



## Secure Homes Criteria in Malaysian Houses: A Systematic Literature Review

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### ABSTRACT

The crime rate in Malaysia is increasing in every year, especially in the high-density residential area. This has brought the increase of awareness and concern on the security issues in the residential area from the residents. Thus, secure homes' concept seems to become a dominant feature of Malaysian housing development projects today as it can improve the security criteria. However, people are still living in the fear of crime, especially in the urban areas due to the ineffectiveness of the crime prevention approaches. Therefore, this paper aims to explore the current practices of secure homes' development and to evaluate their impacts. 129 relevant articles published between 2011 to 2020 have been collected to go through systematic literature review. The results show publications concerning on secure homes is having an exponential growth. Next, the findings showed that there are tangible criteria and intangible criteria that can reduce the crime rate significantly. The tangible criteria are surveillance, access control, territoriality and target hardening while the intangible criteria include the sense of community, and management and maintenance. The findings of this study further show that there were enough practical and theoretical proofs attesting to the desirability of secure homes as a veritable tool in residential neighborhood crime prevention. The results of this study can be used as the fundamental to develop a more effective and efficient crime prevention approach that not only apply the conventional approach but consider integrating current technologies which can greatly reduce the fear of crime.

### Keywords:

Connectivity; CPTED; Technology;  
Sustainability; Third generation

Received: 26 Sept. 2022

Revised: 9 Nov. 2022

Accepted: 17 Nov. 2022

Published: 30 Nov. 2022

## 1. Introduction

Nowadays, crime rate in residential neighborhood which including the burglary and theft, incivility, street crime, vandalism and robbery are ordinary to be reported in Malaysia [39]. According to Ghani [24], the rapid social change and expanding cities would be the hotbeds of crimes. The increase of crime rate is due to many people moving into urban areas to seek for job opportunities. The difficulties of seeking job opportunities have caused these migrants to commit crime to survive. Several flexible approaches have been introduced to residential neighborhood as the crime prevention precautions such as the secure homes which has been proved to be effective in reducing crime rate [7, 8, 15, 16]. The intention of this paper is to figure out the secure homes criteria that can

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<https://doi.org/10.37934/araset.28.3.113>

be applied in Malaysia's affordable houses through systematic literature review on related articles within the past decade where the elements of secure homes for the middle incomers.

In Olajide and Lizam [38] 's work, secure homes can be known as a new form of residential space with restricted access where a space with territory is restricted from the public. This can be done by putting walls or fences around the designated perimeters where the entrances are controlled by gates and security guards. Furthermore, secure homes often guarded with CCTV [26]. Green and sustainable environment is also important to the residents [50]. Green and sustainable development can also be considered as third generation CPTED. In Malaysia, secure homes generally refer to a residential area with secured, gated and guarded surroundings. However, there is no specific definition given regarding the concept of secure homes where just numerous terms and definitions used by the researchers. Therefore, this study concluded that secure homes is a share common property and managed by their own management residential area with restricted access which surrounded by fences and walls which guarded by security guards patrolling and CCTV system. This study had performed a systematic analysis of literature on the secure criteria.

## 2. Material and Method

Urban crime rates increase drastically in Malaysia where majority of the crime cases are related to the property crime [27, 44]. Therefore, security criteria have become one of the important aspects to be considered when purchasing homes [37]. Furthermore, security issues should be emphasized by local authorities to improve the security criteria of resident. There are several methods like Crime Prevention Through Environmental Design, defensible space, and situational crime prevention which contributed to the crime prevention. These approaches have help to prevent and reduce crimes in residential areas to bring sense of secure among the residents. However, there is no consensus approach to act as effective crime prevention method in Malaysian houses. Since, the intention of this paper is to figure out the secure homes criteria that can be applied in Malaysia's residential. Four basic principles which are surveillance, access control, territoriality and management and maintenance are going to be discussed. These four principles going to be categorized into tangible criteria and intangible criteria.

### A. Tangible Criteria

#### i) Surveillance

Surveillance is a concept that emphasizes the physical features and human activities which maximize the visibility [44, 48]. There are two types of surveillance which are formal surveillance and informal surveillance. Formal surveillance will be done by the polices and security guards who are stationing at guard house and patrolling within the residential area where the informal surveillance refers to the legitimate users such as residents who can keep an eye on the situations [28].

According to Berridge *et al.*, the values of surveillance technology in the home depends on the different generations of family members. It is preferable to install surveillance technologies on the new generation rather than the old. The capabilities of family members determine how far the exploration of technology goes in their homes. One of the technologies in security systems is formal surveillance, which includes the installation of CCTV to be installed in the residential area. This security system is the network that integrated the electronic devices with a central control panel to protect against the potential house intruders [4, 17]. Informal surveillance can be understood as the utilizing of windows, and lighting to improve the visibility of residents to observe the activities in their residential area [3, 9].

ii) Access Control

Access control means implementations that intended to actively keep outsiders out from the residential buildings. Secure homes concept offers the physical barriers to define neighborhood boundaries [32, 36]. This idea focuses on the reduction of opportunities for criminal to approach the potential targets [2, 32, 44, 48]. This can be done by having physical features that obstructing the outsiders to enter and exit the residential building. Visitors need to register before entering the building and stop for security check to ensure the security of residents and their assets are under protected [11, 17, 42].

iii) Territoriality

Territoriality referring to the design concept that delineates a private space such as residential area from public space which can be freely access by anyone and this will create a sense of ownership among the residents within that residential area [44,45,49]. Gateway can be installed at the entrance of the residential area while constructing walls to segregate the area as private space that is less vulnerable to burglary [29, 39, 40, 47]. As additional, it also includes symbolic barriers such as the signage, subtle changes in road texture and real barriers [2, 19, 22, 35]. This application has been proved to reduce crime rate as Brown and Altman [13] 's results showed that territoriality is effective in crime prevention.

iv) Target Hardening

Target hardening is physical security which focus on the strengthen of physical security features such as locks, grill, fences, doors and windows to make it hard to enter the houses. Target hardening can cause difficulty on intruders to break in and can prevent burglary as burglars will feel hard to break in properties with these physical features [2, 23, 32, 39]. To be precise, enhancing the applications of walls and fences, burglary-proofed doors and windows with the aim to ensure it is more invulnerable is considered as target hardening [1, 40, 51]. Target hardening is frequently applied by residents as it is effectively in ensuring the building is invulnerable from being targeted [10].

B. *Intangible Criteria*

i) Sense of Community (SOC)

SOC emphasizes on the interactions in the residential area as the social communication should exist among residents which going to lead the development of the trust and commitment among residents [20, 25]. Residents who stay in the same residential area should keep in touch with each other through events and activities that conducted weekly, so that the residents can know each other better which can form the trust among the residents [2]. In short, SOC can prevent crime by restricting on the entry of outsiders into the community by participating in the recreational activities within residential area [5, 14, 31].

ii) Management and Maintenance

The image of the residential building is important as management team has the responsibility to ensure the building's aesthetic aspects such as appearance are free from damage and vandalism to

avoid the residential area from showing poor social reputation [16]. As “Broken Window Theory” expressed that deterioration of the building’s appearance will give an impression to the public that this building does not have management where any activity in this area will go unnoticed which might cause crime to happen in this area [2, 7, 39]. The image of a place is an important factor in a burglar’s decision-making process as poor image will give an image of vulnerable for crime to happen [30, 39, 43]. Furthermore, the maintenance of building or the facilities management can be utilized by digital data management approach to enhance the efficiency of management team [46]. Therefore, the maintaining and monitoring environments can help to create an atmosphere of order and lawfulness, thereby preventing more serious crimes from happening [6, 10, 34].

### 3. Results and Discussion

Systematic literature review is conducted as a review of the published articles can reflect the directions of review studies in this field while covering the exhaustive body of literature. Therefore, this study had adopted an interpretivist philosophical design by using published literature as the analysis unit where the results can be used to interpret new knowledge and perspectives [18]. The interpretivism has been frequently used in the construction field where it able to provide better insight to the readers. Thus, this paper chosen ISI (Web of Science) and Scopus (Science Direct and Emerald Insight) databases to obtain relevant articles. The databases discussed in this paper have diversified repository of branded journals where the journals have wide range of coverage. Fig. 1 shows the study flowchart which depicts the sequential stages applied in this study that adapted from Lightfoot *et al.* [33] and Dubey *et al.* [21]. The major processes are as follows:

- i. Search relevant articles on science databases (Web of Science and SCOPUS) by using a set of strings which based on the related concepts
- ii. Exclusions of duplicates and eliminate irrelevant articles
- iii. Content analysis of articles abstracts and full texts
- iv. Critical analysis of literature according to defined categories

#### A. Electronic search in science online databases

This study starts with the searching of relevant articles in the science databases with the selection criteria shown in Table 1 by using the selected keywords shown in Table 2. The keywords were searched on the title, abstract and keywords in the articles to ensure it is relevant. Furthermore, to ensure the identified articles can represent the research area, open access journals are included in the selection of this research. Journals that are open access like Google Scholar’s online database helps to provide all grey literature which had provided great support to this study. To narrow down the scope, the abstracts and keywords of selected articles were read to filter the selected articles, but the number of articles remained at 129 articles as no literature is exempted. Thus, all articles were representing the research associated with secure homes.

**Table 1**  
 Articles Selection Criteria

Criteria	Reason for inclusion/exclusion
<b>Inclusion criteria</b>	
Publications from 2011 to 2020	The journal paper focuses regarding secure homes in residential areas, which was obtained from Emerald Insight, Journal of Design and Built Environment
Articles in English language	All articles must be written in English
Articles address secure homes, gated and guarded community and crime prevention through environmental design	To ensure the term “secure homes” was applied to the residential area where crime rate can be greatly reduced while residents can enjoy the peaceful life.
Articles provided the secure homes’ criteria that can be applied in residential areas	To ensure the focus was on secure homes’ criteria that can be implemented in residential areas which can form the secure homes
<b>Exclusion criteria</b>	
Articles which not discussing security or safety, crime prevention through environmental design, gated and guarded community	The purpose of this study is to collect and review the articles that discussed secure homes’ criteria that can be implemented in residential areas to reduce crime rate and bring secure feeling to the residents.

**Table 2**  
 Keywords

No	Keywords
1	Gated community
2	Guarded community
3	Crime Prevention Through Environmental Design (CPTED)
4	Safety
5	Security

### *B. Exclusions and eliminations of articles*

Some simple reading has been done on 129 papers that were identified in this study where the titles and abstracts have been gone through to draw insights into the appropriateness of the articles. After the reading have been done, all articles were proven to be relevant.

### *C. Content analysis*

Systematic documentation has been applied to explore the secure homes’ criteria that can be applied. A structured review on the selected articles had been done. The literatures had been classified into various categories such as surveillance, access control, territoriality, target hardening, sense of community and management and maintenance. This attempted to explore the most appropriate secure criteria for houses which is the main contribution.

### *D. Results and Discussion*

#### *i) Classification for Articles on Secure homes Criteria*

Since systematic literature review intended to collect various information from articles, this paper had classified the literatures by presenting an articulated analysis results based on the classifications set previously. The secure homes criteria have been classified based on year published, journals

published, country published, research methods implemented to prevent duplication with other articles.

ii) *Bibliometric study of secure homes criteria*

This study started with content analysis on the 129 articles to ensure these articles are focusing on the secure homes criteria. As year 2021 is not end, the articles published in 2021 were excluded in this study. No article was eliminated, so, the total number of selected articles remained at 129 articles.

iii) *Secure homes articles based on year published*

The current trend of secure homes criteria has been assessed by frequency analysis. The publication that indexed by SCOPUS and ISI have been recorded in Fig. 1 where the trend illustrates there is increasing of the number of articles that published from 2011 to 2020 which proved the importance of the secure homes criteria among home buyers and this topic has gain more attention among academicians year by year. This shows that there are increasing awareness trend in secure homes' field.

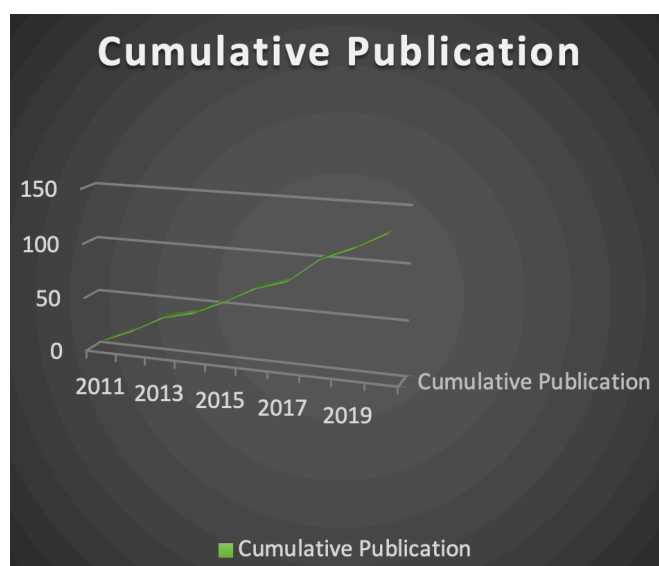


Fig. 1. Cumulative Publication

iv) *Publication according to journal*

The analysis of the distribution in different journal is shown in Table 3

Journal Publication Frequency . Core journals publishes most of the articles in this research field while other relevant journals publish lesser articles in this field, but their roles are important. The selected articles in this research focus on the crime reduction issues. This substantiates the contribution of these prominent journals towards the existing body of knowledge in secure homes.

v) *Secure homes studies classification based on country-wise*

The origin country of the selected articles is recorded and shown in Fig. 2.

. The intention of this analysis was to examine the degree of attention for secure homes issues from different countries. Furthermore, Ghani [24] said that the difference of the country will produce different outcome due to the difference in the perspective and demand on the secure homes criteria. Therefore, this study has tried to collect articles from different country. From the analysis, it is noticeable that the contribution from developing countries is better than developed countries as crime rate issue gains more attention in developing countries.

shows the publications in Malaysia, China, Indonesia, and Ghana have contributed significantly on secure homes criteria in this field.

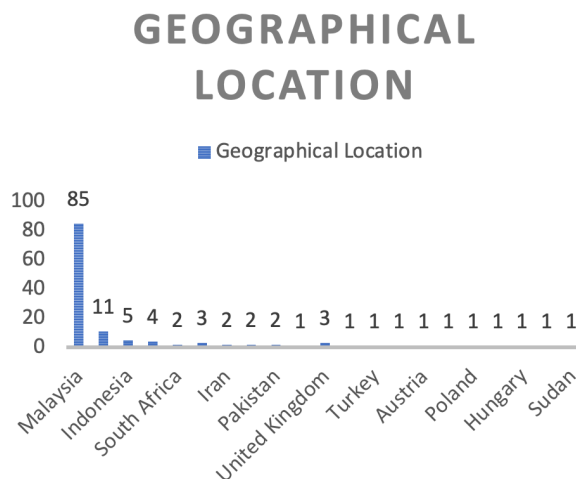


Fig. 2. Geographical Location

vi) *Research method*

This study has classified the selected articles based on research methods which are shown in Fig. 3 below. Olajide and Lizam [39] has classified the articles in their study based on the adopted methodology where these methodologies have been split into five groups: survey, qualitative methods, case study, literature review and mixed method. Although qualitative methods contributed 20.16% of articles, the qualitative-based articles which comprised of qualitative methods, case study and literature review, these articles are lacking established theories and strict application of the scientific method.

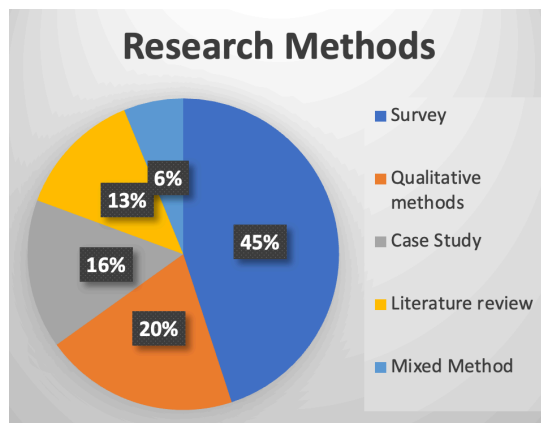


Fig. 3. Research method

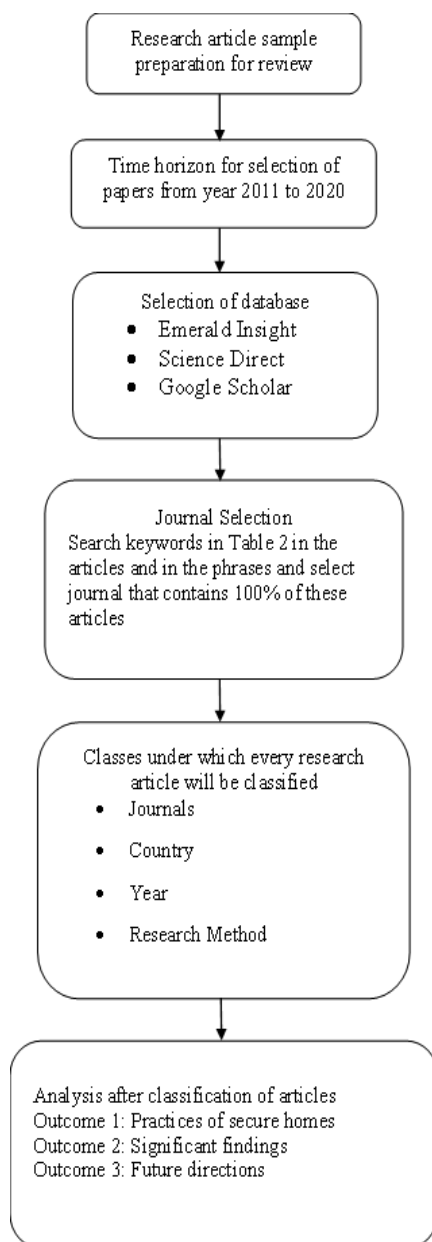


Fig. 1. The procedure of systematic literature review

Table 3

Journal Publication Frequency

No.	Journal/Conference	Frequency
1	ASEAN Conference on Environment-Behaviour Studies	7
2	Cities	7
3	International Journal of Housing Markets and Analysis	5
4	International Journal of Law, Crime and Justice	4
5	AMER International Conference on Quality of Life	3
6	Security Journal	3
7	Journal of the Malaysian Institute of Planners	3
8	Habitat International	3
<b>Total number of publications in core journals</b>		<b>35</b>
9	Journal of Design and Built Environment	2



10	Advances in Environmental Biology	2
11	International Planning Studies	2
12	Open House International	2
13	Property Management	2
14	Safer Communities	2
15	Geoforum	2
16	Asian Conference on Environment-Behaviour Studies	2
17	Land Use Policy	2
18	City, Culture and Society	2
19	Journal of Facilities Management	2
20	Asian Journal of Environment-Behaviour Studies	2
21	International Journal of Engineering & Technology	2
<b>Total number of publications in related journals</b>		<b>26</b>
22	ASIA Pacific International Conference on Environment-Behaviour Studies	1
23	APSA Congress 2011	1
24	Journal of Manufacturing Technology Management	1
25	International Conference on Technology Management	1
26	International Conference on Management (ICM 2011) Proceeding	1
27	Journal of Sustainable Development	1
28	Studies of Urban and Regional Real Estate	1
29	International Conference on Real Estate 2012	1
30	American Transactions on Engineering & Applied Sciences	1
31	Housing Studies	1
32	<b>Journal of Asian and African Studies</b>	1
33	International Real Estate Research Symposium 2014	1
34	Crime Prevention and Community Safety	1
35	International Journal of Urban and Regional Research	1
36	Ghana Journal of Geography	1
37	British Journal of Education, Society & Behavioural Science	1
38	International Journal of Multidisciplinary Research and Development	1
39	Journal of Urban Management	1
40	Community Development Journal	1
41	AIP Conference Proceedings 1891	1
42	Malaysian Journal of Society and Space	1
43	IOP Conf. Series: Earth and Environmental Science	1
44	Journal of Urban Planning and Development	1
45	Journal of Engineering, Design and Technology	1
46	International Journal of Research in Business & Social Science	1
47	Facilities	1
48	International Journal of Social Economics	1
49	Journal of Information, Communication and Ethics in Society	1
50	Annual Serial Landmark International Conferences on Quality of Life	1
51	Social and Behavioral Sciences	1
52	Journal of Rural Studies	1
53	Ain Shams Engineering Journal	1
54	Heliyon	1
55	Jurnal Teknologi	1
56	Planning Practice & Research	1
57	Current Urban Studies	1
58	Knowledge Management International Conference (KMICe)	1
59	International Review of Management and Marketing	1
60	International Journal of Sustainable Development	1
61	Jurnal EMBA	1
62	IOP Conference Series: Earth and Environmental Science	1

63	Advances in Social Science, Education and Humanities Research	1
64	Journal of Housing and the Built Environment	1
65	American Journal of Sociological Research	1
66	Journal of Tourism, Hospitality & Culinary Arts	1
67	Journal Environment Treatment Techniques	1
68	Advances in Applied Sociology	1
69	Tataloka	1
70	International Journal on Livable Space	1
71	Sustainability	1
72	Open Journal of Political Science	1
73	Social Indicators Research	1
74	International Journal of Academic Research in Business and Social Sciences	1
75	International Journal of Academic Research in Economics and Management Sciences	1
76	Asia Pacific International Conference on Environment-Behavior Studies	1
77	Civil and Environmental Research	1
78	Journal of Safety Engineering	1
79	Eurasia: Economics & Business	1
80	SAGE Open	1
81	Journal of Humanities and Social Sciences Research	1
82	Journal of Environmental Psychology	1
83	Crime, Law and Social Change	1
84	Applied Mechanics and Materials	1
85	Asian Journal of Behavioural Studies	1
86	Journal of Planning Literature	1
87	Journal of Environmental Science and Engineering	1
88	International Journal of Civil Engineering and Technology	1
89	Journal of Critical Reviews	1
<b>Other journals with one entry</b>		<b>68</b>
<b>Total</b>		<b>129</b>

#### 4. Conclusion

This paper was able to explain the concept of secure homes which included the practices in CPTED and the effort to appraise the efficiency and applicability of this concept into secure homes. The general assessment showed that secure homes concept is a reliable idea in crime prevention. A clarion call is made to government, policies makers, professionals, and academic researchers in the developing countries to consider this concept as the alternative to solve the crime issue in residential area or as a supplement to reduce the soaring trend of the social menace in consideration to its devastating consequences. Essentially, the scope of the research did not extend to testing the influence of every element of secure homes such as surveillance, access control, territoriality, target hardening, sense of community and management and maintenance on residential neighborhood empirically. This is recommended to be the main field for future research.

#### Acknowledgment

Acknowledgement to “Ministry of Higher Education Malaysia for Fundamental Research Grant Scheme with Project Code: FRGS/1/2018/TK10/USM/03/3”.

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