PLANNING MALAYSIA:
Journal of the Malaysian Institute of Planners
VOLUME 21 ISSUE 5 (2023), Page 155 – 172

THE EFFECTS OF LOW CARBON CITIES FRAMEWORK CHECKLIST (LCCFC) IMPLEMENTATION ON COMMUNITY SATISFACTION LEVEL

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Abstract

Local authorities (LA) have been serving as leaders in their communities to implement the Low Carbon Cities Framework (LCCF). LCCFC, although carefully developed, has not been effectively utilised. This paper aimed to study the effect of LCCFC implementation on community satisfaction levels. The objectives of this paper were: (i) to determine the implementation of LCCFC in relation to community satisfaction, (ii) to analyse the levels of community satisfaction across economic, social, and environmental aspects, and (iii) to suggest strategies and frameworks for enhancing community satisfaction. A mixed method approach was employed, which encompassed both an interview and a questionnaire survey. The questionnaire survey reached a sample size of 400 participants, drawn from six distinct neighbourhood areas within the jurisdiction of the Subang Jaya Municipal Council. Meanwhile, the interview was conducted with town planners within a Local Authority (LA) as key stakeholders, alongside the community. The qualitative data was analysed using Atlas Ti, while the quantitative data was via SPSS. The findings of the present study reveal that the utilisation of the LCCF checklist by the local authority concerned is currently inadequate, thereby necessitating the identification of strategies for improvement and the formulation of action plans to enhance community contentment. It is recommended that the findings of the current study be utilised as a point of reference by other local authorities, thereby constituting a significant advancement in the pursuit of accelerating sustainable development.

Keywords: Low Carbon Cities (LCC), Low Carbon Cities Framework (LCCF) Checklist, Community Satisfaction, local authority

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INTRODUCTION

Cities have a significant impact on the past, present, and future. While urban development has positive aspects, it can also result in urban degradation (Shepherd et al., 2016; Copelliti et al., 2018), which is resulting from the people's carbon footprint (Jones et al., 2018), that is characterised by environmental, social, and economic problems. For example, Bateman (2017), in his study, reveals the deteriorating state of the world because of global warming and the observed rate of temperature rise over time.

Nevertheless, the international system of environmental management focusing on lifestyles and industrialisation is moving slowly in the right direction (Ho Chin Siong, 2015). According to the United Nations (2020), environmental problems have been recognised and acknowledged at the United Nations Conference on the Environment and Development (UNCED) held in Rio de Janeiro in 1992 (UNCED, 1992). This recognition resulted in the adoption of Agenda 21 implementation which was accepted by 178 governments in 1992. However, the United Nations Environment culminated with the World Summit on Sustainable Development (WSSD) into a sustainable development framework (Panels et al., 2020). Sustainable models have also been developed to support this movement. This includes the model by William McDonough (2010), which presented the concept of cradle to grave as a perspective within the environmental approach (Khan, 2020), denoting the environment as the start and the end of life (Siti Kartina; 2021, Baumgart, 2020).

The increasing importance of sustainable development shifts the focus on its impact on a city's economy, environment, and society. One example is the Low Carbon Cities Framework (LCCF), which has been implemented in cities aimed at achieving green city status by enhancing sustainable developments (Hunter et al., 2019). To deal with urban degradation, Malaysia applies LCCF to reduce carbon emissions while simultaneously benefiting from its tremendous economic opportunities (Lee, 2019). According to Malaysia's Ministry of Energy (2017), the implementation of LCCF covers four (4) main areas: urban environment, urban infrastructure, urban transportation, and buildings, as guidance to local authorities. The LCCF Checklist (LCCFC), applied in the planning permission process (Juhari et al., 2018), sets the minimum requirement and passing score to assess the readiness of a particular project.

The current study discovered gaps in the readiness for the implementation of LCCF at the local authority level in Malaysia. Thus, the objective of this paper was (i) to determine the implementation of LCCFC in community satisfaction, (ii) to analyse the unity satisfaction in the economic, social, and environmental aspects, and (iii) to suggest strategies and frameworks.

LITERATURE REVIEW

Low Carbon Cities (LCC)

Low Carbon Cities (LCC) are generally defined as cities comprising communities that utilise sustainable green technologies, employ green practices, and emit relatively low carbon compared to current practices to avoid adverse effects of climate change (KeTTHA, 2017). According to Hunter et al. (2019), China is the recent LCC with a sustainable urbanism plan to respond to the impacts of climate change. Though LCCs have been implemented globally, they are referred to by slightly different names depending on the province, city, municipality, or community that pursues a systematic process to achieve carbon emission reductions (Siti Kartina, 2021; D.O., 2019).

Low Carbon Cities Framework (LCCF)

Low Carbon Cities Framework (LCCF) (KeTTHA, 2017; 2011) is a performance-based framework that captures the actual environmental impact of development in terms of total carbon emission. The framework provides information on carbon equivalent due to human activities in cities in order to increase public awareness of reducing low carbon emission levels. LCCF and the assessment system, LCCF Track, are developed and managed by GreenTech Malaysia (2017). On the other hand, the LCCF Checklist is an online carbon assessment designed to support the implementation of LCCF by assessing the performance criteria and the planning permission.

Low Carbon Cities Framework Checklist (LCCFC)

The LCCFC is based on four (4) main areas: urban environment, urban infrastructure, urban transportation, and buildings (see Table 1). It is a tool for planning permission in development control and serves as a guide to the local authorities. It includes a list of requirements required to be qualified as a Low Carbon Project (Ministry of Energy, 2017). LCCFC is divided into two approaches: (i) city-based (mitigating all LCCF criteria) and (ii) one-system (mitigating one or some LCCF criteria).

Table 1: The Element and Score for LCCFC

Elements			
Urban Environment (UE)	Urban Transportation (UT)	Urban Infrastructure (UI)	Building (B)
Score For LCCFC			
% Score		LCCFC Achievement	
> 90		Outstanding	
80 – 89		Excellent	
70 – 79		Very Good	
60 – 69		Good	
50 – 59		Poor	

Elements			
Urban Environment (UE)	Urban Transportation (UT)	Urban Infrastructure (UI)	Building (B)
< 49		Unclassified	

Source: Adapted from the Ministry of Energy, Green. Technology and Water (KeTTHA, 2017)

Readiness to Implement Low Carbon Cities Framework Checklist (LCCFC)

Results on the community's satisfaction enable this paper to assess the readiness of the LA officers in implementing the LCCFC. LCCFC applications within the Planning Permission Authority focused on input from experienced LA Officers. It also only investigated the interactions between the community within the implementation of LCCFC development projects of the local authority. The preceding research confirms that implementing the LCCFC's concept in development control affects the community through which its implementation can satisfy the community's needs. For example, there was no covered pedestrian walkway connecting the public transportation LRT station.

LCCFC and Planning Permission in Development Control for Strategy Rating Tool

Development control regulates land and buildings by the local planning authority; meanwhile, land-use planning is regulated by the Town and Country Planning as stated in Act 1976 (Act 172). In Act 1976, 2(1) defined developments as (a) carrying out building work, including demolition, erection, re-establishing or expanding a building or part thereof, (b) carrying out engineering work such as shaping and levelling, alignment of access, cable alignment, and access to the water, (c) carrying out the mining and industrial work, (d) making a material change in use of land or buildings or any part thereof, and (e) breaking boundaries and mix the soil (PLANMalaysia, 2021).

The vital role of the local authorities lies in regulating land planning and exercising development control, as highlighted by Abdullah et al., (2011) who emphasise empowering local authorities' power and responsibility. These responsibilities consist of regulating land use and promoting more desirable social and environmental planning towards sustainable development. Thereby, land-use planning may include efforts to conserve the environment, restrain urban sprawl, minimise transportation costs, prevent land-use conflicts, and reduce exposure to pollutants. By and large, land uses determine the diverse socio-economic activities that occur in a specific area, the patterns of human behaviour they produce, and their impact on the environment.

Sustainable aspect

According to Mensah (2019), people want to live now and in the future in sustainable cities. These cities must meet the diverse needs of existing and future populations, be sensitive to their environment, and ensure that their lifestyle and consumption do not adversely affect the environment. At the same time, it also preserves the natural environment and simultaneously contributes to a high quality of life. Therefore, sustainable cities are safe, inclusive, and good as well as well-planned, build, manage, and offer equal opportunities and urban services for all (Caprotti et al., 2018). The sustainable city elements address three tenets of sustainable development, namely economic, social, and environmental.

Economic aspect

Economic outcomes determine the economic aspect of community satisfaction. Economic sustainability is the decisions that are made in the most equitable and fiscally sound way possible while considering the other aspects of sustainability. It involves creating economic value out of whatever project or decision is undertaken. Economic sustainability

Social aspect

The social aspect of community satisfaction is an achievement in sustainability based on the concept that a decision or project promotes community betterment. The social aspects also evaluate community satisfaction in the implementation of LCCFC in the planning permission project, for example, is that the LCCFC can provide cost reductions, such as a bicycle lane, public transportation via bus and pedestrian walkway.

Environmental aspect

The environmental aspect of community satisfaction promotes equilibrium within the natural systems and seeks to encourage growth. It is also sustainable that an ecosystem would maintain populations, biodiversity, and overall functionality (Christopher Wanamcaker, 2020).

Community participation and reception in LCCFC implementation

A community refers to people who share interests grouped in a neighbourhood. In the LCCFC, the community serves as a fundamental principle, aligned with the Local Agenda 21 of SDG (Worlds Health Organization, 2016). Community participation entails people participating in a collaborative creative effort, invention, and planning in areas where development can be accomplished. The definition of a community used to measure sustainable development to evaluate community satisfaction and reception is gauged in the quantitative approach

(Noori, 2017), whereby community satisfaction is realised through community involvement in implementing LCCFC in a local authority.

Performance Criteria

The four elements of LCCF can be further categorised into fifteen (15) performance criteria and 41 sub-criteria, each providing specific intent towards carbon reduction targets (Ministry of Energy, 2017). In this paper, LCCF performance criteria to gauge respondents' agreement towards its implementation in planning permission project development from the developer. The element, score, performance criteria, and sub-criteria of LCCF are listed in Table 2.

Table 2: Element, Score, Performance Criteria, and Sub-Criteria of LCCF

Element	Performance Criteria	Score (105)	Performance Criteria	Sub-Criteria
Urban Environment (UE)	● UE 1: Site Selection	10	3 Performance Criteria	14 Sub-Criteria
	● UE 2: Urban Form	18		
	● UE 3: Urban Greenery and Environmental Quality	9		
	Total Criteria Achieved for UE	37		
Urban Transportation (UT)	● UT 1: Reduction Use of Private Motorised Transport on Urban Road Network	8	6 Performance Criteria	11 Sub-Criteria
	● UT 2: Increase in Public Transport	5		
	● UT 3: Mode Shift from Private to Public Transport and Non-Motorised Transport	5		
	● UT 4: Use of Low Carbon Transport	4		
	● UT 5: Improvement to Level of Service of Road Links and Junctions	2		
	● UT 6: Utilisation of Transit-Oriented-Development (TOD) Approach	5		
	Total Criteria Achieved for UT	29		
Urban Infrastructure (UI)	● UI 1: Infrastructure Provision	9	4 Performance Criteria	10 Sub-Criteria
	● UI 2: Waste	10		
	● UI 3: Energy	3		
	● UI 4: Water Management	4		
	● *Total Criteria Achieved for UI*	*26*		
Building (B)	● B 1: Sustainable Energy Management System	3	2 Performance Criteria	6 Sub-Criteria
	● B 2: Low Carbon Buildings	10		
	Total Criteria Achieved for UB	13		

Source: Ministry of Energy, Green. Technology and Water (KeTTHA), 2017

The selected performance criteria are based LCCFC list. The current paper selected ten (10) items that involved (i) a comprehensive pedestrian network, (ii) a comprehensive cycling network, (iii) green open space, (iv) the number of trees or community gardening, (v) public transport ridership, (vi) use of more fuel-efficient vehicles for passenger vehicles and green freight transport, (vii) a number of charging stations, (viii) new development and redevelopment schemes incorporating tod concept, (ix) walking and cycling facilities to support access and mobility to/from public transit nodes, and (x) household solid waste management.

RESEARCH METHODOLOGY

The current study employed a case study to focus on the area that implemented LCCFC and planning permission. The methodology employed was a mixed method. The qualitative research involved face-to-face interviews with experts, the local authority (LA) officers. Meanwhile, 400 respondents, from six (6) neighbourhoods in Subang Jaya Municipal Council jurisdiction, namely: (i) BPK1.1: USJ-Sunway, (ii) BPK 1.2: USJ-Subang Jaya, (iii) BPK 3.1: Putra Heights, (iv) BPK 5.1: Bandar Puteri, (v) BPK 5.2 Puchong Perdana, and (vi) BPK 6.1: Taman Equine were involved in the study's quantitative research by answering a questionnaire survey forms.

The conceptual framework provided detailed information on the relationship between each variable. Conceptual is a variable that will be known as a concept, as shown in Figure 1. Elements are not included in the conceptual framework because elements were included in the questionnaire question. Conceptual is formed for the actual explanation of how the assessment is made according to the aspect of economic, social, and environmental. The data analysis discussed in the implementation of LCCFC was assessed from the perspective of the LA officers and community reception. The levels of community satisfaction were determined by a survey on the use of the LCCFC in development control. The outline illustrated the effect of LCCFC implementation in the local authority, which should reflect the LA officers' readiness to apply the LCCFC (Juhari et al., 2018). Thus, the result of the current study reflected the readiness of implementation in LCCFC in a local authority and suggested improvement of strategies and action plans that were aligned with communities' satisfaction.

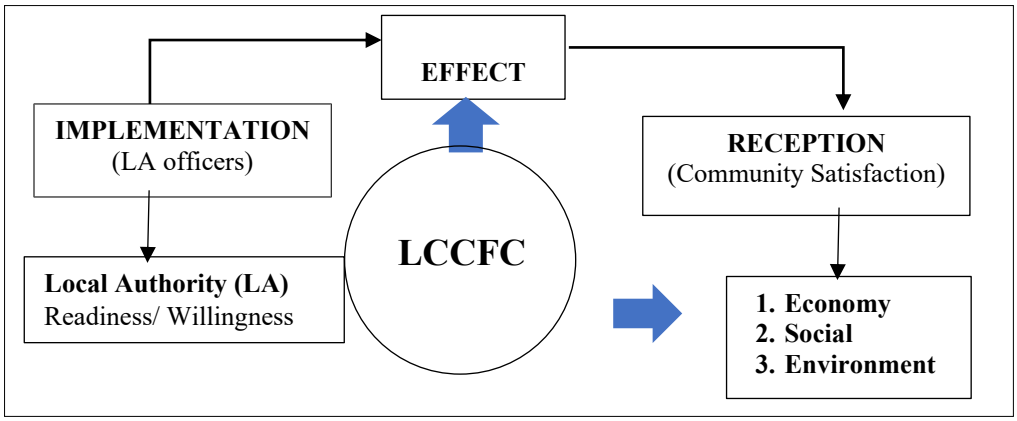

Figure 1: Conceptual framework

ANALYSIS AND FINDINGS

The current paper studied ten (10) performance criteria and the readiness levels of LCCF implementation among developers. The study also investigated the achievement of LCCF from the aspects of economic, social, and environmental in sustainable development by measuring the community's satisfaction level.

From the Levene test schedule (see Table 2), the variable with Homogeneity of Variances (p>.05) was identified, allowing the variable data and groups to be tested with ANOVA. Therefore, the conditions of uniformity were met.

Table 3: Test of Homogeneity of Variances

Item	Levene Statistic	df1	df2	Sig.
SUM_ECON	7.005	5	394	.000
SUM_SOCIAL	6.853	5	394	.000
SUM_ENVI	4.045	5	394	.001

Table 3 displays the SS (Sum of Squares) values between aspects with F=10.816, indicating that the min score for the planning block group was significantly different. According to the planning block sampling area, the results revealed that respondents saw no substantial difference in cost savings by using the pedestrian walkway as the F-test value was highest in the economic aspect rather than the social and environmental aspects.

Table 4: Result of ANOVA Effect in LCCFC

		Sum of Squares	df	Mean Square	*F*	Sig.
SUM_ECON	Between Groups	58.106	5	11.621	10.816	.000
	Within Groups	423.331	394	1.074		
	Total	481.437	399			
SUM_SOCIAL	Between Groups	60.992	5	12.198	3.202	.008
	Within Groups	1501.105	394	3.810		
	Total	1562.098	399			
SUM_ENVI	Between Groups	92.329	5	18.466	9.394	.000
	Within Groups	774.511	394	1.966		
	Total	866.840	399			

Economy

The economic characteristic of sustainable development primarily concerns the cost-value trajectory that contributes to saving money, such as the expansion of public transportation or the installation of bicycle lanes to promote its usage. Apart from that, these amenities will also benefit the community at large.

ANOVA was used to determine whether there were any significant differences between the mean values of the three independent groups relating to the economic aspects. It distinguished the mean value of respondents within the small planning block sample and compared the community's satisfaction value with LCC implementation.

Table 5: The Analysis of Economic Aspect

Group	*n*	Mean	SD	*F*	*p*
BPK 1.1	141	9.3901	.74425	10.816	0.00
BPK 1.2	44	9.1364	.82380		
BPK 3.1	23	8.8696	1.01374		
BPK 5.1	62	8.6452	1.47211		
BPK 5.2	85	8.4824	.90779		
BPK 6.1	45	8.6222	1.45053		
Total	400	8.9375	1.09846		

Environment

The introduction of the LCCFC could reduce carbon footprint as it effectively eliminates vehicular dependency. Thus, one of the drives towards this change is by planning authorities providing bicycle lanes with material green infrastructure.

The Levene test schedule shows the variable had a Homogeneity of Variances (p>.05), allowing the variable data and groups to be tested with

ANOVA (refer to Table 6). Therefore, the conditions of uniformity were met. The ANOVA table displays the SS value between aspects with a value of F=9.394, indicating the min score of the planning block group was significantly different.

Table 6: The Analysis of the Environmental Aspect

Group	*n*	Mean	SD	*F*	*p*
BPK 1.1	141	13.2482	1.08993	9.394	0.00
BPK 1.2	44	12.9318	1.14927		
BPK 3.1	23	13.0435	.97600		
BPK 5.1	62	12.0000	1.78335		
BPK 5.2	85	12.4941	1.40258		
BPK 6.1	45	12.2000	1.97254		
Total	400	12.7300	1.47395		

Social

The pedestrian walkways could modify behaviour by enhancing social contact in the community, making LCCFC an added attraction. The walkway could result in shared enjoyment in the neighbourhood area. For example, it can strengthen the mutual interaction of neighbours. Besides, the implementation of the LCCFC could promote a healthier lifestyle as it encourages physical exercises from using the pathways through activities such as walking on the pedestrian path to the LRT Station, as illustrated in Plate 1.

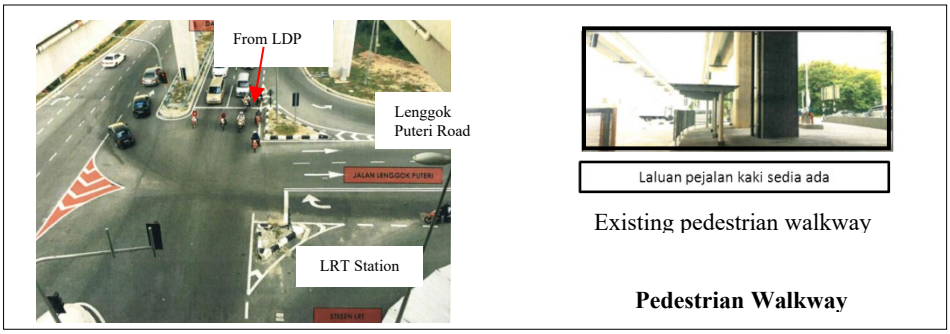

Plate 1: Pedestrian Walkway Facilities at the LRT Station
Source: Briefing on Guidelines Criteria Plot ratio and density for the application of planning permission in Subang Jaya Municipal Council, 2018

Table 7: The Analysis of Social Aspect

Group	*n*	Mean	SD	*F*	*p*
BPK 1.1	141	18.8936	1.08993	3.202	.008
BPK 1.2	44	19.1136	1.14927		
BPK 3.1	23	19.3478	.97600		
BPK 5.1	62	18.0968	1.78335		
BPK 5.2	85	18.6118	1.40258		
BPK 6.1	45	18.1111	1.97254		
Total	400	18.6725	1.47395		

Table 7 shows the variable had a Homogeneity of Variances (p>.05), thereby allowing variable data and groups to be tested with ANOVA. Therefore, the conditions of uniformity were met. The ANOVA table describes the SS (Sum of Squares) value between aspects with a value of F=3.202, indicating that the min score of the planning block group was significantly different.

The Community Satisfaction on Implementation LCCFC

The perception of the respondents on the implementation of LCCFC was discussed. The Likert scale survey question was used to gauge the results. According to Chomeya (2010), the use of the scale reduces the deviation of results and the risks associated with the deviation of personal decision making. Before the description of the Likert scale results, an explanation of the descriptive statistics was analysed to confirm that the deviation of all items was minimal.

The results were divided into five items: (i) the knowledge of LCC, (ii) the readiness towards LCC implementation, (iii) the reason to apply LCC, (iv) the proposal of LCC elements from the community sampled, and (v) the community's satisfaction level on the implementation of the LCC by the local authority.

LCCFC Implementation

This section examined the level of the community's satisfaction with the implemented effects of LCCFC and whether its implementation achieved the sustainable developmental criteria.

Based on Table 8, the low values of bias and standard deviation indicated a small deviation of responses from the respondents. The results demonstrated that the local authority should offer more opportunities for the community to address their concern in order to ascertain a higher level of community satisfaction. The statistics included the economy (0.941), environment (1.174), knowledge (5.435), social (0.118), and proposal (0.118). The level of knowledge had the most significant value in regard to the familiarity

of discourse about the topic, thereby supporting the successful implementation of LCC based on community satisfaction.

The response patterns for all the constructed items exhibited a standard deviation (SD) pattern because the respondents' feedback was with varying degrees of agreement. The highest SD was social (0.065), showing the data dispersion pattern.

Table 8: Descriptive Statistics on Community Satisfaction

Item	Sample	Mean		Std. Dev Statistic (SD)
		Statistic	Bias	
Economy -> Community satisfaction	0.056	0.941	0.001	0.058
Environment_ -> Community satisfaction	0.054	1.174	0.001	0.046
Level of Knowledge -> Community satisfaction	0.278	5.435	0.001	0.049
Proposal -> Community satisfaction	0.006	0.118	0.004	0.049
Social -> Community satisfaction	0.204	3.191	0.003	0.065

Identifying the Performance Priority Criteria of LCCFC

Based on the survey, the main priority of the respondents was the comprehensive pedestrian network, with a mean of 2.39 and a median of 1.00. This represented the community reception of the item.

In contrast, the item with the lowest priority was the number of charging stations with a mean of 9.28 and a median of 10.00 (see Table 8). The respondents stated that only some of them could afford electric vehicles; therefore, respondents perceived its charging station as not a significant element in the framework.

Table 9: Performance Criteria of LCCFC Elements

Item		Mode	Mean	Median
1)	Comprehensive Pedestrian Network	1	2.39	1.00
2)	Household Solid Waste	2	4.48	4.00
3)	Open Space	3	4.00	4.00
4)	Number Of Trees	4	4.06	4.00
5)	Public Transport	5	5.15	5.00
6)	Comprehensive Cycling Network	6	4.84	5.00
7)	Walking and Cycling Facilities	7	5.48	6.00
8)	TOD concept	8	7.36	8.00
9)	Fuel-Efficient Vehicles	9	7.75	9.00
10)	Number Of Charging Stations	10	9.28	10.0
Total Criteria		10		

A total of twelve (12) LA Officers served as the respondents in the current study to share their expertise in implementing the LCCFC during the permission stage. Most of the respondents (73 %) were experts in planning permission, while 18 per cent of them were not directly in charge of planning permission, and 9 per cent had a different expertise, as they were from the Town Planning Department.

Table 10: Respondent LA Officers

Local Authority					
No.	Respondent	Gender	Position	Experience (Years)	Qualification
1.	A	Male	Deputy Director Grade J48	18	Bachelor Degree
2.	B	Female	Director Grade J48	16	Master
3.	C	Female	Assistant Director Grade J41	10	Bachelor Degree
4.	D	Female	Assistant Director (Senior) Grade J44	20	Bachelor Degree
5.	E	Female	Assistant Director (Senior) Grade J44	18	Master
6.	F	Female	Assistant Director Grade J41	6	Bachelor Degree
7.	G	Male	Assistant Director Grade J41	8	Bachelor Degree
8.	H	Male	Assistant Director Grade J41	5	Bachelor Degree
9.	I	Male	Assistant Director Grade J41	5	Bachelor Degree
10.	J	Male	Assistant Director (Senior) Grade J44	18	Bachelor Degree
11.	K	Female	Assistant Director Grade J41	8	Bachelor Degree

The readiness of implementation of LCCFC in the Planning Permission was investigated from the perspective of the LA officers to achieve the objective

of unity satisfaction in economic, social, and environmental aspects. The present study revealed that LA officers could check the planning permission with LCCFC based on several factors. First, their competency to carry out their roles and responsibilities throughout the planning development process. The majority of survey respondents (80 %) indicated that they knew how to check planning permission with the LCCFC. However, the majority of respondents indicated that it is a lack of skills. They cited issues encountered during the development control planning permission process, including lack of knowledge (18 %), competency (9 %), lack of experience (9 %), lack of training (9 %) and lack of skill (28 %). In addition, the respondent stated that they lacked the ability to assess the planning permission based on the LCC in the development plan. As developers or town planning consultants submitted a detailed plan incorporating the LCCFC and referred to GreenTech for clarification, LC officers were not tasked to review development plans. Due to a lack of comprehension of the performance criteria, the developer and consultant were unable to receive a detailed explanation from LA officers. Thus, commitment among the LA officers was crucial, as indicated by the result of the interview.

> "Too costly to apply such as lack of integration among department and agencies to produce the quantitative analysis. Lack of incentives from local authorities if LCCF being applied." (Respondent B)
> "Lack of commitments due to lack of knowledge." (Respondent F)
> "It is really crucial at commitments will determine achievement." (Respondent K)

FINDINGS

The findings demonstrated the applicability of LCCFC within the existing performance criteria. The experts needed to explain in detail and assist in checking the layout plan and planning permission with LCCFC.

During the expert review, it was revealed that there was low comprehension displayed among LA officers in the use of the checklist read alongside the layout plan. Also, LA officers found reviewing the Planning Permission Plans challenging. The community satisfaction from economic, social, and environmental aspects was determined based on the results of the Analysis of Variance (ANOVA) statistical model. It was essential to determine the significant difference between the mean criteria of independent groups. It also determined the readiness level of LCCFC implementations by developers, for example, the provision of pedestrian walkways. The study found that the respondents' perceptions, according to the planning block groups, were not substantially different. In addition, there were no cost-saving implications in terms of the economic, social, and environmental effects of the implementation

and achievement of LCCFC when measuring community satisfaction. It is possible to conclude that there is no significant distinction between economic, social, and environmental factors.

Lastly, the findings suggested the strategies and framework based on the results of ATLAS.ti. Hence, the study proposes that the existing LCCFC was a suitable rating tool, with the key in the system stored as a softcopy version. The LCCFC's score was based on fulfilling the conditions reached when the planning approval was requested, and the performance criteria were sought when submitting the planning permission. Based on the analysis of the ratings, the respondents must first know how to check the planning permission using the LCCF Checklist. Meanwhile, the community perception in identifying the performance priority of LCCFC was based on the ten (10) selection of criteria. Results showed that the community's selection for top performance criteria was the comprehensive pedestrian network in the LCCFC implementation.

CONCLUSION

This paper explored the community reception in the LCCFC. The first finding determined the performance criteria of LCCFC. The pedestrian walkway was selected from the ten (10) performance criteria in the community. To determine the performance criteria, knowledge is an important dimension. Hence, awareness should be enhanced among the community in achieving community satisfaction.

The second finding was the relationship between LCCFC and planning development control procedure. This aids in understanding the applicability of performance criteria in LCCFC. The knowledge and skills to understand the LCCFC in planning permission improve the LA officers' and developers' skills. Hence, training can enhance their skills. Certified facilitators are needed to assist in reviewing the layout plan with LCCFC. The effort from the state government to streamline LA into the LCCFC in a local authority is also needed. The selection of the LCCFC performance criteria is one of the main findings. The highest priority is the best findings for the performance criteria. Hence, the LA needs to consider the developer's proposed development and highlight the critical areas. The connectivity with each area is very important. The developer needs to provide a usable covered walkway to the community.

The third finding was the level of readiness for LCCFC implementation among LA officers and the community. The level of readiness is relevant to LA officers in evaluating the impact of LCCFC implemented on community satisfaction, with the measures commensurate with the readiness level. Knowledge is also important to enhance the LA's awareness of LCCFC with the planning permission and complemented with GNG. LA lacking LCCFC knowledge should be given training with coordination from the state government.

The aspect of community readiness is based on the aspects of economy, environment, knowledge, society, and proposal. The significance value is the level of knowledge that will be emphasised in the readiness of the community. The implementation of LCCFC by the LA is the effort of the leaders. LA execute LCCFC implementation on account of the readiness of the community. Competency is also an aspect highlighted in readiness from the LA which is the problem faced during the planning permission process. Enhancing the skill levels in evaluating the planning permission is the expected commitment from the developers and town planning consultants during planning permission submission. The crucial issues in LCCFC are enhancing understanding and upgrading the LA officers' skills and commitment.

The fourth finding was the relationship between community satisfaction and the implementation of LCCFC in a local authority. The current study concludes that the community benefits from implementing LCCFC in a local authority. To achieve community satisfaction, the suggestions in development control should meet the requirements based on the performance criteria. The priority performance criteria of LCCFC are based on the community proposal. For example, the comprehensive pedestrian networks are of greater significance in the LCCFC. So, developers need to provide pedestrian walkways and LA needs to facilitate by giving the length and connectivity. The relationship between the effect of LCCFC implementation and achievement towards community satisfaction level is also discovered. The findings have no significant effect on the implementation because the result showed no cost-saving implications in measuring the community's satisfaction.

Overall, the current study recommends the need to propose an action plan for LA based on the validation and acceptance of the conceptual framework for community satisfaction and sustainable development.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the support provided by Subang Jaya City Council (MBSJ), Universiti Teknologi MARA (UiTM) and are also thankful to all the departments, organisations, and individuals who had contributed to this study.

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Received: 24th July 2023. Accepted: 15th August 2023

