

Towards Developing Economic Community Development and Sustainability Model of The Asian Clam (Etok) Industry in Kelantan, Malaysia

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Abstract. This research examines the business profiling of Asian clam (etok) sellers in Kelantan, which has been considered as the food heritage of the state. The study was conducted in order to understand a deep insight into business activities as an initial stage for further investigation to develop a sustainable etok business model. These include etok branding, marketing and proposing the new strategy on promoting and sustaining this heritage food. A total of 108 Etok sellers from ten districts in Kelantan which are Gua Musang, Bachok, Kota Bharu, Pasir Mas, Tumpat, Tanah Merah, Machang, Kuala Krai, Pasir Puteh and Jeli involved in the study. The data were analysed using Statistical Package for the Social Sciences (SPSS) version 24. The descriptive study reveals that the majority of respondents (55.6%) involved in the business for more than ten years and inherited (58.4%) from their parents and ancestors. Most of them (84.3%) are running etok business as a full-time employment. Majority of them (71.3%) earned a steady daily profit of approximately RM100.00 or 25.00USD. This signifies that the industry is still viable and provides a substantial income to those involved in the business. Expectantly, this study will pave a way of comprehensive exploration of etok business in proposing better strategy, promoting and sustaining business in the state of Kelantan.

INTRODUCTION

The Asian clam or etok known as *Corbicula fluminea* in a scientific language is native to the fresh waters of eastern and southern Asia. In Malaysia, etok can generally be found in the freshwater rivers at the base of the river or canal. It can also be seen living in the vicinity of the river estuary near delta or sea. However, etok exists more in the river near paddy fields. They are part of river species that are seen to favour a quiet and muddy area of water. Mostly etok with the small size usually inhabit the rivers in tropical countries such as the eastern coastal states of Malaysia such as Kelantan and Terengganu. In addition, etok also occupies in the east coast of Thailand. Apart from that, the dry season between March and August is seen as the best season to harvest for etok. In Malaysia, etok is popularly consumed and found only in Kelantan, due to this, etok is known as unique heritage food of Kelantan. Kelantanese for centuries has enjoyed eating etok salai or smoked etok regardless of social and economic status. For Kelantanese

people, etok has become one of the snacks categories like crackers (keropok) that are enjoyed while relaxing watching TV or picnics. Smoked etok, which can be eaten by itself or as snack is the most preferred etok amongst consumers in Kelantan. Besides, etok is so synonymous with Kelantan people because it is a special snack while enjoying rice dishes or 'nasi kerabu'.

The searching or harvesting job for etok is prevalent, especially among the residents who live along the Kelantan River. Previously, it was very easy to find etok along the river in the state of Kelantan [28]. However, that was all just history. Nowadays, etok industry is under threat due to social change, an increase in health awareness and shortage in supply of these clams. Hence, revitalising etok business is important because it does not only provide employability through entrepreneurship, but it can also safeguard or preserve this local heritage, where irretrievable loss of heritage should be avoided. Etok sellers play a significant role to ensure the sustainability of this heritage food. However, a model in developing economic community development and sustainability is needed in ensuring the sustainability of this business. Hence, evidence related to sellers' profile, needs, nature of business and business performance is very important. Investigating the whole value chains of the industry, including sellers' business location, the supply of raw material and sales are vital. Sellers' business activities towards smoked etok are important because it does provide not only a broad and thick descriptive analysis of the traditional food of Kelantan but also answers pertinent questions related to the nature of the industry and how this business helps to sustain economic activities for Kelantanese community. Despite of obstacles and challenges in getting raw etok, the fact that this business has contributed to the income of Kelantanese communities over 40 years ago is proven. In fact, the business has been inherited from one generation to other generation. Thus, this indicates that etok contributes to the economic activity of the community of Kelantan. To explore further, we conducted the study to investigate the sellers of etok in Kelantan in gaining a crystal clear of their business activities and background towards developing a sustainability model.

LITERATURE REVIEW

Food heritage contributes to identity, prosperity, international identification and reputation of a country as well as is able to provide a positive influence on the economy [20]. It is also presented as a set of tangible and intangible features identity of food culture that has been shared by the local community [6] and some elements of food heritage can be employed to sustain the traditional food identity for future generations. Besides, the food heritage is not only limited to production techniques of food products, it also incorporates the technology and consumption practices of the consumer [3]; thus it will help sellers to recognise the need of the consumers towards etok as Kelantan food heritage. On the other hand, traditional food is defined by several scholars as the cuisines that have unique recipes that are passed down from one generation to other generations, commonly from mothers to daughters with the process of informal learning at the kitchen as the mode of transmission the knowledge practices [8] [19] [9]. To what extend traditional local foods can be preserved and available may be affected by many factors, and among of those factors are the availability of raw materials, agricultural habits and location [23]. Heritage food is continuously changing depends on traditional and modernity as presented by [5] in the concept of interchange between tradition and modernity heritage. This heritage concept leads to the connection of traditional, modernity and ideology of conservation as well as adaptation. After reviewing past literature, it is very scant of socio-economic study that has been conducted in Malaysia with regard to etok, particularly towards developing the sustainability model. Etok has long been considered as Kelantan's heritage food because it is not widely available in other states in Malaysia. Etok business is considered as a form of an informal economy. Etok business provides self-employment to local folks, especially those who stay along the Kelantan River. Realising etok business is deteriorating and under threat, comprehensive investigation of etok and socio-economic factors related is utmost important. Failure to do so, we are not only losing our heritage but also fail to document the socio-economic values that revolve around this traditional food industry. Indeed, the background scenario of the industry will provide a platform to revive the industry. Food business in Malaysia and elsewhere, in general, are under threat due to increasing challenges and threats in a highly competitive environment, which lead difficulty to sustain their operations [1] [15] [26]. This includes the threat of heritage food and products [26]. Etok industry in Kelantan in particular also facing these challenges in sustaining the business.

Sustainability is crucial confronting most of the businesses today regardless of their size or location or type of business [10]. Sustainability has become one of the essential strategies in the fourth industrial revolution era. Thus, Etok business demand for a model in sustaining the business. Additionally, Etok business used to provide self-employment opportunity for the community. Looking at the social-economic and plethora of current scenario, the prospect of etok business is not so promising. Immediate effort need to be taken to revitalise the industry, otherwise,

it is almost impossible to sustain etok business. We need to protect this etok business in order to preserve it as one of the Malaysia food heritages. Realising etok business is under risk, a thorough investigation of socio-economic factors pertaining to etok business and stakeholders around the business are timely, urgent and paramount importance. A comprehensive investigation that has been proposed will provide a deeper insight into an understanding of the interrelated factor of this traditional industry. In other words, the proposed study provides a baseline for action and initial towards developing a sustainability model. In turn, a viable solution can be proposed to regenerate this industry. A number of studies in other countries show traditional business can be revitalised and still relevant in the current context if the needs and wants of customers are fulfilled. Moreover, a sustainability model help as a guide for the businesses towards sustaining their business [10]. A model help to provide new insights into business sustainability.

METHODOLOGY

A total of 108 etok sellers from ten districts namely Gua Musang, Kota Bharu, Bachok, Pasir Mas, Tumpat, Tanah Merah, Machang, Kuala Krai, Pasir Puteh, Jeli in Kelantan involved in this study. Subjects of this research were individual etok sellers who conducted etok selling activities regardless of any business premises. Studying samples rather than an entire population leads to more reliable results, mainly because fatigue is reduced, as well as performed fewer errors in collecting data [20]. Sampling also reduces cost, time as well as resources. The surveys were conducted within two weeks in April 2017. Questionnaires were administered to etok sellers in Kelantan with the aid of appointed numerators. This research employed a convenience sampling technique to obtain basic data and trends regarding the study. During the fieldwork, each of the enumerator groups was monitored and supervised using group chatting online and site visits by the senior researchers. The processing of data began after all of the required data had been gathered accordingly. Prior to the analysis, central editing was conducted to ensure only complete data were included. The data set was coded and analysed using the Statistical Package for Social Science (SPSS) version 24.

ANALYSIS AND RESULT

Respondents' Profile

Table 1 presents the profile of the respondents. Consistent with the nature of micro business in Kelantan dominated by women, females are the dominant group of etok sellers which is 72.2% of the respondents are females in this study. This is a common feature of the micro-business trend for most of the Kelantan area in which female entrepreneurs dominate the total of micro business entrepreneurs in Kelantan. In terms of age, majority of the respondents were above 41 years old representing 50% of the respondents, about 15.7 % of respondents with the age of 31-35 years old, followed by 36-40 years representing 15% and for age 26 – 30, 21-25 years old and age below 20 years representing 6.5% equally. A majority of the respondents were married, which representing 83.3%; single 14.4% and 1.9% were divorced. The majority of etok sellers obtained the Lower Secondary Assessment (Penilaian Menengah Rendah - PMR) or the Lower Certificate of Education (Sijil Rendah Pelajaran - SRP) and held the Malaysian Certificate of Education (Sijil Pelajaran Malaysia - SPM) with 28.7% respectively, followed by primary school education level 24.1%, non-formal education 8.3%, Diploma 9.3% and Bachelor Degree representing 0.9% respondents. As this business is traditionally dominated by the Malay Kelantanese, majority of Etok sellers were Malay representing 98.1% of the respondents, and the remaining were Chinese and Thai (Siam) which represent 0.9% equally. Interestingly, majority of etok Sellers were from Pasir Puteh district representing 28.7%, followed by Tanah Merah district 13.9%, both Pasir Mas and Tumpat 12.0%, Bachok and Jeli 9.3% accordingly, Machang 6.5% and the other three districts Gua Musang, Kota Bharu and Kuala Krai with 2.8%.

TABLE 1. Respondents Profile

Demographic (N=108)		Frequency	Percent
Sex	Male	30	27.8
	Female	78	72.2
Age	< 20 years old	7	6.5
	21 - 25 years old	7	6.5
	26 - 30 years old	7	6.5
	31 -35 years old	17	15.7
	36- 40 years old	16	15
	> 41 years old	54	50
Status	Single	16	14.8
	Married	90	83.3
	Divorced	2	1.9
Education	Non-formal education	9	8.3
	Primary school	26	24.1
	PMR/SRP	31	28.7
	SPM	31	28.7
	Diploma	10	9.3
	Degree	1	0.9
Race	Malay	106	98.1
	Chinese	1	0.9
	Thai	1	0.9
District	Gua Musang	3	2.8
	Bachok	10	9.3
	Kota Bharu	3	2.8
	Pasir Mas	13	12.0
	Tumpat	13	12.0
	Tanah Merah	15	13.9
	Machang	7	6.5
	Kuala Krai	3	2.8
	Pasir Puteh	31	28.7
	Jeli	10	9.3

Sellers Business Background

Table 2 shows descriptive statistics for the sellers business background. Majority of etok sellers in Kelantan were inherited from their parents or from one generation to other generation representing 57.4%. While another 41.7% have started their etok business at their own. In terms of business year started, most of the etok sellers started their business for more than ten years which representing 58.4% while another 42 respondents which representing 38.9% started their business less than ten years. Surprisingly, there are etok sellers started their business more than five decades which is between the year 1950-1960 (3.7%). After the year 1960 to the year, 1980 showed a decreasing trend of etok sellers started their business which is between the year 1961-1970 (0.9%) and between the year 1971-1980 (2.8%). Interestingly, the figure showed an increasing trend for the period of the year 1981 onwards whereby the year 1981-1990 representing 8.3%, the year 1991-2000 representing 18.6%, year between 2001 to 2008 (24.1%) and between the year 2009-2017 (38.9%). In terms of business premises, most of etok sellers doing their business at roadside representing 47.2% by using a small table. Another 19.4% of them conducted their business at the market, then flee market representing 18.5% and 15.7% of sellers selling the etok at the night market. The respondents also being asked regarding the sources of raw etok. Majority of the supplies for raw etok are from a local supplier outside Kelantan which are from Pahang 13.9%, then Perak 10.2%, Jerneh 9.3% and Terengganu 7.4%. There are also a number of suppliers from Kelantan itself which represents 21.3%. In order to overcome the shortage of raw etok, the sellers also buy raw etok from Munduk, Thailand supplier representing 27.8%. Some of the sellers do not have information regarding raw etok supplier representing 14.8%. Majority of etok sellers were doing full-time business representing 84.3% while the remaining 13.0% doing the business on part-time basis. In terms of financial business background,

majority of etok sellers started their business with an initial capital of below RM500 representing 78.7% of the total respondents, then below RM1500 representing 12.0% and RM500 to RM1500 representing 9.3%. Most of them allocate below RM100 as their daily capital representing 60.2%, then RM100 to RM200 23.1% and above RM200 16.7%. Out of 108 respondents, 59.3% have their daily sales below RM100, above RM200 26.9% and between RM100 to RM200, which representing 13.9% of the respondents. Majority of etok sellers earn daily net profit below RM100 representing 71.3%, followed by above RM200 18.5% and 10.2% for profit between RM100 to RM200.

TABLE 2. Sellers Business Profile

Demographic (N=108)		Frequency	Percent
Inherited	Yes	62	57.4
	No	45	41.7
Business Year Started	1950-1960	4	3.7
	1961-1970	1	0.9
	1971-1980	3	2.8
	1981-1990	9	8.3
	1991-2000	20	18.6
	2001-2008	26	24.1
Business Premises	2009-2017	42	38.9
	Roadside	51	47.2
	Market	21	19.4
	Flee market	20	18.5
Source of raw <i>Etok</i>	Night market	17	15.7
	Perak	11	10.2
	Terengganu	8	7.4
	Kelantan	23	21.3
	Jerteh	10	9.3
	Pahang	15	13.9
	Thailand	29	26.9
	Munduk	1	0.9
	Do not know	16	14.8
	Nature of business	Full time	91
Part-time		14	13.0
Initial capital	< RM500	85	78.7
	RM500 – 1500	10	9.3
	> RM1500	13	12.0
Daily capital	< RM100	65	60.2
	RM100 – 200	25	23.1
	> RM200	18	16.7
Daily sale	< RM100	64	59.3
	RM100 – 200	15	13.9
	> RM200	29	26.9
Net profit	< RM100	77	71.3
	RM100 – 200	11	10.2
	> RM200	20	18.5

DISCUSSION AND CONCLUSION

Sustaining etok business in Kelantan requires accurate information and evidence of sellers' profile and their business background which in turn this valued statistical data plays an extremely important role in helping them for marketing purposes, such as defining the right market for smoked etok and at the same time deciding on the appropriate techniques to employ, to increase consumption and to target a certain group of consumers. This study provides an interesting insight into understanding the sellers business background of this heritage food towards contributing their economic sustainability. The sellers profiling evidence are crucial in developing the economic development and sustainability model for Asian Calm (etok) industry, particularly in Kelantan, Malaysia. Overall, this study on sellers'

business perspective postulates an esteemed finding of the etok business in Kelantan. The establishment of etok business in Kelantan is more than five decades, and some of the sellers started their business since before Malaysia Independence Day. Economically, etok business plays an extremely significant role in developing the economics of Kelantanese society and at the same time help to sustain their income. Based on our pilot study before, a vast number of Kelantanese still eat etok, in fact, one of the sellers in Kelantan successfully sold their etok in Kuala Lumpur by aeroplane [21]. This indicates that etok business has a very promising prospect to venture in and proven can help the Kelantanese women, especially for their income sustainability.

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REFERENCES

1. I. Aida, "Globalisation & Social-economic Development in Malaysia: Whither small business?" *Asian Journal of Business and Accounting*, vol. 5, no. 1, pp.109-127, (2015).
2. E. W. Anderson, "Customer satisfaction and price tolerance," *Marketing letters*, vol. 7, no. 3, pp. 265-274, (1996).
3. D. Chabrol, and J. Muchnik, "Consumer skills contribute to maintaining and diffusing heritage food products online: <http://aof.revues.org>," (2011).
4. Daly, R. W. R, and Husein, A, "The study of tooth wear patterns and their associated aetiologies in adults in Kelantan, Malaysia," *Arch Orofac Sci*, vol. 5, no. 2, pp. 47-52, (2010).
5. Bessière, J, "Local development and heritage: traditional food and cuisine as tourist attractions in rural areas," *Sociologia ruralis*, vol. 38, no.1, pp. 21-34, (1998).
6. Bessiere, J, and Tibere, L, "Traditional food and tourism: French tourist experience and food heritage in rural spaces," *Journal of the Science of Food and Agriculture*, vol. 93, no. 14, pp. 3420-3425, (2013).
7. Contel, M, "Consumer-driven definition of traditional food products and innovation in traditional foods. A qualitative cross-cultural study," *Appetite*, vol. 52, no. 2, pp. 345-354, (2009).
8. Guerro, I., Guardia, M.D., Xicola, J., Verbeke, W., Vanhonacker, F., Zakowska-Biemans, S., and Hersleth, M, "Consumer-driven definition of traditional food products and innovation in traditional foods. A qualitative cross-cultural study," *Appetite*, vol. 52, pp. 345-354, (2009).
9. Hamzah, H., Ab Karim, M. S., Othman, M., Hamzah, A., and Muhammad, N. H, "Challenges in sustaining the Malay Traditional Kuih among youth," *International Journal of Social Science and Humanity*, vol. 5, no. 5, pp. 472, (2015).
10. Ismail, M., Zainol, F.A., Bin Yusoff, M.N.H., Owusu, J, and Ibrahim, W.K.W, "Developing a Co-Operative Sustainability Model (CSM) in Malaysia: What's driving them?" *International Journal of Innovation, Creativity and Change*, vol. 7, no. 10, pp. 209-218, (2019).
11. Ismail, M., Zainol, F.A., Binyusoff, M.N.H and Rusuli, M.S.C, "The Driving Force of the Business Sustainability Model Among Co-Operatives in Malaysia," *The Journal of Social Sciences Research*, vol. 5, no. 3, pp. 826-829, (2019).
12. Kelantan Creative, T. (Producer). (2015, accessed on 8 August 2017). *Selero Kito Ep 1 - Etok Salai Sohor*. Retrieved from <https://www.youtube.com/watch?v=aGXPjesfwfU>
13. LaTour, S. A., and Peat, N. C, "Conceptual and methodological issues in consumer satisfaction research," *ACR North American Advances*, (1979).
14. MAIK, *Resepi Warisan Cik Siti Wan Kembang Kelantan, Malaysia 101 resepi* (Majlis Agama Islam Dan Adat Istiadat Melayu Kelantan ed.): Ultimate Print Sdn Bhd, (2013).
15. Marsella, A. J, "Hegemonic Globalization & Cultural Diversity: The Risks of Monoculturalism," *Australian Mosaic*, vol. 11, no. 13, pp. 15-19, (2005).
16. Mohd Shokri, Goo Chui Hoong, Khairil Anwar, Hellen Fong, and Ananthan, E. *Lost Recipes of Malaysia*. Petaling Jaya, Selangor: MPH Group Publishing Sdn Bhd, (2014).
17. Muhammad, R., Zahari, M. S. M., and Kamaruddin, M. S. Y, "The alteration of Malaysian festival foods and its foodways," *Procedia-Social and Behavioral Sciences*, vol. 101, pp. 230-238, (2013).
18. Mohd Zawi, Access from <http://mohdzawi.blogspot.my/2008/03/etak-oh-etak.html> on 16 July 2017, (2017).

19. Nor, N. M., Sharif, M. S. M., Zahari, M. S. M., Salleh, H. M., Isha, N., and Muhammad, R, "The transmission modes of Malay traditional food knowledge within generations," *Procedia-Social and Behavioral Sciences*, vol. 50, pp. 79-88, (2012).
20. Ramli, A. M., Zahari, M. S. M., Halim, N. A., and Aris, M. H. M, "The Knowledge of Food Heritage Identity in Klang Valley, Malaysia," *Procedia - Social and Behavioral Sciences*, vol. 222, pp. 518-527, (2016).
21. Rohana, I. Etak Kak Jah Naik Kapal Terbang, *Sinar Harian*. Retrieved from <http://www.sinarharian.com.my>, (2018).
22. Samuelson, P. A, "A note on the pure theory of consumer's behaviour," *Economica*, vol. 5, no. 17, pp. 61-71, (1938).
23. Sharif, M. S. M., Zahari, M. S. M., Nor, N. M., and Muhammad, R, "Factors that restrict young generation to practice Malay traditional festive foods," *Procedia-Social and Behavioral Sciences*, vol. 101, pp. 239-247, (2013).
24. Solomon, M., Russell-Bennett, R., and Previte, J. *Consumer behaviour*, Pearson Higher Education AU: (2012).
25. Wahid, N. A, *Heritage food tourism: Bahulu attracts? Paper presented at the Proc. the 2nd National Symposium on Tourism Research, Universiti Sains Malaysia, Penang, Theories and Applications*, (2009).
26. Tovey, H, "Local Food as a Contested Concept: Networks, Knowledge's & Power in Food-based Strategies for Rural Development," *International Journal of Social of Agriculture & Food*, vol. 16, no. 2, pp. 21-35, (2009).
27. Yeung, R. M., and Morris, J, "Food safety risk: Consumer perception and purchase behaviour.," *British Food Journal*, vol. 103, no. 3, pp. 170-187, (2001).
28. Zulhazman, H., Ismail, M., Mohd Nazri, Z., Rooshihan, M.A.R., and Mohd Rafi, Y, "Creating A Business for Etak-Heritage Food Revival Sustainability in Kelantan, Peninsular Malaysia," *International Journal of Innovation Creativity and Change*, vol. 6, no.3, pp. 81-88, (2019).