



The Physical Attributes of Healing Garden for A Century Old Healthcare Premises

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ABSTRACT

The government have realised the benefits of healing garden in public healthcare facilities since 1990s. As a result most of the healthcare facilities build thereafter have incorporated the healing garden as part of the aspect to be considered when designing new ones. The healthcare facilities built before the move has also taken the initiative to renovate their spaces to accommodate the healing gardens. The paper focuses on the physical attributes of the healing garden of two old healthcare premises whether they accord with the healing garden attributes. The methodology for the study is through observation and interviews. The data collected is content analysed. The study found that they do accord with the attributes. However accessibility to the garden is the main concern that needs readdressing to accommodate users with different physical abilities.

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1. Introduction

Creating ‘therapeutic garden’ or healing garden was envisioned by the Malaysia Ministry of Health in every public or government hospitals with the aim of promoting healthy hospital through transforming the concept of hospital in the garden by implementing ‘healing garden’ with the current hospitals and the new ones. The idea is for the garden to act as space to reduce physical and mental relieve for the patients as well as the staff.

Bukit Mertajam Hospital and Sungai Bakap Hospital are among the pioneers healthcare facilities built during the era of the British colonization in Malaya. They started operating in

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1890 and 1893 respectively. Bukit Mertajam Hospital started with only 52 beds and grew to 242 beds in 1995. The Hospital is situated in the Middle Seberang Perai District. Sungai Bakap Hospital currently has 105 beds capacity as a district hospital located in South Seberang Perai with the area of 4.2 hectares of land.

This paper focuses on both the healthcare facilities, looking at the healing gardens in their premises, their physical attributes and how the gardens enhance the environments and how they affect their patrons.

1.1 The Meanings of Healing Garden

Relf (2005) stated that healing garden refers to a garden at a healthcare facility that is intended for use by the staff, visitors and clients at their discretion. The important issue to note is that it is not used as a part of a treatment plan but the garden is effective in giving restoration effect to users who are directly involved in all aspects of the design, installation and maintenance of the garden. According to Relf (2005) the therapeutic garden differs to the healing garden in the sense that the therapeutic garden is used as part of the treatment programmes by various members of the medical staff.

According to Stigsdotter and Grahn (2002), there are three theories of the healing garden. The first theory is that the health effects are due to a restorative influence on the emotional centres in the limbic system of the brain that caused by the environment. In the second theory, the health effects are due to the restorative influence of verdure on cognitive functions. Nature could attract the spontaneous unconscious attention of the brain. The third theory asserts that health effects are due to the fact that the garden and nature make demands that can softly balance the person's own ability and control. They stated that a person stricken with trauma such as grief or personal illness needs an environment as well as relations that make less heavy demands. Nature makes fewer demands in which a garden could restore the balance.

Abbas and Ghazali (2010) describes healing environment as the physical and non-physical environment created to aid the recovery process. Healing according to them is a psychological and spiritual concept of health. There is a relationship between healing and the physical environment. Soderback et al. (2004) mentions that there is positive emotional effect of participation in nature which is explained in theories by Ulrich et al. (1991) and Relf (1992).

Soderback et al. (2004) explains that Kaplan (1989) states that visual pattern of the natural environment are easiest to interpret because human uses his involuntary attention which relieve negative stress. Kaplan's theory shows that natural environments have positive influence on the person's ability to concentrate. Ulrich et al. (1991) 'psy-evolutionary theory' (in Soderback et al. (2004)) states that humans have long adapted positively to nature for survival therefore react with positive emotional physiological responses when in nature-related environments. This in turn will influence intellect, meaning and behaviour.

Research by McCaffrey(2007), concludes that garden is effective in assisting a person to relax, to be distracted from genative stimuli and to generate positive thoughts, thereby improving mood. The physical attributes or the elements of the healing gardens that gives so much benefits is derived from Ulrich theory in Cooper (2007). They are to provide opportunity for movement and exercise; to provide opportunities to make choices and to seek privacy; to encourage positive distractions with nature; visibility; accessibility; familiarity; quietness; comfort; and unambiguously positive art.

2. The Methodology

The elements of therapeutic or healing garden for the research are based on Ulrich’s theory of supportive garden from Ulrich in Cooper (2007), which are: to provide opportunity for movement and exercise; to provide opportunities to make choices and to seek privacy; to encourage positive distractions with nature; visibility; accessibility; familiarity; quietness; comfort; and unambiguously positive art.

The observations and open-ended interviews were chosen to discover and explore the use of the gardens in the healthcare facilities. The researcher observed and noted the elements of the garden whether they are according to the therapeutic gardens elements by Ulrich (1999). The patrons who visited the gardens were approached by the researcher for open-ended interview. The data are content-analyzed.

3. The Findings and Discussion

3.1 The Location

Figure 1 illustrates the location and the layout of the healing garden at Sungai Bakap Hospital. It is out of view from the main gate of the hospital, located between ward 1 and 3 and the covered walkways. However from the parking lot, the signboard of the hospital is clearly seen. Behind the board is the pathway to the garden. A big angsana tree marked the frontage of the garden.

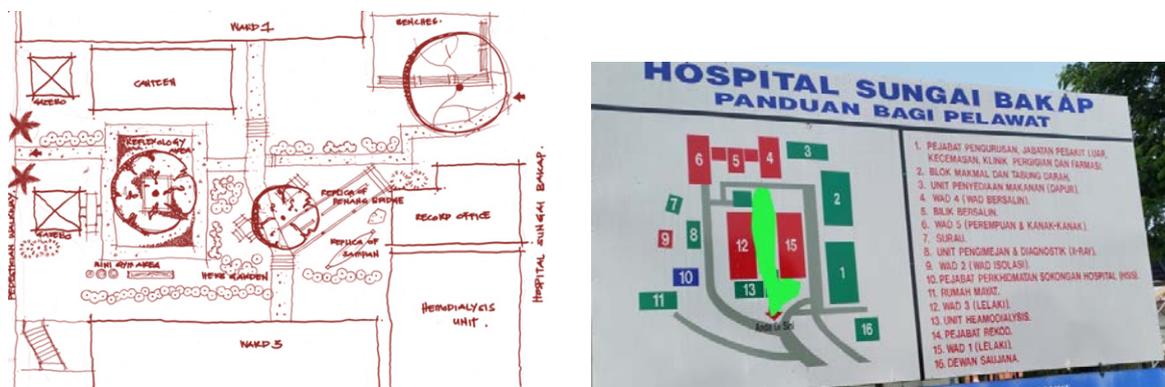


Figure 1: Schematic Plan of the Healing Garden at Sungai Bakap Hospital.

Figure 2 illustrates the location and layout of the healing garden at Bukit Mertajam Hospital. The garden is out of view from the main road and the main entrance. It is tucked in between the building of wards, the registration area and the walkway opposite the main building.

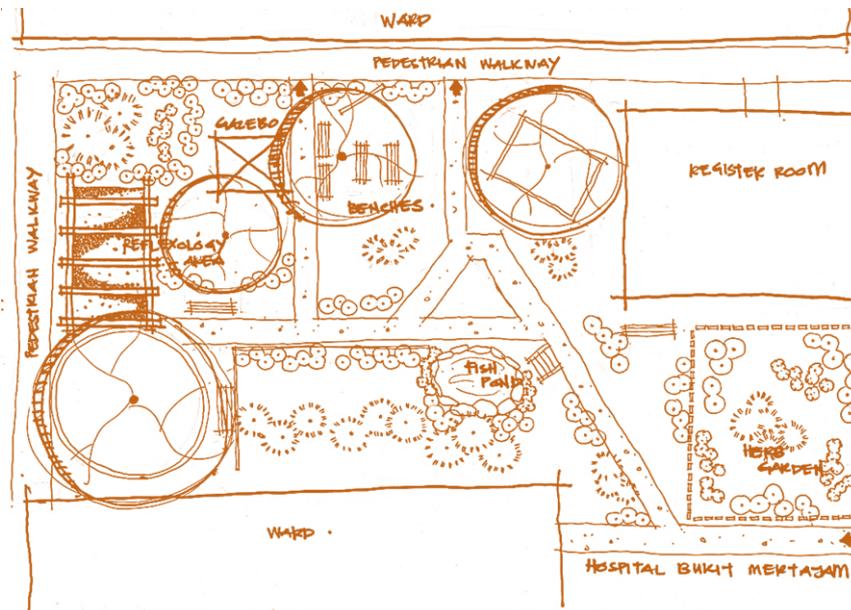


Figure 2: Schematic Plan of Healing Garden at Bukit Mertajam Hospital.

3.2 The Findings

As mentioned in the methodology, the ten checklist of the elements of healing garden from Ulrich's theory of supporting garden design are; to provide opportunity for movement and exercise, to provide opportunity to make choices either to seek privacy or experience a sense of control, to encourage people to gather together and experience social support, to encourage people to gather together and experience social support, to provide visibility, accessibility, familiarity, quietness, comfort and finally unambiguously positive art.

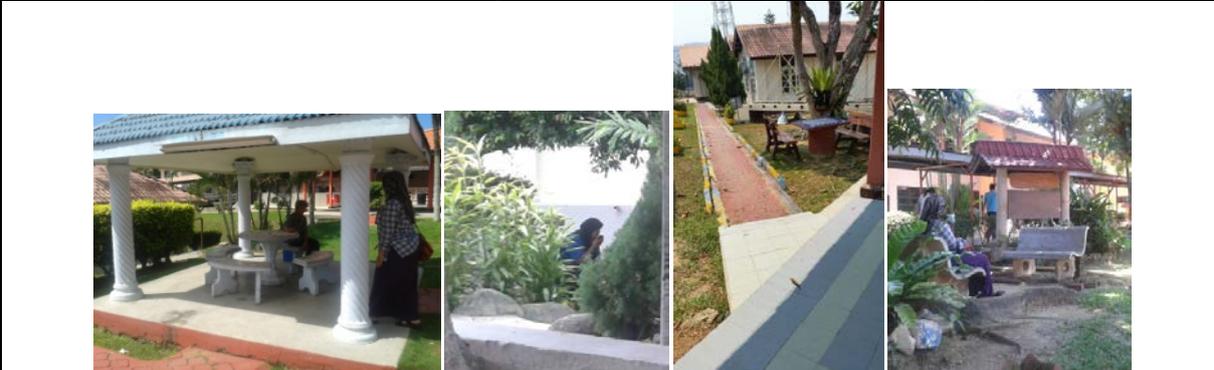
In providing the opportunity for movement and exercise, it is further sub divided into five different settings; setting to facilitate physical outdoor activity, setting to allow children running and playing, setting for contemplative walking, setting for users to walk and jog and setting for post-surgery exercise. This section discusses the result from the observations and interviews in both healthcares. Tables 1 to 10 summarise all the checklists.

The first checklist Table 1: opportunity for movement and exercises, due to the small area, the space is not suitable for jogging and there is no facility for post surgery exercises. The management does not encourage the patients who just had a surgery to do the exercise out door. They are usually being assisted with physiotherapist indoors for post surgery exercises. However a little corner with smooth pebbles for reflexology is provided for both hospitals. There is a small spot called 'mini gym' provided at Hospital Sungai Bakap for balancing and step up and down exercises. The settings of both gardens are not suitable to allow children to run and play.

Table 1: Opportunity for movement and exercise

Checklist for the elements of healing garden based on Ulrich's Theory of Supportive Garden Design adopted from Ulrich et. al. (1999)	Sungai Bakap (SgBH)	Bukit Mertajam (BMH)
1. Provide opportunity for movement and exercise		
• Setting facilitate physical outdoor activity	✓ Mini gym	X
• Setting allow children for running and playing	✓	X (Limited space)
• Setting for contemplative walking	✓	✓
• Setting for users to walk and jogging	X (Not suitable for jogging)	X (Not suitable for jogging)
• Setting with landscape for post-surgery exercise	X	X
		

Table 2: Opportunity to make choices

2. Provide opportunity to make choices either to seek privacy or experience a sense of control	Sg. Bakap	Bukit Mertajam	
• Regaining freedom and reducing stress.	Place to be able to sit alone or with others,	✓	✓
• User can explore the entire access and must be able to make decision which pathway they prefer.	Place to sit under the shade or the sun	✓	✓
	Place with broad or narrow view	✓	✓
• Design must offer different choices.	Fix or moveable seating	Fix seating	Fix seating
	Different length of walking routes	Too short a distance	Too short a distance
			

The second checklist Table 2 is to provide opportunity to make choices either to seek

privacy or experience a sense of control. For both hospitals, although the garden is quite small, few benches which are scattered within the gardens provide such a space. The benches could be a place to sit alone or to sit with others, depending on the setting of the space and whether the patron comes alone or being accompanied with others.

The third checklist Table 3 is on encouraging people to gather together and experience social support. Ulrich emphasised that in order for people to gather together and experience social support, the garden needs to be located near the patients’ room, waiting area or the main entrance. The garden must also provide moveable seating; provide subspace for small groups and area with tables and chairs for family or staff to have their meal together. Both the gardens provide fix seating only. There is no moveable seating. The garden element such as gazebo or *wakaf* which assist in facilitating the patrons to gather together is provided in both gardens. It is well received by the patrons. They are popular among patients’ family members who are waiting during the visiting hours. Some of the hospital staff uses the gazebo during their break to rest, have a meal or to gather for a chat.

Table 3: To encourage people to gather together and experience social support

3. To encourage people to gather together and experience social support		Sg. Bakap	Bukit Mertajam
Locate near patients room, waiting area or main entrance.	Provide moveable seating	X Fix seating	X Fix seating
	Provide subspace for small group	✓	✓
	Area with table and chairs for family or staff having meal together	✓	✓






The fourth checklist Table 4 shows that the positive distraction include different types of plants with variety of colours, texture and shape, trees which attract wildlife such as birds, view to the sky and the elements to reflect the sound and moving water. Both the therapeutic gardens in the hospitals fulfilled all the sub categories except the sound and moving water. Only Hospital Bukit Mertajam provides water element in a form of a small pond with some fishes.

Table 4: To encourage positive distraction with nature

4. To encourage positive distraction with nature	Sg. Bakap	Bukit Mertajam
Plenty of different types of plants, with variety of colours, texture and shape,	✓	✓
Trees to attract wild life (birds chirping)	✓	✓
View to the sky	✓	✓
Elements to reflect sound of moving water	X	✓



The fifth checklist Table 5 on visibility shows that although both the gardens are not located near the main foyer or main entrance, however they are being located in between the wards or main buildings. People who passed the corridor will immediately notice the gardens. Some even use the gardens as a short-cut to their destinations.

Table 5: Visibility

5. Visibility	Sg. Bakap	Bukit Mertajam
Near entrance or visible from the main foyer, accessibility without the help of a signage	✓	✓





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In term of accessibility, checklist number six in Table 6, both the gardens are not accessible by patrons who are using wheel chairs. The pathways which are less than 1500mm are too narrow for two wheel chairs to pass through. The comfortable width for one wheel chair is 900mm minimum. Another crucial point as to why the gardens are inaccessible to the wheel chairs' patrons is the presents of steps and uneven surfaces. The patients on wheelchairs interviewed felt frustrated due to their inaccessibility to the gardens provided by both the hospitals.

Table 6: Accessibility

6. Accessibility	Sg. Bakap	Bukit Mertajam
<ul style="list-style-type: none"> Accessibility by all age, Pathway must be able for two wheelchairs to pass-through horizontally 	X Certain width of the pathway is less than 1000mm	X Certain width of the pathway is less than 1000mm and hilly
<ul style="list-style-type: none"> The pavement joints should be narrow enough as not to harm or catch a cane, or wheelchairs or IV poles 	X	X
		

Checklist number seven in Table 7 on familiarity shows that generally when people are in stressful condition, naturally they will try to seek familiar surroundings to ease their stress. Both the gardens have the familiarity that the patrons are looking for.

Table 7: Familiarity

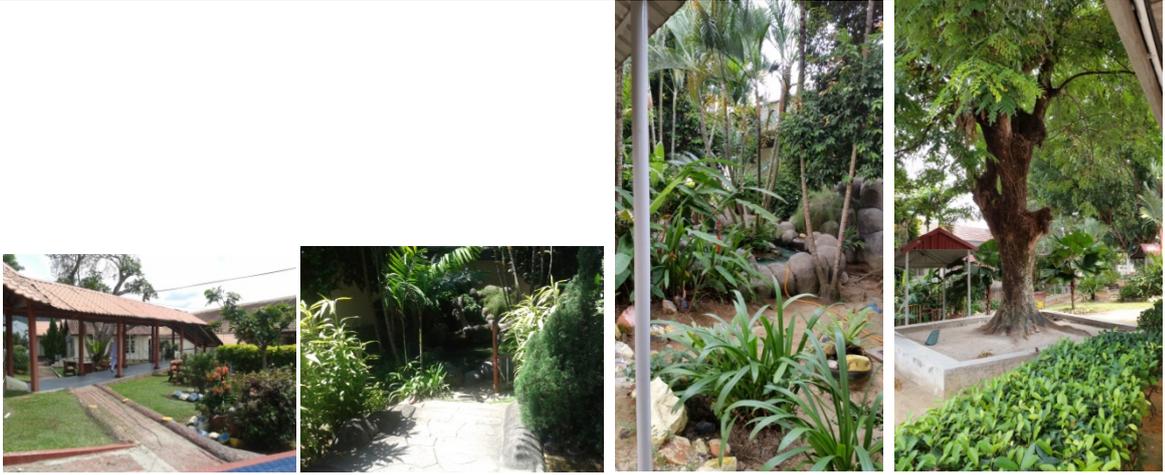
7. Familiarity	Sg. Bakap	Bukit Mertajam
<ul style="list-style-type: none"> People seek familiar surrounding especially when they are under stress 	✓	✓
		

The eighth checklist Table: 8 on quietness refer to location of the garden which is away from the noise of the traffic or machinery rooms. Both gardens fulfil this category. Due to the quietness, the patrons of the gardens are able to hear birds chipping. Only one of the gardens has

water feature which enhances the sound of the quietness to sooth the ear.

Table 8: Quietness

8. Quietness	Sg. Bakap	Bukit Mertajam
• Located away from the noise of traffic, or machinery rooms	✓	✓
• Feel the wind	X	X
• Hear the sound of water fountains	X	✓
• Sound of birds chirping	✓	✓



The ninth checklist Table: 9 are on comfort. Comfort has to fulfil both physiological and psychological elements. During mid day Sg. Bakap Hospital is too hot because there is not big tree as for shading. The matter is made worst when there air is stilled without any wind. On the other hand the garden in Bukit Mertajam Hospital is shady with big trees.

Table 9: Comfort

9. Comfort	Sg. Bakap	Bukit Mertajam
• Physiological	X Arrangement of plant and seating not suitable	✓
• Psychological	X No wind and hot	✓



The final checklist Table: 10 on unambiguously positive art show that both the gardens do not have any complex sculpture that would distract the users' state of mind. The garden of Sungai Bakap Hospital which has a replica of Penang Bride is a spot the children love to play when the weather is not too hot. Bukit Mertajam hospital has a man-made water pond.

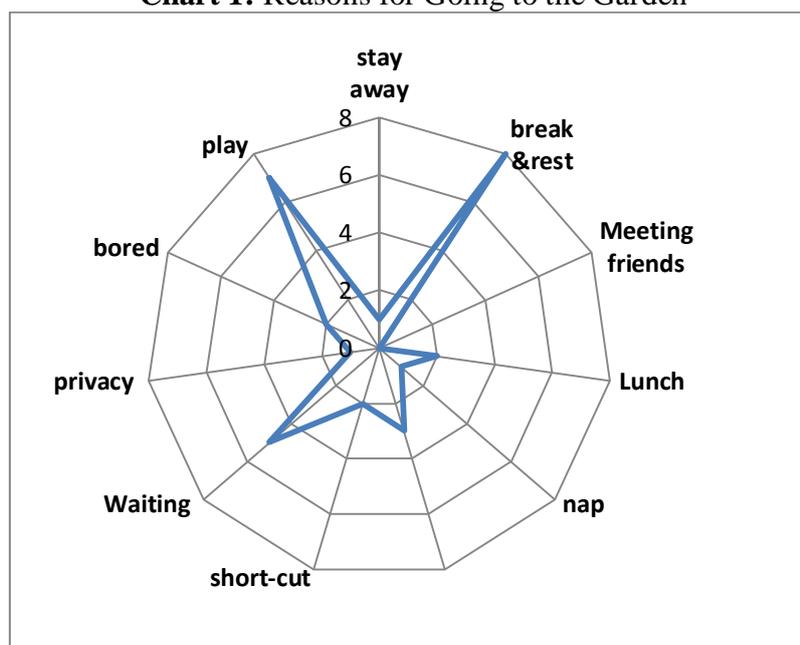
Table 10: Unambiguously positive art.

10. Unambiguously positive art	Sg. Bakap	Bukit Mertajam
• No complex sculpture	✓	✓
		

3.3 The reasons for going to the garden

In analyzing the reasons for going to the garden, patrons have come out with many objectives in describing their reasons. The objectives are: break, lunch, meet and talk, nap, wait, play, bored, rest, privacy, to ease and keep calm, outside, stay away, crowded, the smell of medicine, get away, short-cut, release tension, escape, worry, hang out. Some of the objectives are group together or summarized with similar meanings. The result which is a combination from all the healthcare facilities is shown in Chart 1.

Chart 1: Reasons for Going to the Garden



To take a break or rest is the main objective of the patrons of the gardens. Playing always refer to the children who are restless while waiting to visit their relatives. These are non-residence children. For both hospitals there is hardly any in residence patients who venture into

the garden. The location of Paediatric Wards which are quite far from the gardens is the main reason why the gardens are not popular among the in-house children. There are patrons who used the garden to have their lunch and some to stay away from the wards. The staff of the healthcare facilities and the relatives of the patients and the patients themselves make up for this category. The green scenery of plants provides a relief from their stressing ward or work environment.

Those that come for a nap are the staff that find the gazebo a good place to rest and nap after a long day. A short nap will refresh them to be able to start and continue their work. Some relatives of the in-house patients do take a nap needed after a long night or day caring for their love ones in the wards. Bored are the patrons who have to wait for too long in the out-patients' departments. They use the garden to get away from the boredom of waiting. Patients as well as staff appreciate the privacy that the garden provides. The secluded area of the garden is the needed space to get away from the busy ward area. They are able to interact with family members without staff interference. The staffs appreciate the garden as a space that is very contrasting from their busy work interiors. They are able to get away from the smell of medicine. Some even use the area as short cut to other departments in the premises.

As whether the garden in both hospitals are considered as either healing garden or therapeutic garden depends on how it is being used by the patrons who are the patients, the members of the staff and other visitors. According to Relf (2005), healing garden is the term more frequently applied to a garden in healthcare facility that is intended for use by the staff, visitors and clients at their discretion. It is not part of a formal treatment plan. However, the therapeutic garden is used as part of the treatment programme by various members of the medical staff. It may include walkways and steps or grassed raised beds to use as outdoor exercise mats with the outdoor physical therapist room. Following Relf (2005) theory, it could be concluded that both the gardens in the two hospitals are considered as healing and not as therapeutic garden since the gardens are being used by the patients, visitors or member of the staff at their discretion. This is supported by interviews and observations of the patrons of the healing garden together with an open ended interview with the authority of the hospital.

According to the authority of Sungai Bakap Hospital the patients that frequent the garden were from Ward 3 since the ward is located near to the garden. Patients from Ward 3 were men. Most of them were elderly who were able to walk independently. Ward 1 is also near to the healing garden. However since Ward 1 consist of patients who were unable to walk independently, they were not able to visit the garden on their own. The popular spot in the healing garden were the reflexology area and the gazebos. The patients usually venture into the

gardens during the early morning or late afternoon when the weather is mild.

A study by Nielsen & Hansen (2007) concluded that access to a garden or short distances to green areas are associated with less stress. This study supported the finding of the research on checklist 6 on accessibility where patients on wheelchairs showed frustration over their inaccessibility to the gardens provided in both Sg Bakap Hospital and Bukit Mertajam Hospital

4. Conclusion

The study found that the two healing gardens in Sungai Bakap Hospital and Bukit Mertajam Hospital respectively do accord with the attributes. However accessibility to the garden is the main concern that needs readdressing to accommodate users with different physical abilities. The inaccessibility of patients on wheelchairs to the gardens is due to its inappropriateness in design, sizes, placements, and surfaces of the walkways. This is understandable since the hospital buildings were built in late 1890s, where the provision for accessibility, barrier free design and universal design were unknown. In Malaysia, the requirement for accessibility and barrier free design were only gazetted in 1990's under the Street, Drainage and Building Act (1974), amended through By-laws 34A of the Uniform Building by Laws (UBBL).

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