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ENHANCING COMMUNITY LIVEABILITY IN BANDAR SERI ISKANDAR, PERAK: IDENTIFYING KEY LEARNING AREAS AND GAPS THROUGH FACTOR ANALYSIS

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ABSTRACT

Active community engagement plays a crucial role in fostering inclusivity and enhancing liveability. However, creating a liveable community presents challenges due to the complexity of liveability indices and the diverse range of indicators shaped by regional and cultural variations. In line with this ethos, this study endeavours to elucidate liveability indicators from the perspectives of the community by using factor analysis. The data acquisition techniques encompassed both traditional and online methodologies by engaging with respondents, comprising 19 participants from face-to-face surveys and 31 from Google Forms. The survey outcomes illuminate several factors notably safety, education, income, environmental quality, and well-being, which emerge as pivotal indicators in constituting a liveable community. These findings substantiate the community's articulated concerns, needs, and aspirations, thereby underscoring the imperative to align, embrace, and welcome these perspectives within the planning framework. Our present understanding of what characterizes a liveable community appears poised for further refinement and enrichment.

Keyword: *Community, Liveable, Assessment tool, Preliminary study*

INTRODUCTION

A community is a dynamic entity that develops from its most primitive form and grows into a virtual community (Abdullah et al., 2017). Scholars around the world often have debated and researched the development of communities. A community comprises a group of people who are emotionally involved with each other, share the same values and have a similar experiences and needs (Migliorini et al., 2023).

Abdullah et al. (2017) argue that communities can be in two states. One exists at a hamlet division, for instance, the region of passing values as not only local but common to all who live in it; another level is right across a country or even farther than just that. Thus, the general concept of a community is a group of people living together, sharing the same culture and rules in specific areas.

Active community involvement can create a liveable community. A liveable community meets human needs in various aspects such as social, economic, environmental, physiological, and safety (Sheikh & van Ameijde, 2022). By fulfilling these living needs, the community can sustain a healthy, fair, and happy life. Community development is closely related to the development of an area. As Wu et al. (2021) have found that, a comfortable living environment is not only about high-density urban infrastructure, but it is a need to require the basic service facilities that match the population.

Besides, community liveability also play a pivotal role in shaping residents' well-being and contentment, both in tangible and intangible ways, particularly in terms of mental health and overall community vitality (Tennakoon & Kulatunga, 2019). It fosters a sense of belonging, where individuals feel connected and integrated within their environment, creating a nurturing space for personal growth and collective flourishing. This sense of cohesion cultivates deeper social bonds, fortifying neighborhoods and enhancing their resilience. On a broader scale, these strong social connections contribute to the stability and strength of society as a whole, fostering a more harmonious and supportive community.

In line with community development, Bandar Seri Iskandar in Perak, formerly a mining site located between Lumut and Ipoh, is rapidly developing

and expanding. This transformation occurred when the geographical location of Seri Iskandar was identified as having high development potential. Furthermore, the strategic location of Bandar Seri Iskandar promotes economic planning and development activities, adding value that makes the town a focal point (DOSM, 2023). The town is also known as the 'City of Knowledge' due to the development of tertiary education sectors such as universities, training centres, and skill institutions.

Thus, the community of Bandar Seri Iskandar consists of educated individuals capable of contributing to the nation's development. In forming a liveable community, the benchmark or standard of measurement is crucial for assessing the well-being of a community. Currently, there are numerous indicators involving communities. However, liveable indexes contain so many elements that can confuse implementation (Al-Qawasmi, 2021). Moreover, the use of liveability indicators can also vary based on factors such as geographical differences and cultural aspects (Al-Qawasmi, 2021). Besides, the liveability index will help cities in member states to have a common benchmark that will align liveability goals towards sustainability and competitiveness of One ASEAN (Majid et al., 2020).

Despite these differences, the indicators still encompass social, economic, and environmental aspects that are in line with community and sustainable development. Therefore, this study aims to develop an assessment tool based on quantitative research that explores the opinions of the Bandar Seri Iskandar community.

LITERATURE REVIEW

A community is vibrant, constantly changing, and challenging (Zautra et al., 2008). Abdullah et al. (2017) also stated that communities are dynamic, and their formation evolves in line with continuous technology and modernization. The concept of liveability is closely related to the concept of sustainability. Often, the formation of a liveable community is aligned with sustainable development. A liveable community is a community that meets the needs and desires of living in an environment that is complete in various aspects, such as safety, peace, cleanliness, and freedom (Shah, 2010). Meanwhile, sustainable development focuses on the preservation and

conservation of the environment. Implementing sustainable development ensures that future generations will enjoy the benefits of the current environment.

Therefore, in evaluating the liveability of a community, it is essential to meet the requirements of social, economic, and environmental dimensions. In Shafii et al. (2023) study, several dilemmas and challenges faced by liveable communities are highlighted. These include population growth, high cost of living, natural disasters, solid waste accumulation, declining health standards, crime issues, environmental pollution, and rising unemployment. Besides, (Amin et al., 2020) find that, the major issue faced by the community is inadequate health facilities, deteriorating road condition, fewer frequency of public transport, vehicular emissions causing air pollution, poor water quality, and the lack of law enforcement.

Besides, liveability also faces challenges due to geopolitical conflicts, civil unrest and economic struggles (EIU, 2024). For example, the global cost-of-living crisis continues with housing costs in Australia and Canada, where the rental shortages and rising property prices have fuelled anti-immigration sentiment. Additionally, the protests issues of agriculture and immigration policies across Europe have weakened the stability in the region.

Futhermore, in the pursuit of development to achieve a developed nation status, the imbalance between urban development and community development can lead to these problems. In this aspect, the government ensures balanced development with minimal environmental impact.

The study by Szibbo (2016) introduced a rating system known as LEED-ND to assess neighbourhood sustainability in North America. This study also emphasizes sustainability aspects, as depicted in Figure 1. This indicates that the researcher emphasizes the social, economic, and environmental aspects of LEED-ND. LEED-ND has five dimensions: smart location and linkage, neighbourhood pattern and design, green infrastructure and buildings, innovation and design process, and regional priority credit.

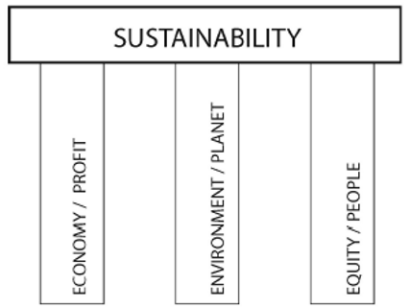

Figure 1. The Triple Bottom Line or Three-Legged Stool of Sustainability
Source: Szibbo (2016)

Additionally, the three pillars of sustainability were employed in the Al-Qawasmi (2021) research. He provided a detailed explanation of each aspect's indications in his analysis. There are three indicators for the economic aspect, seven for the social component, and three for the environmental side. According to the research, housing (6.12) was the most important factor, followed by health and well-being (5.53), education (5.72), and housing (6.12). Al-Qawasmi (2021) also highlights those sociocultural settings, needs, values, and geographic variations affect each measuring indicator for a given location. The findings of Salleh et al. (2023); Wang et al. (2021) corroborate this as well. Therefore, it is apparent that the rating system used by Al-Qawasmi (2021) differs from the rating system used by Shafii et al. (2023).

Upon closer examination, the differences in the indicators used result from the assessment or systematic review used to differentiate each indicator or aspect employed. The ability to formulate an indicator ensures the community's well-being and assists stakeholders in shaping frameworks for future community policies and policies (Dushkova & Ivlieva, 2024).

METHODOLOGY

This study is conducted to establish liveability indicators based on the opinions and views of the Seri Iskandar Perak community. The study utilizes a quantitative method in order to obtain data. Quantitative research is a method used to test objectives by analysing the relationship between

variables and other elements (Creswell & Creswell, 2017). The research instrument for this preliminary study is a questionnaire survey distributed to individuals and the community. Creswell and Creswell (2017) state that quantitative research tests theories using numerical data instruments that can be statistically analysed.

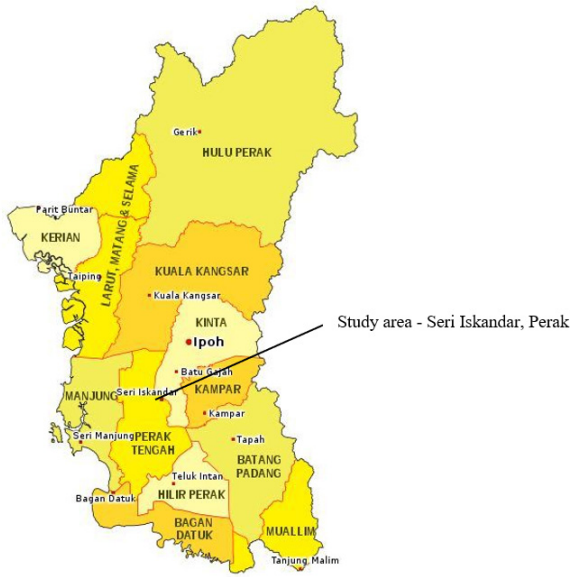

Figure 2. Map of Perak, Malaysia

Source: Author

The study's population consists of Seri Iskandar, Perak community (Figure 2). Bandar Seri Iskandar is the urban centre of the Perak Tengah District (Figure 2). Perak Tengah covers an area of 127,976 hectares or 6.1% of the total area of Perak. According to the 2021 statistics report, Perak Tengah's population is predicted to be 94.5 thousand, with Seri Iskandar having 14.8 thousand populations (DOSM, 2022). The sample size for this research was 50 respondents. According to Chua (2011), exploratory investigations with a sample size of 30 to 50 respondents are deemed sufficient.

For this study, the researcher conducted a survey through distribution of questionnaires. Quantitative research employs a questionnaire that involves the participation of many respondents to represent the entire

area (Creswell & Creswell, 2017). This research instrument consists of respondent background (Part A) and community liveability indicators (Part B). The measurement scale for each item in Part B uses a Likert scale, where 1= not important at all, 2= not important, 3= moderate, 4= important, and 5= very important. Below is the process of this study:

Stage 1: At this stage, the study will identify issues and problems related to community liveability indicators involving community, community development, urbanization, urban development, and sustainable development.

Stage 2: After conducting a systematic literature review, the researcher would obtain variables and items that are relevant and suitable to achieve the research objectives (Shaffril et al., 2020; Xiao & Watson, 2019).

Stage 3: The field study is carried out by gathering quantitative data through questionnaire forms and Google Forms circulation, which are more accessible to respondents. The objective of employing this strategy is to explain the population's flow, attitudes, and beliefs. Furthermore, according to Creswell and Creswell (2017), the survey is the method that will help researchers answer the following questions: i) descriptive questions, ii) questions regarding the connection between variables, and iii) predictive questions about variables across certain periods. This study employs probability sampling to ensure the population has an equal chance of being selected within the study area.

Stage 4: The fourth stage will involve analysing research data collected. The data will be analysed using the Statistical Package for Social Sciences (SPSS) version 26 to address the research question: which liveable indicators suit the Seri Iskandar community? Factor analysis will be conducted to summarize the information contained in several original variables into a smaller size (Chua, 2011). In this study, factor analysis will help to identify key areas and potential variables for the community liveability.

Stages 5: Discussions and conclusions will be conducted after the analysis of results is completed. The conclusion will outline the implementation of assessing the liveability of the local community. Findings of this study will contribute to stakeholders or interested parties and enable

them to reach a consensus in forming a new model.

RESULT

The study utilizes Exploratory Factor Analysis (EFA) to investigate the connections between the items of a liveable community. EFA is employed to identify clusters of items that exhibit sufficient variation to justify their grouping as a factor. This process condenses a collection of items into a smaller set of combined factors in a liveable community. It achieves this with a minimal loss of information, thus establishing the basis for structural equation modelling (Hair et al., 2010).

An exploratory component analysis, namely Principal Component Analysis with Varimax rotation, was performed on the items liveable community in this study. Utilizing principal component analysis with Varimax rotation was considered a suitable method for investigating the interrelationship among a group of elements. This study utilized the principal component analysis technique to ascertain the number of underlying components. The eigenvalue magnitude was utilized to determine the quantity of underlying factors. Before conducting the principal component analysis, the appropriateness of the data for factor analysis was evaluated using the Kaiser-Meyer-Olkin measure. The values of the Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity are referred to. This test is employed because it adds quality to the resulting dataset. This test will also assist in optimising factor analysis by verifying variables and constructing coherent factors (Hair, 2009; Tabachnick et al., 2013).

Once the results satisfy the criteria of both assessments, the subsequent task is to determine the optimal number of factors that may effectively reflect the interconnections among the items in the set. After determining the number of factors, these factors are subjected to Varimax rotation to evaluate each item's loading pattern on the factors. The Varimax Rotation method was employed to get factor solutions that are more straightforward and easier to grasp (Hair et al., 2017). The subsequent sub-sections offer an elaborate analysis of the EFA results, utilizing a sample size of 50. The dimensions examined include social, economic and environmental dimensions. Table 1 illustrates the number of loaded items in the rotated component matrix.

Data were sorted by size for each component. Using oblique rotation, the focus is on fitting each indicator to one and one component (factor).

Thus, other numbers in the matrix that are less than 0.500 are suppressed by the SPSS criteria. From Table 1 below, no item is removed. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value for each variable is 0.846 (social dimension), 0.500 (economy dimension), and 0.500 (environmental dimension), all the values as the recommended value of 0.500 (Yong & Pearce, 2013). Bartlett's Test of Sphericity for all variables also reached statistical significance ($p < 0.001$), which implied that the variables are correlated highly enough to support the factorability of the correlation matrix. Both results indicate that the collected data were suitable for the factor analysis. Therefore, the saved results of this factor loading can be used to determine the impact of a liveable community on turnover intention as a dependent variable on the regression test.

Table 1. Factor Analysis of Liveable Community Indicators

Variable	Item	Factor Analysis	KMO	Bartlett's Test of Sphericity
Social Dimension	Public participant	.773	0.846	$\chi2$ (21) = 535.055, p< 0.001
	Sense Community	.826		
	Culture	.872		
	Education	.872		
	Crime	.832		
	Housing	.889		
	Health	.794		
Economy Dimension	household income	.743	0.500	$\chi2$ (1) = 15.643, p< 0.001
	Employment	.735		
Environmental Dimension	Quality	.964	0.500	$\chi2$ (1) = 63.405, p< 0.001
	Sanitation	.884		

Source: Author

DISCUSSION

This study assessed the importance of community liveability indicators level based on the community's opinions. The results from the analysis indicate that all three variables have high reliability and validity.

For the social dimension item, the factor analysis value for housing has the highest value. This indicates that the need for housing is highly dominant and important for the local community. Housing involves affordable housing prices that the community can own. In addition, comfort within the household is also important, which indirectly involves the spaciousness of the house that is suitable for the household size, and residents also may access housing maintenance services provided by housing developers. Several assessment tools also support the importance of housing to liveability in past studies, such as Al-Qawasmi (2021); Kim et al. (2022); Yu et al. (2021). Similarly, other indicators also have significant value in assessing the social liveability of the community.

Both economic and environmental aspects are important in assessing the level of community liveability. Household income and employment are important for every community because they involve livelihood (Al-Qawasmi, 2021; Kim et al., 2022). Sufficient income will fulfill social characteristics such as housing, health, food, and clothing. In fact, meeting economic aspects can also help children to pursue higher education.

Furthermore, the environmental aspect also shows significant value to the liveability indicators. Environmental quality and guaranteed sanitation will provide psychological well-being to the community, especially matters concerning green spaces and clean water, which contribute to better mental health (Kovacs-Györi & Cabrera-Barona, 2019; Lowe et al., 2015; Szibbo, 2016). Not only that, this aspect is also closely related to socioeconomics because work productivity will generally increase with good health due to a clean environment and sanitation (Al-Qawasmi, 2021).

CONCLUSION

In conclusion, with rapid community development, all three dimensions - social, economic, and environmental - must be emphasized to achieve optimal sustainability. However, community development must be controlled to avoid an influx of foreigners who might attempt to exploit the country's resources. In fact, social pollution, such as criminal activities, drug use, and cultural conflicts, must be avoided from the beginning.

Therefore, the implementation and assessment of the level of community liveability needs to be conducted periodically to identify constraints and problems faced by the community. This will help prevent or avoid the country from continuously facing the risk of collapse. The basis for this liveability assessment needs to involve comprehensive sustainability, including social, economic, and environmental aspects. Community well-being can be achieved if the community obtains significant values for each aspect.

Furthermore, this study will be utilised as a guide for the formulation of effective policies aimed at improving the community's quality of life. As a result, the gap in community needs will be bridged, such as by improving health facilities or implementing education and training programmes. Not only that, but community engagement may also be expanded indirectly in the community development process itself, ensuring that the needs, wants, and deficiencies of the local community are considered.

Overall, community involvement in determining liveability indicators is important because, ultimately, these indicators will benefit the community. Communities also play a crucial role in achieving national sustainability, as they drive national development. The findings of these indicators can be used to measure appropriate community liveability. These indicators are formed based on lifestyle and the geographical environment of the study location. Areas that practice similar lifestyles can use the recommended indicators in this study.

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DECLARATION OF AI-GENERATED CONTENT

AI tools (e.g, ChatGPT, Grammarly) were used for drafting, assistance, paraphrasing and grammar checking. All content was critically reviewed and edited by researcher.

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AUTHOR CONTRIBUTIONS

All authors contributed to the design of the research, the questionnaire, and the write-up. All authors have read and approved the final manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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