *ambuyat* and *kolupis* whereas the Bugis are distinguished for their *burasak* and *berobok* [1].

The preparation and production of traditional food is regarded as one of the contributing factors to cultural identity preservation. More and more people have become aware that by commercialising their traditional food, they are not only contributing towards the economic development of their respective communities, but simultaneously to their cultural maintenance as well. Traditionally, the business landscape is characterised by traditional business approach through face-to-face encounter or communication, but we are currently living in an ecosystem wherein a peoples, traders and customers alike, in Asia and around the globe, are scrambling to capitalise on online business opportunities in line with the emergence of the industrial revolution 4.0. However, in

certain corners of the world, the traditional business approach through face-to-face encounter or communication still preponderates business landscapes, especially pertaining to traditional food commercialisation.

As the largest indigenous group in Sabah, the Kadazan-Dusun is famous for their traditional food such as *hinava*, *nonsom*, *pinaasakan*, *lihing* chicken soup, *bambangan* and *tuhau*, which can be easily found at shops, markets, countryside stalls, cultural event and *Tamu*¹. This paper focuses only on *tuhau* and *bambangan* because they are among the more popular foods that have undergone a certain degree of modification processes in pursuit of commercialisation. Traditionally, *tuhau* and *bambangan* are both served as pickles that accompany white rice as side dishes.

The preparation and production of both *tuhau* and *bambangan* have been gradually improvised and expanded in line with the changes in business landscapes in the era of information technology, so that it can reach beyond the domestic horizon to target foreign consumers. Nowadays, apart from its traditional preparation, the locals also produce spicy *sambal tuhau* and *sambal bambangan*. Other than that, *tuhau* is also modified into dried *tuhau* floss or *serunding*, as it is known in Malay. The intercultural contact with the Malays that has taken place for centuries is regarded as one of the contributing factors towards these changes. Furthermore, = information technology continues to shape the contemporary trends of businesses today, and as a result, retailers are urged to expand from the domestic to the international markets by utilising several types of

social media as part of the new modus operandi to attract both local and global customers. Among the well-known social media platforms include *Whatsapp*, *Facebook* and *Instagram*. Testament to the rapidly increasing shift to online commerce, *tuhau* and *bambangan* are also available online at various shopping sites or marketplaces such as Lazada and Shopee, two of the most popular e-commerce platforms.

This contemporary phenomenon arguably impacts the group's ethnic cultural identity because it could trigger a cultural identity disorder, which potentially results in tensions in cultural identity tensions between present and future generations, as well as between locals and non-locals. Along with the modification or improvisation of traditional foods for the sake of commercialisation, the topic pertaining to nutrition also comes into the whole picture. Thus, among the issues that the researchers wished to highlight are 'to what extent the Kadazan-Dusun ethnic preserve their traditional food?'; 'What kind of changes that traditional foods have undergone?'; 'What are the effects of commercialisation towards the authenticity of traditional food as well as cultural identity preservation?'; 'To what extent is the involvement of Kadazan-Dusun and the utilisation of marketing strategies in commercialising their traditional foods?'; 'What are the nutrient composition and glycaemic response of both original and modified versions of traditional foods preparation?'; 'Are the authentic traditional foods (pickled *tuhau* and *bambangan*) more nutritious compared to the modified versions (cooked *tuhau* and *bambangan*)?'

This research aimed to study the commercialisation of traditional food as a medium of cultural identity preservation among Sabah ethnic groups in the era of industrial revolution 4.0. Additionally, this paper sought to analyse the nutrient composition of Kadazan-Dusun traditional food, namely tuhau and bambangan Thus, the specific objectives of this research are:

1. To study the meaning or signification of traditional food (*tuhau* & *bambangan*) as a symbol of cultural identity among the Kadazan-Dusun ethnic.
2. To study the impact of commercialisation towards influencing the authenticity of traditional food (*tuhau* & *bambangan*), as well as a medium for the cultural identity preservation among the Kadazan-Dusun ethnic.
3. To identify the level and method of traditional food (*tuhau* & *bambangan*) commercialisation among the Kadazan-Dusun ethnic.
4. To analyse the nutrient composition of traditional food (the original versus modified versions of *tuhau* & *bambangan*) among the Kadazan-Dusun ethnic.

LITERATURE REVIEW

Preliminary literature reviews show that a comprehensive study pertaining to the Sabahan traditional food and its relationship with the combination of three different yet important aspects namely cultural identity preservation, commercialisation, and nutrient information has not been covered widely among researchers. Previous studies that have been done pertaining to Sabahan traditional food have mostly concentrated on specific areas or disciplines, such as the studies by others [2-8]

A study which examined the preservation and transformation of traditional food in acculturation and assimilation contexts among sojourners was conducted by

Rosmaliza *et al* [6]. Utilising Malaysian respondents based in the United Kingdom, the research concluded that the obstacles in maintaining the authenticity of traditional food are largely due to the scarcity of resources in obtaining the original ingredients. Consequently, this results in modification of the original recipe to help ensure its survivability in a foreign land.

In contrast, a study pertaining to the communication field particularly in advertising was conducted by Totu and Halina Sendera [4]. Their research focused on the relationship between advertising and food choice pattern among children in Sabah. The study found that advertising is significantly contributes towards health problem, i.e., obesity among children [9].

Previous studies on Sabah's ethnic traditional foods have been performed by several researchers. Ng. [10] highlighted the Kadazan-Dusun, Suraya [2] focused on Bugis, whereas Halina Sendera [5] and Halina Sendera and Saidatul Nornis [11] concentrated on the Bajau.

Ng [10] further studied the fermentation of *bambangan* and emphasised the community's perception towards its production, preparation quality, commercialisation and marketing strategy. Ng further concluded that the unproductive promotion and unattractive packaging quality have contributed towards the reduction of *bambangan* market demand and commercialisation.

On the other hand, Suraya [2] researched on the importance of traditional food towards the belief system and culture among the Bugis community in Tawau, Sabah. Although there were similarities with Suraya's in respect with the concept of food as cultural identity, Halina Sendera and Saidatul Nornis [11] found contrasting insights in their research on the Bajau, who are famed with the concept of *duang* dan *ngeduang* as part of a custom following the death of a family member. The study showed that traditional foods in *duang* have implicit meanings that can manifest the cultural life among the Bajau. Similarly, Halina Sendera; [3, 5] has conducted comprehensive studies pertaining to the relationship between traditional food and the cosmology and worldview, in her thesis on semiotics in the Bajau death custom. Apart from emphasising the significations of the symbols, her study also underscored the transformation and modification of *duang* preparation due to the modernisation and the needs of the contemporary society (ibid).

Furthermore, even though studies by Ramlah [7] and Jasmine [29] examined similar traditional foods, namely *bambangan* and *tuhau* respectively, they both concentrated only on the nutrient aspect. Acknowledging this gap, this cross-disciplinary research therefore was called upon to synthesise three divergent but interconnected domains of Sabahan traditional food, namely cultural identity preservation, commercialisation and nutrient information.

RESEARCH METHODOLOGY

This research is the combination of both qualitative (as a primary method) and quantitative (as a secondary method) approaches. In the latter, participant observation as well as in-depth interviews were utilised to collect primary data. The participant observation was conducted at several locations around Sabah, covering the south west coast zone (Kota Kinabalu, Penampang, Tuaran, Tamparuli, Kundasang, and Ranau), ~~north-west~~North West coast zone (Kudat, Sikuati, and Kota Marudu) and also the upper inland or rural zone (Tambunan, Keningau, Tenom,

Nabawan, and Sook). Data were obtained through visual recordings in the form of pictures and videos to get real-life scenarios of the commercialisation landscape of traditional foods among the Kadazan-Dusun particularly *tuhau* and *bambangan*. In-depth interviews were then conducted involving 20 informants – consisting of retailers and consumers – from various districts to get more information particularly pertaining to their experiences, knowledge and perceptions on traditional foods and Kadazan-Dusun cultural identity, as well as on business or marketing strategy. Quantitatively, a simple quantification procedure (to obtain percentage) was carried out using the survey technique that gathered general information regarding the business landscape of traditional foods. Accordingly, survey forms were distributed and collected among respondents during the fieldwork. Apart from that, lab experiments were performed to analyse the nutrient composition and to determine the glycaemic responseⁱⁱ and glycemic indexⁱⁱⁱ of both original and modified versions of the traditional foods (*tuhau* & *bambangan*).

RESULTS & DISCUSSION

Traditional foods portray not only but the historical landscape of Kadazan-Dusuns’ traditional way of living and surviving, but also their settlement patterns as well as their cultural identity. Their means of survival are synonymous with agricultural life [12], as the majority of whom were farmers and forest product collectors. The practice of preserving traditional food through various kind of food preparation such as fermentation etc. is in line with the cosmology and worldview of Kadazan-Dusuns who perceive the balance of the cosmos as an important element in sustaining human life. Kulip [16] claimed that traditional practices among the Kadazan-Dusun are significantly important in ensuring the preservation of natural resources for the sustenance of next generation. In this sense, the Kadazan-Dusuns seem to embrace that to live in a peaceful environment, humankind needs to ensure the continuity of food supply and the collective responsibility among them for the sake of survival. The portrayal of Kadazan-Dusuns’ Others include time and budget constraints and business location.

cultural identity and worldview can be seen through the implementation of certain rules, beliefs, and ritual practices [14-18];

Commercialisation and modernisation do influence the authenticity of traditional foods thought they do not diminish the ethnic cultural identity. This is because the traditional way of food preparation continues to be commercialised and has its special place among the society. In fact, the traditional food improvisation and modification has enlightened and increased the knowledge of others pertaining to Kadazan-Dusun traditional foods and cultural identity.

The level and method of traditional foods commercialisation are varied in nature depending on the location or the zone. Generally, most retailers are still operating domestically.

Table 1: Commercialisation Level

| <u>Commercialisation</u> level | Percentage |
|--------------------------------|------------|
| Domestic | 83.8% |
| National | 13.2% |
| International | 2.9% |

Some retailers from certain places (especially remote areas) are using traditional ways of doing business (face-to-face encounter) whereas retailers from different localities have taken progressive steps in modifying and diversifying their marketing strategy by utilising several types of social media platforms as a new approach to attract buyers as well as to promote and expand their sales. Among the famous social media recorded are *Whatsapp*, *Facebook* and *Instagram*. Testament to the growing shift to online commerce, *tuhau* and *bambangan* are also available online at various shopping sites or marketplaces. The most popular e-commerce platforms used among retailers and shoppers are Lazada and Shopee. Social media and Internet accessibility have thus been identified as significant contributing factors towards the change in the marketing approach.

Table 2: Nutrient composition and glycaemic response of rice and *tuhau* (*Etilingera coccinea*) meals containing 50g of carbohydrate

| | Pickled Tuhau Meal | Tuhau Floss Meal |
|---|--|-------------------------------------|
| Carbohydrate (g) | 50 | 50 |
| Protein (g) | 7.6 | 14 |
| Fat (g) | 1.7 | 14 |
| Dietary <u>fiber</u> (g) | 0.8 | 4.05 |
| <u>Glycaemic</u> response & index (GR & GI) | IAUC= 156.56; GI= 59.705.95, MEDIUM GI | IAUC=193.15; GI= 71.535.79, HIGH GI |

Table 3: Nutrient composition of rice and *bambangan* (*Mangipera pajang*) meals containing 50g of carbohydrate

| | Pickled Bambang Meal | Cooked Bambang Meal |
|--------------------------------|----------------------|---------------------|
| Carbohydrate (g) | 50.3 | 50.6 |
| Protein (g) | 7.9 | 11.8 |
| Fat (g) | 1.8 | 2.3 |
| Dietary <u>fiber</u> (g) | 1.9 | 4.4 |
| Organic acids (%) | 12.57 | 9.45 |
| <u>Glycaemic</u> response (GR) | MEDIUM GI | MEDIUM GI |

In terms of nutrient information, for the *tuhau* (*Etilingera coccinea*) meals as shown in the Table 2, the nutrient composition of carbohydrate for both traditional (pickled *tuhau*) and modified (*tuhau* floss) meals is similar, but the nutrient composition of protein, fat and dietary ~~fiber~~ are different. The pickled *tuhau* was ~~classified~~ as medium GI meal whereas the *tuhau* floss was clustered as a High GI meal. On the other hand, the nutrient composition and ~~glycemic~~ response of rice and *bambangan* (*Mangifera pajang*) meals demonstrated that cooked *bambangan* contained higher amounts of protein, fat and dietary ~~fibers~~ than pickled *bambangan* as shown in Table 3. The GR of the rice, chicken, and pickled *bambangan* were recorded as 14% lower than the GR of the rice, chicken and cooked *bambangan* ~~meal, but meal, but~~ this was not statistically significant (t-test= p>0.05). Both meals were classified as medium GI meals.

CONCLUSION

Commercialization and modernization have significantly impacted the authenticity of traditional food, but without diminishing the Kadazan-Dusun cultural identity and core values in the process. This is due to the existence of basic ingredients such as *bambangan* and *tuhau* which are synonymous with the life of Kadazan-Dusun. Both internal and external factors have equally contributed towards the level of traditional food commercialization in each district or location. Apart from time and financial constraint as well as business location, the changes and differences in marketing strategies are mainly due to social media use and internet accessibility. The traditional method of consumption (rice with pickled *tuhau*) resulted in better post prandial blood glucose response compared to the modified version (*tuhau* floss). On the other hand, the rice meal with traditional pickled *bambangan* and cooked *bambangan* respectively differed in their nutrient compositions but were comparable in their effects on blood glucose levels after consumption.

This research incorporated both social sciences (anthropology, history, communication and marketing/business) and applied sciences (food and nutrition) fields. The results of this study offer sociocultural, socioeconomic as well as health implications towards the Kadazan-Dusun communities and the society in general. It is hoped that the documentation pertaining to traditional food can contribute toward promoting the survivability and elevating the cultural heritage among Sabahans, and simultaneously expanding the intercultural competence among others beyond the cultural orbit.

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ⁱ *Tamu* is the name given to Sabah's traditional native markets held periodically at various towns and districts. Basically, it is known as a meeting place in which people gather at a designated place to buy and sell (or exchange) local products. In Sabah, the concept of *Tamu* has been in existence for centuries, even prior to the British rule of colonial North Borneo (Sabah Museum, 2007), or before the emergence of European power at the beginning of the 19th century (Chong Hai San & Low Ai Fuah, 2008; Halina Sendera Mohd. Yakin et. al, 2019)

ⁱⁱ Glycaemic response (GR) is the reaction or effect of food or meal on blood sugar (glucose) level after consumption.

ⁱⁱⁱ Glycaemic index (GI) is a figure or number constituting a relative ability of a carbohydrate food or meal in determining or increasing the blood sugar (glucose) level.