

## REPORT

Sustainable socioeconomic development  
service for suburban population: A case study in  
East Malaysia**Boo Ho Voon<sup>1\*</sup>, Phang Ing<sup>2</sup>, Corina Joseph<sup>3</sup>, Abang Azlan Mohamad<sup>4</sup>,  
Vloreen Nity Mathew<sup>1</sup>, and Kelvin Tee Yong Goh<sup>5</sup>**<sup>1</sup>Faculty of Business and Management, Universiti Teknologi MARA, Sarawak, Malaysia<sup>2</sup>Faculty of Business, Economics and Accountancy, Universiti Malaysia Sabah, Kota Kinabalu, Malaysia<sup>3</sup>Faculty of Accountancy, Universiti Teknologi MARA, Sarawak, Malaysia<sup>4</sup>Faculty of Economics and Business, Universiti Malaysia Sarawak (UNIMAS), Kota Samarahan, Sarawak, Malaysia<sup>5</sup>Faculty of Quantitative Science and Mathematics, Universiti Teknologi MARA, Sarawak, Malaysia**Abstract**

Sustainable socioeconomic development service dimensions, determining the suburban residents' satisfaction from the residents' perspectives, have yet to be contextually identified for more effective policies and strategies to benefit the targeted households. This case-based empirical research paper aims to examine the relevant sustainable suburban socioeconomic service dimensions from the residents' perspectives. Interviews and questionnaire survey data were employed to identify the numerous dimensions and items in relevance. Batu Kawa suburban in Kuching (Sarawak, Borneo), Malaysia, was chosen based on its exemplary socioeconomic development and multi-ethnicity. The survey involved 283 respondents. The findings reveal that there were ten dimensions for the sustainable socioeconomic development service dimensions. The findings also indicate that the residents were generally satisfied, but there is still room for further improvement, especially in terms of public transport system, road traffic, safety and security, sport facilities, pollution, and job opportunities. The results suggested that there were differences between two geographical areas separated by the Sarawak River.

**Keywords:** Socioeconomic development service; Suburban; Sarawak

---

**\*Corresponding author:**  
Boo Ho Voon  
(bhvoon@uitm.edu.my)**Citation:** Voon, B.H., Ing, P., Joseph, C., *et al.* (2023). Sustainable socioeconomic development service for suburban population: A case study in East Malaysia. *International Journal of Population Studies*. <https://doi.org/10.36922/ijps.442>**Received:** January 10, 2023**Accepted:** May 2, 2023**Published Online:** May 22, 2023**Copyright:** © 2023 Author(s). This is an Open Access article distributed under the terms of the Creative Commons Attribution License, permitting distribution, and reproduction in any medium, provided the original work is properly cited.**Publisher's Note:** AccScience Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.**1. Introduction**

Sustainable socioeconomic development is crucial for mankind and it has received great attention from nations worldwide. The sustainable development goals (SDGs) of the United Nations have been the preferred key performance indicators for many governments and authorities at different levels for the community-desired development of sustainability (e.g., Voon *et al.*, 2021). Emerging economies, including Malaysia, have allocated increasing amounts of financial and non-financial resources for sustainability initiatives to serve and care for their citizens and households. Many organizations and individuals in the public and private sectors have been recognizing the needs and

opportunities of implementing sustainability practices in their operations to achieve the desired outcomes for better development service quality to the targeted stakeholders (e.g., Peter & Csaba, 2019). Understanding households' socioeconomic strategies for sustainability is essential to help them more effectively (Sachs *et al.*, 2021). Nevertheless, the voices of the residents, typically in the suburban areas, are given scant attention, and the needs and expectations of the suburb residents are often overlooked.

Therefore, this paper presents the empirical research which aimed to explore and thereafter measure socio-economic development services and residents' satisfaction. A suburb of Kuching City (Borneo), Batu Kawa, Sarawak, Malaysia, was selected for the intended investigation on the various sustainability initiatives for sustainable socioeconomic development and family happiness. The triple-bottom line measurement items of the natural, economics, and social dimensions of sustainability were included in the quantitative survey questionnaire.

### 1.1. Socioeconomic development and Batu Kawa in Borneo

Borneo is the world's third largest island and the largest island of Asia. It is a part of the Indonesian archipelago. Borneo is surrounded by the Java Sea to its south, the Celebes Sea on its east, and the South China Sea to its north. Borneo is the only island in the world that is shared by three different countries, namely: Indonesia (73%), Malaysia (26%), and Brunei (1%). The island of Borneo is rich in natural resources. Known metal deposits include gold, silver, copper, tin, aluminum (as bauxite), and iron ore. Most of the island is covered by tropical forests that produce tropical timber and other forest products. The coastal and offshore areas are underlain by deposits of

coal, peat, oil, and natural gas. Sarawak, together with Sabah, is one of the states situated in Borneo. Kuching City (and her south-western periphery, Batu Kawa), one of the most dynamic cities in Borneo, is located in south-western Sarawak. Batu Kawa is exemplary for her fast and dynamic socioeconomic development as well as sustainability practices.

Batu Kawa, the periphery municipal area (Figure 1A), is administered under the Kuching South City Council and specifically managed by the Padawan Municipal Council. The original major Batu Kawa settlement areas (after the Datuk Chong Kiun Kong Bridge) consist of 10 major roads (*kolong*), with 10 primary schools and more than 5000 households, exceeding 10,000 population (in 2022). Batu Kawa, which mainly consists of Chinese Hakka and Malay residents, has undergone fast economic development after the bridge was built in the early 1990s. For the past 10 years, there have been many housing development projects in this suburb and there are many households with diverse ethnic cultures now. They are many Bidayuh and Iban families residing there. The occupations of Batu Kawa residents include construction workers, clerks, technicians, salesman, teachers, government servants, and others (Voon *et al.*, 2021). Many of them are businessmen in the retailing sub-sector. The old Batu Kawa Bazaar has 61 shops, 38 nearby the Bridge, and about 200 units of relatively new shop-houses at Sungai Moyan Junction and along the Pan Borneo Highway to Musi.

The quality of life of this suburban population has been generally improving. However, households in Batu Kawa have been facing numerous socioeconomic challenges such as relatively lower income, traffic jams, diminishing land ownerships, poorer logistics and basic amenities, and relatively lower family happiness, and the like.

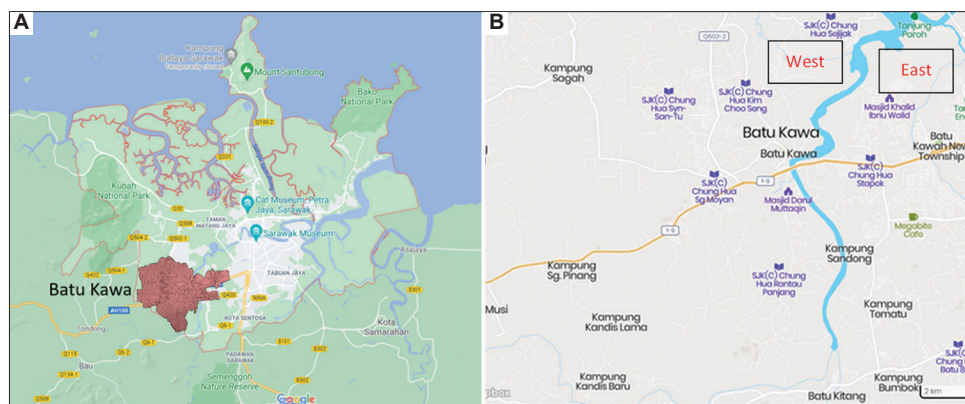


Figure 1. (A) Location of Batu Kawa in Sarawak. (B) Batu Kawa and the Sarawak River.

Note: In Figure 1b, the West bank of the Sarawak River refers to the old district (beyond the river and further away from Kuching City), whereas the East bank refers to the new district (nearer to the city).

Source: <https://mapcarta.com/15816902> (Figure 1A), <https://mapcarta.com/15816902> (Figure 1B).

Previous research has shown that households' adaptive attitudes, strategies, and initiatives are necessary factors in leveraging their quality of life (e.g., Dang *et al.*, 2020; Voon *et al.*, 2021). Hence, there is a need to understand socioeconomic service determinants that influence family happiness in this suburban for sustainability and also for other suburban communities and households to emulate for sustainable suburban development. The socioeconomic development for different parts of the suburban area (i.e., East bank and West bank, separated by the Sarawak River, see Figure 1B) needs to be understood and managed satisfactorily for sustainability.

At the household level, sustainable socioeconomic development is crucial for shared prosperity and family happiness, especially during disasters such as the COVID-19 pandemic (e.g., Sayyida *et al.*, 2021). Undoubtedly, many households are directly or indirectly emphasizing sustainability initiatives from a different perspective, especially in terms of environmental aspects. Nevertheless, more comprehensive understanding and implementation of sustainability (i.e., natural, economic, and social) are always lacking. A sustainable socioeconomic development ideally requires good geographical inclusion; urban, suburban, and rural. The rural development areas and B40 (Bottom 40%, lower income group) groups are commonly emphasized and helped (e.g., The 12<sup>th</sup> Malaysian Plan 2021–2025) and the suburban households may need to continuously self-help, adapt strategically, and work closely with the governments. What they do and how they do it are keys for understanding and develop sustainable socioeconomic services. The comprehensive social-economic and environmental service strategies for the different types of households with different cultural and economic backgrounds need to be well-understood and met accordingly for sustainability.

The socioeconomic development in suburban Batu Kawa depends very much on the consistent and continuous socioeconomic development services and financial allocations granted by the ruling state government, the federal government as well as support and involvement of the private sector, non-governmental organizations (NGOs), and local communities. Politically, the Batu Kawah Constituency N14, in the state government electorate, has experienced ups and downs in her socioeconomic development since the 1960s when Sarawak United People's Party (SUPP) was taking care of by the then rural Batu Kawa. The present representative for N14 is the Honorable Dato' Sri Dr. Sim Kui Hian, Deputy Premier of Sarawak, who is also the State Government's Minister of Public Health, Local Governments and Housing. Many tend to agree that this Batu Kawa suburb has been enjoying

a rapid and dynamic socioeconomic development for the past few years. The "Better Batu Kawa" is promised, and many are optimistic about the future of Batu Kawa.

## 1.2. SDGs: Some issues for suburban

SDGs are blueprints emphasizing holistic and sustainable development of economic, social, and environmental aspects. The 2030 Agenda, drafted by the United Nation in 2013, contains 17 important SDGs, 169 targets, and 232 indicators (United Nations Statistics Division, 2017) aimed to transform the financial, economic, and political systems (Sustainable Goal Report, 2020) to alleviate poverty, ensure social participation as well as environmental protection (Aksoy & Arlı, 2020). The Sustainable Report 2020 argues that the effort to achieve sustainable goals is insufficient and uneven. For instance, the world has done better than before in reducing the number of children and youths out of school, reducing the incidence of many communicable diseases, improving the safely managed drinking water as well as women representation in leadership roles. However, the COVID-19 pandemic has disrupted the achievement of the SDG goals and even argued to turn back decades of progress (van Norren, 2020), particularly for the health-care system.

The more vulnerable groups, including older people, women, children, informal workers, persons with disabilities, indigenous people, migrants, and refugees, are at risk to be hit harder by the pandemic. People living in poverty who have already suffer from inadequate housing and limited access to basic infrastructures and services are becoming more vulnerable. One of the important issues is how the SDGs can address the ultimate aim of mankind to live a sustainable happy life (e.g., Aksoy & Arlı, 2020).

The SDG framework needs to be able to effectively address human-nature-well-being interrelationship (van Norren, 2020). The current SDG framework is criticized to represent individualism and is not biocentric enough to respect nature for nature's sake and to enable reciprocity with nature. The SDGs still focus on growth and the use of resources, and its framework also downplays the importance of private sector. There are other criticisms of SDGs such as the indicators chosen might influence the interpretation of its goals and limit its scope of and do not address structural causes of perpetuating poverty, power relations, and ecological inclusive development (Gupta & Vegelin, 2016).

Sørensen (2014) argued that life satisfaction was higher among rural dwellers than urban dwellers (in European Union [EU]). People living in the city tend to enjoy a higher sense of well-being in income, education, and occupational structure, and this is proven in a lower

economic development context (Berry & Okulicz-Kozaryn, 2009). The economic differentials tend to disappear when the economic development advances (Easterlin *et al.*, 2016). In other words, rural-urban differentials are remarkably consistent with regard to the level of economic development. In the study by Shucksmith *et al.* (2009), a higher subjective well-being was also found among rural dwellers in the richer countries, while lower subjective well-being was experienced among rural dwellers in the poorer countries of the EU. Sasaki (2018) found that the urban Japanese who recently move to rural area tend to report higher subjective well-being. Environmental conditions (e.g., friendly and trusted neighborhood) influence social well-being. It is hence clear that well-being and happiness for people living in urban or rural area could be different in the context of a developed versus developing nation. However, there is still little understanding at more micro-level such as a suburb within the rural or urban area. As suburb is defined in contrast to an inner city or downtown, the residents could be working either within or out of the suburb area. They are able to commute to their workplace daily. One example is the Batu Kawa suburb in Kuching Division (Sarawak). Before the Datuk Chong Kiun Kong Bridge was built, the residents staying after the river (West) experienced much inconvenience and the socioeconomic development was much slower.

## 2. Data and methods

A multiple-stage triangulation study, after obtaining the ethics approval from the researchers' funding university, was carried out to examine the residents' satisfaction of a sub-urban area (i.e., Batu Kawa) in Malaysia. Batu Kawa is a suburban area or district, administered under the Padawan Municipal Council in Kuching, Sarawak. In the first stage, personal and group interviews were carried out, aiming to identify the possible factors that contribute to residents' perceptions of happiness, challenges they faced while living in this suburban area as well as their recommendations to improve their happiness. The findings would be useful in developing the measurement items for a mass-scale quantitative questionnaire survey in the second stage of the study.

### 2.1. Phase 1: Qualitative (interviews and visits)

The qualitative phase of this research aimed to explore the dimensions of socioeconomic development services from the residents' perspectives. It involved two group interviews (in 2021) to explore the sustainable suburban socioeconomic satisfaction and family happiness. The interviewees were made up of 20 randomly selected representatives of the households who resided in the suburban. They were of different races (i.e., 12 Chinese,

4 Malays, 2 Ibans, and 2 Bidayuhs), age groups, and occupations. The interviews were conducted online through Google Meet and WhatsApp. The major questions used in the interviews were: Are you happy staying in Batu Kawa and why? What are the challenges or problems you are facing? Do you think you have a happy family and why do you say so? How can your family be happier? What can you do to make your family happier? The data collected from the qualitative interviews were content analyzed, and the socioeconomic service dimensions or items were identified. Besides, the researchers also went to the suburban areas to personally see, understand, and experience the socioeconomic development, and environment services rendered there. Several social economic aspects were identified: nature, education, cultural and social issues, health, security and safety, sport and recreation, transportation and logistics, infrastructure and amenities, economic, and sustainability.

### 2.2. Phase 2: Quantitative (questionnaire survey)

The inputs from literature review and qualitative research were used to design the research instrument for the quantitative research. The questionnaire was carefully designed. The respondents' demographic information socioeconomic service satisfaction and family happiness were obtained through online survey (i.e., Google Form) as well as through physical distribution and collection of printed questionnaires in the year 2022. The printed questionnaires were necessary especially for the less educated, the elderly, and IT-illiterate residents. A total of 283 usable questionnaires were analyzed. Among the characteristics of the respondents are: Females (50.7%); ages below 25 (12.6%), 26–35 (25%), 36–45 (16%), 46–55 (28%), and 56 and above (19%); Malays (24%), Chinese (41.7%), and Ibans and Bidayuhs (29.3%); occupations in public sector (24.2%), private sector (34.5%), self-employed (14.6%), unemployed, (17.8%), and student (9%). The data were randomly split into two samples ( $n_1 = 124$ ,  $n_2 = 159$ ) to gauge the reliability and consistency. The multi-item measures were found to be reliable (i.e., satisfactory internal consistency, Cronbach's alpha coefficient values more than 0.70 and item-to-total correlations more than 0.40). The results in Table 1 indicate that the residents are satisfied with the socioeconomic services provided in Batu Kawa. The numerous areas with relatively lower scores are road traffic, public transport system, safety and security, pollution, sport facilities, employment opportunities, income distribution, and digital economy development, as well as irrigation and drainage.

## 3. Key findings

The results in Table 1 indicate that the residents are satisfied with the socio-economic services provided in

**Table 1. Socioeconomic development service dimensions and items (Batu Kawa, Sarawak)**

Dimensions and items	$n_1=124$		$n_2=159$	
	Mean	SD	Mean	SD
<b>Nature</b>	<b>3.45</b>		<b>3.51</b>	
Natural environment	3.58	0.898	3.75	0.771
Natural resources	3.47	0.892	3.54	0.817
Natural beauty	3.57	0.899	3.62	0.833
Environmental-friendly development	3.46	1.014	3.41	0.880
Level of pollution (e.g., water, air, and sound)	3.16	1.071	3.24	0.944
<b>Culture</b>	<b>3.53</b>		<b>3.53</b>	
Historical conservation	3.34	0.900	3.42	0.905
Traditional knowledge documentation	3.35	0.882	3.39	0.956
Cultural diversification	3.77	0.883	3.68	0.896
Cultural conservation (e.g., dances, songs, and games)	3.45	0.894	3.51	0.982
Cultural promotion and development	3.48	0.886	3.41	0.911
Social harmony (e.g., people relations, and neighborhood)	3.80	0.813	3.77	0.846
<b>Education</b>	<b>3.65</b>		<b>3.63</b>	
Pre-school education facilities and development	3.80	0.868	3.71	0.859
Primary school education facilities and development	3.80	0.819	3.73	0.760
Secondary school education facilities and development	3.64	0.888	3.69	0.803
Higher education facilities and development	3.35	1.032	3.39	1.024
<b>Health</b>	<b>3.81</b>		<b>3.75</b>	
Number of health facilities (e.g., hospitals, clinics)	3.83	0.884	3.85	0.838
Quality of health facilities	3.79	0.880	3.77	0.888
Quality of health services	3.82	0.878	3.82	0.789
Cost of health services	3.80	0.799	3.57	0.877
<b>Safety and security</b>	<b>3.33</b>		<b>3.34</b>	
Safety (e.g., protection from accidents and mishaps)	3.36	1.005	3.40	0.942
Security (e.g., protection from deliberate threats or harms)	3.32	0.990	3.30	0.905
Feel safe at night	3.31	1.076	3.31	0.982
<b>Sports and recreation</b>	<b>3.21</b>		<b>3.36</b>	
Sports facilities	3.16	1.021	3.33	1.022
Recreational facilities	3.21	1.038	3.41	0.989
Sports activities	3.20	1.018	3.30	0.973
Recreational activities	3.25	1.025	3.38	0.940
<b>Transportation and logistics</b>	<b>3.05</b>		<b>3.13</b>	
Overall transportation service	3.18	1.025	3.30	0.997
Public transport system	2.94	1.089	3.08	1.076
Road traffic	2.75	1.121	2.86	1.161
Movement of goods and services	3.33	0.901	3.30	0.946
<b>Infrastructural and amenities</b>	<b>3.51</b>		<b>3.59</b>	
Overall infrastructural development	3.57	0.855	3.57	0.913
Variety of commercial premises (e.g., shops and markets)	3.86	0.767	3.96	0.809
Irrigation and drainage	3.21	1.040	3.15	1.008
Housing development	3.42	0.892	3.63	0.770
Waste management	3.26	1.004	3.35	0.965
Quality of water	3.63	0.886	3.59	0.889
Electric supply	3.81	0.778	3.89	0.745
Internet connectivity	3.34	1.021	3.56	0.987
<b>Economic</b>	<b>3.28</b>		<b>3.43</b>	
Overall economic development	3.60	0.740	3.65	0.722
Economic structure (type of economic sectors)	3.50	0.769	3.63	0.785
Cost of living	3.20	0.907	3.39	0.888
Employment opportunities	3.09	0.965	3.34	0.955
Income distribution	3.16	0.883	3.26	0.918
Digital economy development	3.14	0.857	3.32	0.985

(Cont'd..)

Table 1. (Continued)

Dimensions and items	$n_1=124$		$n_2=159$	
	Mean	SD	Mean	SD
Sustainability	<b>3.40</b>		<b>3.41</b>	
Quality of living	3.59	0.863	3.65	0.853
Social inclusion (inclusive development)	3.50	0.848	3.54	0.834
Green initiatives and practices	3.40	0.909	3.28	0.977
Risk and disaster management (e.g., flood and fire)	3.31	1.065	3.28	0.937
Sustainable development (nature, economic, and social)	3.34	0.900	3.43	0.825
Corruption and ethics	3.22	0.970	3.26	0.911
Socioeconomic service satisfaction index (1–5)	<b>3.40</b>		<b>3.48</b>	

Note: The bold values indicate the means for the dimensions and overall.

Batu Kawa. The numerous areas with relatively lower scores are road traffic, public transport system, safety and security, pollution, sport facilities, employment opportunities, income distribution, and digital economy development, as well as irrigation and drainages. Table 1 further shows that there were 10 dimensions of sustainable socioeconomic development services collected from the questionnaire survey of suburban Batu Kawa, Kuching City. The list of 50 items for socioeconomic development services was compiled from the qualitative research phase. These items were found to be reliable (item-to-total correlations of more than 0.50). The internal consistency for all the items was satisfactory. Besides, the dimensions of these items were having Cronbach's alpha values of more than 0.70. The split-samples ( $n = 124$ ,  $n = 159$ ) showed consistent results. The areas of concern (items with relatively lower mean values) for socioeconomic development service improvement are mainly the transport system, economics, safety and security, pollution, and sport facilities.

Gap analysis (the mean difference between importance and performance [I-P]) was performed to compare the gaps between the I-P of the 10 dimensions under study, namely, nature, culture, education, health, safety and security, sports and recreation, transport and logistics, infrastructure and amenities, economics, and sustainability (Table 2). The gaps addressed the difference between Batu Kawa residents' expectations and the perceptions of these dimensions.

The I-P gap analysis and mean scores comparison presented several interesting findings. First, all I-P gaps were found significantly different for all the 10 dimensions tested. In other words, the expectations of all the 10 dimensions were found to be significantly higher than their performance perceptions, highlighting the importance to address these 10 dimensions in the effort to improve the satisfaction level among Batu Kawa residents. The largest I-P gaps were found in the aspect of "safety and security," followed by "transport and logistics," "sports and recreation," and "economy."

Gur *et al.* (2020) examined the effect of housing and neighborhood satisfaction among Turkish people and argued that safety and location were critical factors influencing happiness perceptions. Communities that provide security, wealth, and common values tend to have higher happiness perception (Gür *et al.*, 2020). In the case of Batu Kawa, the local residents were found to be not very satisfied with their safety and security aspects (e.g., flooding issue and road safety).

In the context of "transport and logistics," the review of the past literature shows that travel and transport policy affect the perceptions of happiness (Choi *et al.*, 2013; Gim, 2020; Motoi & Yamaguchi, 2022). For instance, effective management of commuting time is an efficient method to improve happiness perceptions. A study found that the happiness levels among mainland Chinese were closely related to the time people spent on commuting (Yin *et al.*, 2019). Lower satisfaction is experienced when people have to endure longer commuting time. Nevertheless, higher endurance was found among people living in urban area and sensitivity toward commuting time increased among people in undeveloped area. People are more satisfied when they drive to work in this area where traffic congestion is not severe. Yin *et al.* (2019) also highlighted the importance of improving transportation and transit supply in improving satisfaction, particularly for cities with higher urbanization rates. The perceived transportation service is important, particularly the pedestrian environment. In the case of Batu Kawa, the local residents are expecting better public transport system and smoother road traffic flows.

The mean scores comparison for all the ten dimensions indicate dimensions such as "education" and "healthcare facilities" to have consistently highest mean scores in both I-P aspects. In other words, these dimensions are viewed as important in contributing to the evaluation of happiness and at the same time, residents of Batu Kawa are quite happy with the performance of "education" and "health-care" facilities. The finding of the present study

Table 2. Socioeconomic development service gaps (Batu Kawa, Sarawak)

Dimensions	Performance (1-5)				Importance (1-5)				Gaps	Gaps
	<i>n</i> <sub>1</sub> =124		<i>n</i> <sub>2</sub> =159		<i>n</i> <sub>1</sub> =124		<i>n</i> <sub>2</sub> =159		<i>n</i> <sub>1</sub>	<i>n</i> <sub>2</sub>
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.		
Nature	3.64	0.824	3.59	0.870	4.10	0.866	3.98	0.833	0.46*	0.39*
Culture	3.65	0.763	3.59	0.870	4.04	0.850	3.92	0.821	0.39*	0.33*
Education	3.74	0.791	3.69	0.767	4.25	0.849	4.11	0.896	0.51*	0.42*
Health	3.64	0.837	3.64	0.847	4.25	0.839	<b>4.17</b>	0.883	0.61*	0.53*
Safety and security	<b>3.32</b>	0.985	3.39	0.992	<b>4.27</b>	0.894	4.09	0.970	<b>0.95*</b>	<b>0.70*</b>
Sports and recreation	3.40	0.927	3.31	0.933	4.02	0.926	3.93	0.882	0.62*	0.62*
Transport and logistics	<b>3.33</b>	0.916	<b>3.29</b>	0.963	4.14	0.820	3.94	0.926	<b>0.81*</b>	0.65*
Infrastructure and amenities	3.48	0.869	3.47	0.874	4.21	0.826	3.94	0.986	<b>0.73*</b>	0.47*
Economy	3.51	0.914	3.52	0.805	<b>4.27</b>	0.816	3.97	0.947	<b>0.76*</b>	0.45*
Sustainability	3.55	0.894	3.55	0.851	4.23	0.854	4.00	0.971	0.68*	0.45*

Note: Performance: 1=Very poor, 2=Poor, 3=Moderate, 4=Good, 5=Excellent; Importance: 1=Very unimportant, 2=Unimportant, 3=Neutral, 4=Important, 5=Very important; The gap is the mean difference between importance and performance (i.e., importance – performance); \*All the gaps are significant at 5% level of significance. The bold values indicate the relatively wider gaps.

Table 3. Significance of the gaps and difference between two regions (by river), Malaysia, 2021

Dimensions	<i>n</i> <sub>1</sub> =124		<i>n</i> <sub>2</sub> =159		Before the river	After the river	t	Sig.
	Gaps	t	Gaps	t				
Nature	0.46*	6.470	0.39*	5.259	3.50	3.45	0.524	0.600
Culture	0.39*	5.651	0.33*	4.036	3.56	3.46	1.116	0.266
Education	0.51*	6.395	0.42*	5.291	3.70*	3.49	2.037	0.043
Health	0.61*	7.912	0.53*	6.718	3.89*	3.50	4.014	0.000
Safety and security	0.95*	8.897	0.70*	7.498	3.36	3.28	0.706	0.480
Sports and recreation	0.62*	6.748	0.62*	6.906	3.33	3.19	1.194	0.234
Transport and logistics	0.81*	7.848	0.65*	6.767	3.12	3.04	0.744	0.457
Infrastructure and amenities	0.73*	8.155	0.47*	5.333	3.65*	3.33	3.549	0.000
Economy	0.76*	8.814	0.45*	5.885	3.44*	3.19	2.736	0.007
Sustainability	0.68*	7.951	0.45*	5.877	3.44	3.30	1.438	0.152
Overall					3.48**	3.33	1.851	0.065

Note: \*Significant at 5%; \*\*Significant at 10%. The bold values indicate the relatively wider gaps.

is consistent with a study by Dang *et al.* (2020)'s that education and health-care facilities are critical factors influencing residents' life satisfaction and happiness perceptions. Nevertheless, the quality of education and facilities should be continuously emphasized. "Culture" is also important, rated as the second highest in its performance score.

Further investigation was done to understand the experience and expectations of the suburban population. The mean analysis was done between the residents staying before the river and after the river (if coming from the Kuching City). The residents staying before the river, nearer to the Kuching City, are

generally more satisfied (significant at 10%) with the socioeconomic development service provided (Table 3). The differences are significant (level of significance of 5%) for "education," "health," "infrastructure, and basic amenities" as well as "economy" dimensions. The Sarawak River which divides Batu Kawa into two geographical parts, especially before the Datuk Chong Kiun Kong Bridge was built in the early 1990s, causes much inconvenience in logistical and human capital mobility hence the difference in socioeconomic development and the related service provision.

The suburban socioeconomic development ideally should be comprehensive and the geographical distribution

and mobility of the residents as well as their daily socioeconomic activities need to be well-understood for more effective and efficient socioeconomic development service provision and improvement purposes.

## 4. Concluding remarks

This empirical research employed both qualitative and quantitative techniques to achieve the intended research objectives. The socioeconomic development services for the suburban population were explored in the qualitative phase of the study and the dimensions identified for sustainable development were nature, education, cultural and social, health, security and safety, sport and recreation, transportation and logistics, infrastructure and amenities, economics, and sustainability. The suburban residents have undergone numerous socioeconomic challenges, such as relatively lower income, poorer access to quality health and education services, diminishing land ownerships, poorer logistics and basic amenities, relatively lower family happiness, and the like. The quality of life of this suburban population has been better and the possibility of sustaining it could be empirically examined and enhanced. Hence, it is recommended that the various socioeconomic service determinants of family happiness in this suburban area need to be consistently and continuously well-understood and monitored from time to time for sustainability. The sustainable socioeconomic development service is found to be multi-dimensional, and the interests of the suburban population need to be prioritized for better resident satisfaction and their happiness for consistently good quality of life. Nature, culture, education, health, safety and security, sports and recreation, transport and logistics, infrastructure and amenities, economy, and sustainability are the 10 dimensions found in this empirical research.

## Acknowledgments

The research team would like to thank the Rector and Research Management Unit of Universiti Teknologi MARA Cawangan Sarawak for their kind supports and cooperation to make this research project a success.

## Funding

This research is funded under the SDG Borneo Research Grant (Universiti Teknologi MARA). The reference number is 600-RMC/SDG-BORNEO 5/3 (011/2020).

## Conflict of interest

The authors declare that there is no conflicts or competing interests with any institutes, organizations, or agencies that might influence the integrity of results or objective interpretation of their submitted works.

## Author contributions

*Conceptualization:* Boo Ho Voon, Phang Ing, Muhammad Abang Azlan, Vloreen Nity Mathew

*Formal analysis:* Boo Ho Voon, Phang Ing, Muhammad Abang Azlan, Vloreen Nity Mathew, Kelvin Tee Yong Goh

*Investigation:* Boo Ho Voon, Phang Ing, Muhammad Abang Azlan, Vloreen Nity Mathew, Kelvin Tee Yong Goh

*Methodology:* Boo Ho Voon, Phang Ing, Corina Joseph, Muhammad Abang Azlan, Vloreen Nity Mathew

*Writing – original draft:* Boo Ho Voon, Phang Ing, Muhammad Abang Azlan

*Writing – review & editing:* Corina Joseph, Vloreen Nity Mathew.

## Ethics approval and consent to participate

The research proposal and instrument (questionnaire) were approved by the Research Ethics Committee, Research Management Centre of Universiti Teknologi MARA.

## Consent for publication

Not applicable.

## Availability of data

Not applicable.

## Further disclosure

Part of or the entire set of findings have been presented in conferences (*9<sup>th</sup> Asian Conference on Environment-Behaviour Studies*, Perdana Kota Bharu, Kelantan, Malaysia, July 28–29, 2021).

## References

- Aksoy, F., & Arlı, N.B. (2020). Evaluation of sustainable happiness with Sustainable Development Goals: Structural equation model approach. *Sustainable Development*, 28(1): 385-392.  
<https://doi.org/10.1002/sd.1985>
- Berry, B., & Okulicz-Kozaryn, A. (2009). Dissatisfaction with city life: A new look at Some Old Questions. *Cities*, 26: 117-124.  
<https://doi.org/10.1016/j.cities.2009.01.005>
- Choi, J., Coughlin, J.F., & D'Ambrosio, L. (2013). Travel time and subjective well-being. *Transportation Research Record*, 2357(1): 100-108.  
<https://doi.org/10.3141/2357-12>
- Dang, Y., Chen, L., Zhang, W., Zheng, D., & Zhan, D. (2020). How does growing city size affect residents' happiness in urban China? A case study of the Bohai rim area. *Habitat International*, 97: 102120.



- <https://doi.org/10.1016/j.habitatint.2020.102120>
- Easterlin, R.A., Angelescu, L., & Zweig, J.S. (2011). The impact of modern economic growth on urban-rural differences in subjective well-being. *World Development*, 39(12): 2187-2198.
- <https://doi.org/10.1016/j.worlddev.2011.04.015>
- Gim, T.H.T. (2020). The relationship between overall happiness and perceived transportation services relative to other individual and environmental variables. *Growth and Change*, 51(2): 712-733.
- <https://doi.org/10.1111/grow.12380>
- Gupta, J., & Vegelin, C. (2016). Sustainable development goals and inclusive development. *INEA*, 16(3): 433-448.
- <https://doi.org/10.1007/s10784-016-9323-z>
- Gür, M., Murat, D., & Sezer, F.Ş. (2020). The effect of housing and neighborhood satisfaction on perception of happiness in Bursa, Turkey. *Journal of Housing and the Built Environment*, 35(2): 679-697.
- <https://doi.org/10.1007/s10901-019-09708-5>
- Motoi, H., & Yamaguchi, Y. (2022). Analysis of local residents' movements for daily life in urban areas in Japan. *International Journal of GEOMATE*, 22(91): 93-100.
- <https://doi.org/10.21660/2022.91.gxi431>
- Peter, K.P., & Csaba, L. (2019). New ways of thinking in economics in the service of a sustainable socio-economic development. In: *Strategies for Sustainable Socio-Economic Development and Mechanisms Their Implementation in the Global Dimension*. St. Grigorii Bogoslov, Sofia: VUZF Publishing House.
- Sachs, J.D., Kroll, C., Lafortune, G., Fuller, G., & Woelm, F. (2021). *Sustainable Development Report 2021: Includes the SDG Index and Dashboards. The Decade of Action for the Sustainable Development Goals: Includes the SDG Index and Dashboards*. United Kingdom: Cambridge University Press.
- <https://doi.org/10.1017/9781009106559>
- Sasaki, H. (2018). Do Japanese citizens move to rural areas seeking a slower life? Differences between rural and urban areas in subjective well-being. *Bio-based and Applied Economics*, 7(1): 1-17.
- <https://doi.org/10.13128/BAE-24045>
- Sayyida, S., Hartini, S., Gunawan, S., & Husin, S.N. (2021). The impact of the covid-19 pandemic on retail consumer behavior. *Aptisi Transactions on Management (ATM)*, 5(1), 79-88.
- <https://doi.org/10.33050/atm.v5i1.1497>
- Shucksmith, M., Cameron, S., Merridew, T., & Pichler, F. (2009). Urban-rural differences in quality of life across the European Union. *Regional Studies*, 43(10): 1275-1289.
- <https://doi.org/10.1080/00343400802378750>
- Sørensen, J.F. (2014). Rural-urban differences in life satisfaction: Evidence from the European Union. *Regional Studies*, 48(9): 1451-1466.
- <https://doi.org/10.1080/00343404.2012.753142>
- van Norren, D.E. (2020). The sustainable development goals viewed through gross national happiness, Ubuntu, and Buen vivir. *International Environmental Agreements: Politics, Law and Economics*, 20(3): 431-458.
- <https://doi.org/10.1007/s10784-020-09487-3>
- Voon, B.H., Wang, L., & Teo, A.K. (2021). Sustainable Suburban Environment and Service for Happier Households. In: *Proceedings of 9<sup>th</sup> Asian Conference on Environment-Behaviour Studies*. Malaysia: Perdana Kota Bharu, Kelantan.
- <https://doi.org/10.21834/ebpj.v6i17.2886>
- Yin, C., Shao, C., Dong, C., & Wang, X. (2019). Happiness in urbanizing China: The role of commuting and multi-scale built environment across urban regions. *Transportation Research Part D: Transport and Environment*, 74: 306-317.
- <https://doi.org/10.1016/j.trd.2019.08.010>