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URBAN SOCIAL HIGH RISE RESIDENTIAL BUILDING: VERTICAL COMMUNITY AMENITIES

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ABSTRACT

The aim of this design is to re-envision the urban social high-rise residential building by integrating the vertical community amenities to improve the well-being of the occupants. This study is done to suggest solutions for the social issues that arise in low and middle-income housing. This study used a qualitative method utilising a literature study and case study approach in understanding the subject matter and extracting information from case and precedent studies. This study suggested that the provision of communal amenities such as the sky court and sky podium can improve residents' physical and mental well-being. It can enhance the quality of life of the community, encourage social interaction, reduce feelings of isolation, which are common in high-rise living and help foster a sense of belonging and community spirit among diverse residents. Lastly, this study suggested that the integration of vertical community amenities may help reduce social stigma attached to low and middle-cost housing and increase the economic value.

Keywords: Vertical Community Amenities, Urban, Social High Rise Residential
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INTRODUCTION

High-rise homes have always been part of modern Malaysia's urban landscape, where they form part of a solution to the problems of housing the urban poor such as Program Perumahan Rakyat (PPR). The factors that influence the community's well-being and quality of life are its living conditions. However, throughout the years, the high-rise homes, especially the low- and middle-income housing, are seen as 'poor housing for the poor' with unsuitable living conditions. The small budget of housing with which they are built often means that each flat is small and cramped, with poor quality ventilation and daylighting. Even after a decade, social issues persist in public housing, such as incidents of loitering, drug abuse, theft, obscenity, smoking, gambling, vandalism, running away from home, and drinking alcohol, which haunt the teenagers living in the area. Furthermore, excessive crowding in high-density living results in social withdrawal, which is detrimental to social interaction. If residents are unaware of who their neighbours are, high-rise living becomes ripe for crime. The urban social high-rise residential building aims to re-envision the urban social high-rise residential building by integrating the vertical community amenities to improve the well-being of the occupants.

ISSUES

Kuala Lumpur's high-rise residential housing has a number of social problems that affect residents' quality of life and community well-being. Denser households, cramped living conditions which are low housing standards due to the design of the house, insufficient and lacking social spaces to generate social integration and typical layouts of architecture such as narrow corridors are frequently the causes of these issues. Three generations of a family were living together in a cramped environment at a PPR home (Mustafa, 2023).

Besides, many high-rise buildings prioritise efficiency and privacy over common areas in their architectural design, which discourages people from interacting socially. This seclusion could lead to mental health issues, including depression and anxiety (Lee, N. I. et al, 2024). Lack of shared spaces, such as community gardens and plazas, often prevents residents from forming strong social bonds. The unavailability of youth-friendly facilities will expose them to conditions that make the community vulnerable to social problems such as running away from home, smoking, vandalism, which can lead to mental health issues and others. Teenagers leave the house to relieve stress and consume prohibited substances, hang out at underutilised areas, or stay away from home for fun and freedom due to low motivation and may feel that they cannot control their surroundings and their future, which would lead them to delinquency and drug abuse as a negative coping mechanism.

The involvement of teenagers in social problems such as loitering, drug abuse, theft, obscenity, smoking, gambling, vandalism, and drinking alcohol leads to unhealthy living conditions in the community which affect the community's well-being and quality of life. Consequently, the teenagers may have trouble concentrating at school and may not finish the homework due to the unhealthy environment. This may lead to children and youth failing in their education, not being able to secure a good job and falling into the same cycle of poverty.

The community especially teenagers may fall into the same cycle of poverty because they do not have the opportunity to change their current life, well-being and socioeconomic. Last but not least, the government needs to spend a lot of money to provide a budget to solve the social issue of the nation that comes from the low and middle cost housing.

RESEARCH AIM

To re-envision the urban social high-rise residential building by integrating the vertical community amenities to improve the well-being of the occupants.

RESEARCH OBJECTIVES

1. To propose a space configuration for enhancing social need.
2. To improve the design and planning aspect of the high-rise residential space in order to enhance social sustainability and interaction.
3. To integrate the community amenities in the urban social high-rise residential building of Malaysia.

RESEARCH QUESTIONS

1. What is the space configuration to enhance the social need ?
2. How to improve the design and planning aspect of the high-rise residential space in order to enhance social sustainability and interaction?
3. How to integrate the community amenities in the urban social high rise residential building of Malaysia?

LITERATURE STUDY

Sick Building's Syndrome

More than 90% of people's time is spent performing activities in buildings. To ensure a healthier lifestyle, an inclusive building environment is very important to maintain building occupants' well-being. In this context, one of the most important factors influencing occupants' physical and mental well-being as well as their productivity, comfort, and overall sense of well-being is the quality of their indoor environment. The typical low-cost apartment floor plan, features extremely packed and compact housing units connected by linear corridors throughout the structure. Low-cost housing has always been associated with low quality materials in building when in comparison to other types of housing (Hanafi, 1999). Karim (2012) supported the stance and mentioned that the causes of low-quality housing are low quality of materials used, provision of amenities and surrounding environments and also the building layout.

Overcrowding

A typical Malaysian household usually consists of five members: an adult male, an adult female and three children, according to the Millenium Development Goal. This gives rise to occupation of between two and six people per room/space (Sikod, 2001). This syndrome leads to space-related problems with comfort and privacy for households with more than four people. According to Pevalin, Taylor, and Todd (2008), the most commonly cited indicator of housing quality among urban poor people is overcrowding, which is defined as having more than two people per room.

Spaces for children's activity in PPR

Children were only allowed to play within their homes or in visual supervision proximity by their parents (Hillman, M. et al. 1990). When allowed to play, children were restricted to surrounding places, therefore they frequently used the circulation space as a social and play area (Aziz, A.A. et al. 2012). Children living in low-cost housing were more likely to utilise the corridors as a play area where surveillance was enabled by adults living nearby (Hanapi, N.L. et al. 2016). Overcrowding also forced children to efficiently utilise the surrounding accessibility by using outdoor neighborhood environments as a medium for social interaction, exploration, and development. Many children mentioned places in designated play areas and parks as play areas, whereas neighbourhood open spaces such as streets, courtyards, rest spaces, and parking lots were the least mentioned (Min, B. et al. 2006)

Insufficient and lack of community amenities in low-cost housing

According to (Isnin et al., 2012) the residents' housing satisfaction showed that residents are not happy with the building services facilities in their area of residence. They pointed out that in addition to housing facilities, common facilities such as educational and health facilities, public transport markets, community halls, mailing systems, parking lots and playgrounds are necessary to support daily life. Lack of community facilities such as playgrounds, halls and fields became an issue in low-cost housing. Lack of playgrounds will compromise children's opportunity to play and release stress. Apart from that, the children will be exposed to danger when playing outside and occasionally can lead to vandalism and unhealthy activity. Besides, it compromises occupants' ability to do recreational activity and release stress after work. Car parking QS COLLOQUIUM SERIES XII Section 5: Design and Human Factor 107 provision for low-cost housing is apparently inadequate, which has led to related problems such as illegal roadside parking, traffic obstruction and the like (Kuala Lumpur Structure Plan 2020).

Community Amenities as Social Space

In order to promote engagement, well-being, and a feeling of community among inhabitants, community facilities that serve as social areas are essential. These common spaces, such parks, community centres, and leisure centers, offer venues for people to interact, take part in events, and create strong communities. The community amenities can foster the social connections that can enhance the neighbourhood satisfaction and trust among residents. Access to such amenities is linked to increased social interactions and reduced feelings of isolation (Daniel et al. (2019). A successful social space in a vertical neighbourhood may enable residents to interact in meaningful ways, fostering a sense of community (Huang, 2006). The provision of vertical housing guidelines should prioritise social issues first, rather than achieving a number of housing units.

RESEARCH METHODOLOGY

The study methods adopted for this study involved a qualitative analysis that comprises four key activities: literature review, case study, precedent study, site observations, interviews and questionnaires. Secondary data collection is being collected from readily available data such as journals and newspapers. The main purpose of this method is to obtain data and results from the previous researchers about the topic and issues. The keywords used for the study are vertical community amenities, urban, social high-rise residential building. The discussion is mainly about definition, design strategies, appropriate communal amenities, application in architecture and activities related to spatial arrangement of each component. Through case and precedent studies, the data will be gathered and analysed. The results were synthesised based on design, building programme, circulation, planning and space. The result of the data will be implemented for the future design. In addition, the site observation, random interviews and questionnaires were done to get the primary data collection. The data collected are analysed and the result can be used as guidelines for design. A site observation of current amenities at one of the low-cost apartments was done which is at PPR Kerinchi, Kuala Lumpur. During the site process, pictures of the current communal amenities, other spaces, and environments that may lead to social problems were taken. The community were asked about their current living conditions and the social issues that arise in the community. Then, the community were invited to suggest suitable communal amenities that can support their lifestyle and foster interactions in the future.

Figure 1: The provision of surau for the community which is located at the ground floor

Figure 2: Community clinic was located at the ground floor of the apartment's units

Figure 3: The corridors of the residential building were used to hang clothes and store the community's personal belongings. The design of the current residential building provides lack of natural ventilation and daylighting. It is overcrowded with a high density and lack of communal amenities.

Figure 4: The community garden at the entrance of the apartment.

Figure 5: The wedding reception was held at the ground floor of the apartment's units.

Figure 6: The provision of sport amenities at the ground floor which give community the opportunities to do sport activities

SITE LOCATION

The proposed site is located along Jalan Sentul and is surrounded by public transportation, educational institutions, medical institutions, and recreational parks. This site is diverse in people with different backgrounds. The site location is self-sustaining as there is no need for the community to venture out of town to meet the most common needs of residents. The area is connected to public transport, infrastructure and, daily need activities such as convenience stores, healthcare, educational institutions, and recreational activities. The majority of places visited are within a median distance or a short distance away from the development. Besides, the site is easy to reach by public transportation which is about 650m to LRT Sentul. The site which is located beside the Gombak river and in the centre of Kuala Lumpur could provide a view of the city.

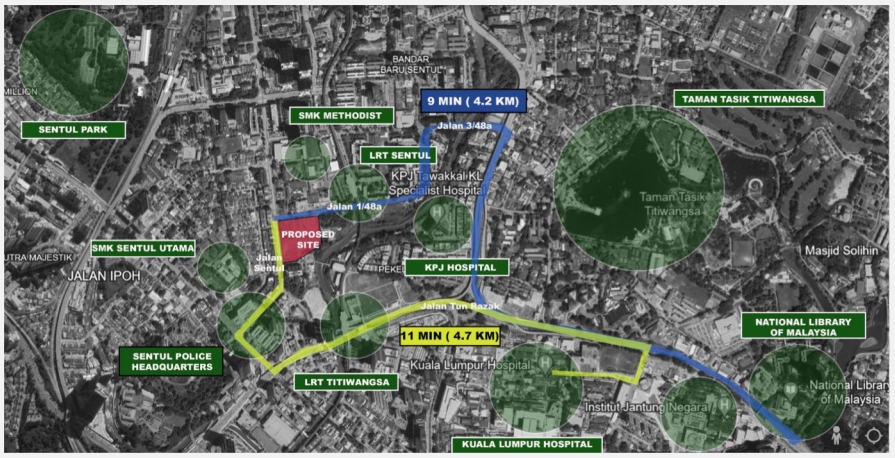

Figure 7: The location plan of the proposed site and the neighbourhood context.

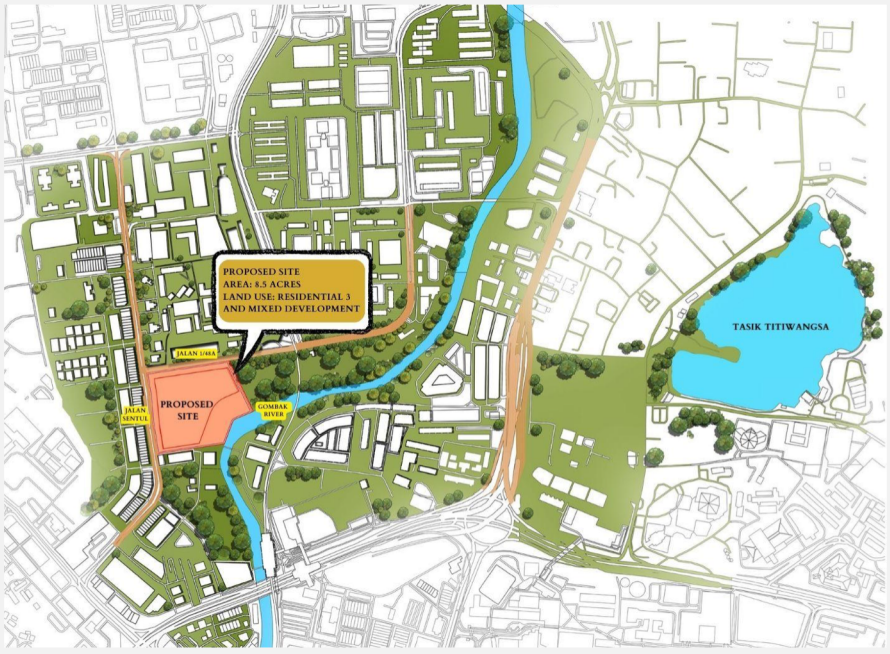

Figure 8: The location plan of the proposed site.

SITE ANALYSIS

Figure 9: View of the current proposed site.

Figure 10: View towards the proposed site from the shop lots.

Figure 11: View of Jalan Sentul and the shop lots from the proposed site.

DESIGN INSPIRATION

يَٰٓأَيُّهَا ٱلنَّاسُ إِنَّا خَلَقۡنَٰكُم مِّن ذَكَرٖ وَأُنثَىٰ وَجَعَلۡنَٰكُمۡ شُعُوبٗا وَقَبَآئِلَ لِتَعَارَفُوٓاْۚ إِنَّ أَكۡرَمَكُمۡ عِندَ ٱللَّهِ أَتۡقَىٰكُمۡۚ إِنَّ ٱللَّهَ عَلِيمٌ خَبِيرٞ ١٣

O mankind, indeed We have created you from male and female and made you peoples and tribes that you may know one another. Indeed, the most noble of you in the sight of Allah is the most righteous of you. Indeed, Allah is Knowing and Acquainted.

Surah Al-Hujurat Verse 13 (49:13)

Wahai umat manusia! Sesungguhnya Kami telah menciptakan kamu dari lelaki dan perempuan, dan Kami telah menjadikan kamu berbagai bangsa dan bersuku puak, supaya kamu berkenal-kenalan (dan beramah mesra antara satu dengan yang lain). Sesungguhnya semulia-mulia kamu di sisi Allah ialah orang yang lebih taqwanya di antara kamu, (bukan yang lebih keturunan atau bangsanya). Sesungguhnya Allah Maha Mengetahui, lagi Maha Mendalam PengetahuanNya (akan keadaan dan amalan kamu).

Surah Al-Hujurat Ayat 13 (49:13)

DESIGN BRIEF

Based on the study, the proposed design is affordable housing, as KLSP2040 stated that Kuala Lumpur will ensure all city residents have equal access to affordable housing, quality social facilities, infrastructure, and a safe, clean, and green environment. The target user for the research is the B40 community as it can help the urban poor community to have a conducive living environment. The average household size is four to five persons and the households in the PPRs are mostly families. Most of the household earn less than the poverty line and the community does have semi-skilled or low-skilled jobs in terms of occupation. The client of this study is Dewan Bandaraya Kuala Lumpur. The proposed design for this study will include all the aspects from the small community to the big community which are the home community, level community, block community, and the building community.

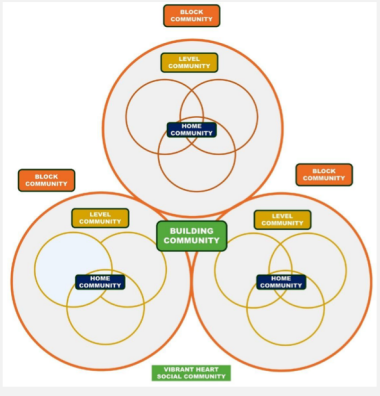

Figure 12: The diagram shows the aspect of the proposed design from the small community to the big community.

DESIGN CONCEPT

The design concept for the proposed design is Vertical Kampung. Every dwelling unit belongs to a "Sky Village" that shares the "Tropical Community Space" which is a skycourt to develop the community's well-being and livability of the city. The skycourt will act as an "ANJUNG" where people can do small gatherings and has more spaces especially during Eid celebration for open houses and birthday celebration. Therefore, every unit will come with a garden with the integration of the skycourt in the design. Furthermore, the owner of the unit has the flexibility to rent the bedroom on the lower floor as it can act like a split unit. One of the entrances will go into the living and dining area which acts as a "SERAMBI" before entering the kitchen area. The "SELANG" area can be used as a private space for women during special occasions. In addition, the community plaza and the community garden will act as a gathering place and the space can develop the "Kampung Spirit' among the community as it can foster social interaction. Lovers of plants, retirement and other community can have the opportunity to pursue gardening during their free times while knowing their neighbours.

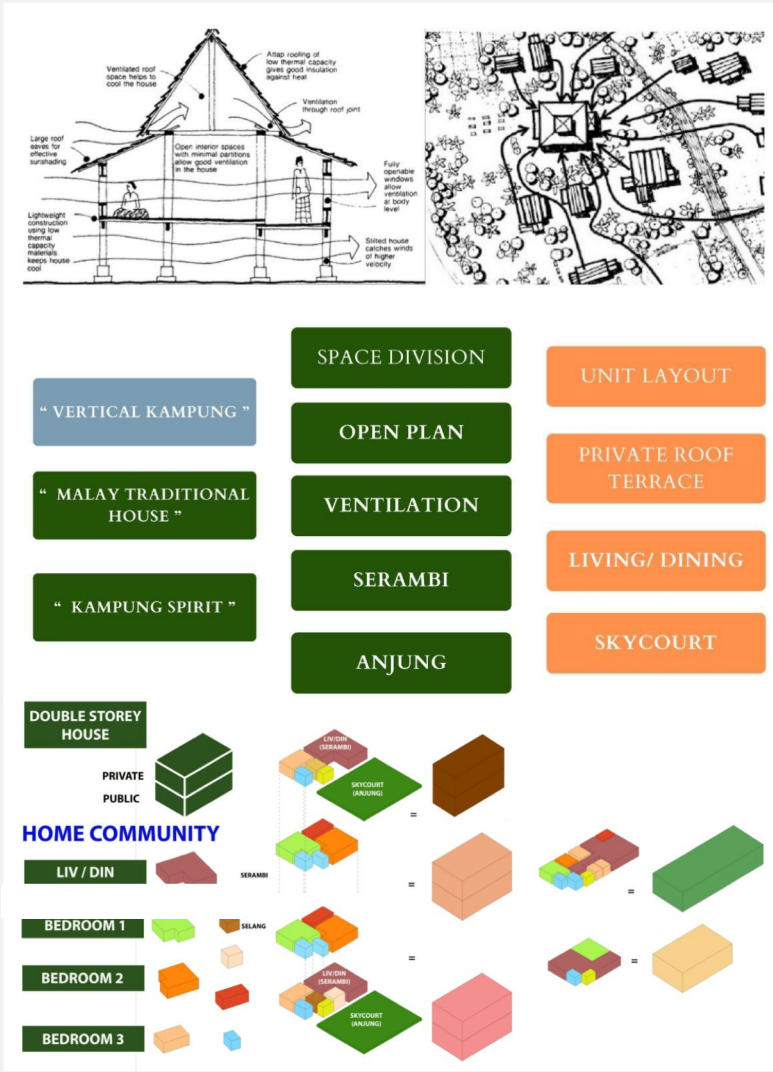

Figure 13: The diagram shows the design concept of the "Sky Village" which inspired from the Malay traditional house.

DESIGN STRATEGIES

The elements that support social interaction are public access, programmes, hybridisation, and the periscopes. It is the condition where the ground floor is opened to give a different open space in the city, which might be utilised for any number of open capacities. Transparency permits one to enter the building without any boundaries, physical and mental, where people choose to be in public rather than their private lobby (Hitzler, N. 2016). Thus, the design strategy is to create an open ground floor and open roof such as the community plaza and the rooftop skypark. The open ground floor will allow the paths of various users to overlap. Sky Village has integrated the element of hybridisation through dispersed programmes such as the skycourt being connected vertically while the sky bridge, rooftop skypark, and sky podium are connected horizontally. In addition, public spaces such as rooftop skyparks are connected like periscope atriums as they can operate vertically and horizontally offering views to spaces that would otherwise be hidden. A periscope elevates the public eye to the increasingly privatised skyline, giving a privileged view to the public.

Elements that support social interaction	Strategies	Sky Village
Public access	• Open ground floor • Open roof	• Void decks • Community plaza • Sky Bridges • Rooftop Skypark
Program	Communal activities	**Commercial**: small shops **Education**: Kindergarten **Open space**: Private sky terrace, skycourt, sky bridges, children playground and court
Hybridization	Dispersed programs	**Dispersed centrally with focal points** in courtyard of community plaza **Vertical : Private Community Terrace, Skycourt** **Horizontal : Sky bridge, Rooftop skypark, Sky podium**
	Shared circulation	Horizontally in the ground floor between public areas : Pathways Horizontally in upper level between open spaces to units : Skycourts Vertically between open spaces to groups: Cores
Periscopes	Periscopes atriums	• Periscope from above: Rooftop skypark • Periscope via communal space: Communal amenities, sky bridges • Periscope via open space: Community plaza and big courtyard in ground floor

Figure 14: The diagrams shows the elements that support social interaction and design strategies for the community amenities of the Sky Village.

SITE PLAN

Figure 15: Site plan of the vertical community amenities in urban social high rise residential building which is the " Sky Village".

The Sky Village is an urban social high-rise residential building that integrates the vertical community amenities that are located in Sentul, Kuala Lumpur. The site is located beside the Gombak River and in the centre of Kuala Lumpur which could provide a view of the city. The road that can be accessed to the Sky Village is Jalan 1/48a which is two-way lane from the LRT Sentul. The Sky Village is orientated to the southwest and northeast directions to utilise the natural ventilation to the units, triple volume of the skycourts, and other community amenities. The building is oriented to integrate the passive design strategy by providing natural ventilation and a large opening of breathing space for the residential and community amenities.

SPACE PLANNING

Figure 16: The perspective view of the "Sky Village"

The Sky Village is designed to re-envision the urban social high-rise residential building by integrating vertical community amenities to improve the well-being of the occupants. The design of the building will include all the aspects from the small community to the big community which are the home community, level community, block community, and the building community. Firstly, space planning was emphasised in the home community. The basic module of the units at the Sky Village comprises two-double storey apartments that occupy four floors, one placed on top of the other such that access to both apartment units is on the courtyard level. Sky Village is designed with **"one unit going up and one unit going down".** Tenants who are living in the bottom floor unit have the convenience of entering the house through the main front door which is on the lower floor of the double-storey apartment and also the courtyard (skycourt) level. On the other hand, if the tenant is taking the top floor unit, the tenant will have direct access to their own home through the upper floor of the double-storey apartments. Consequently, stacking the two double-storey apartments on top of each other can produce a triple-volume sky court. The sky court can function as a social, public communal space in the sky, allowing the benefit of greater light, view, and ventilation thus enhancing the internal environment (Pomeroy, 2014). Skycourt can reduce the area of circulation by the omission of corridor space and give the opportunity to have bigger space on the courtyard level. Therefore, on the level of community, the sky court can function as a gathering place and foster social interaction among the level community. The community can have more space during special occasions such as Eid celebrations or celebrations of birthdays. Besides, the Sky Village has a long-format apartment where every space from living, dining, and bedrooms is accompanied by a grand view which is the Kuala Lumpur city skyline. The units also come with folding doors to offer flexibility and freedom to the homeowners. The service wall is isolated to the outside of the unit, all mechanical elements servicing the unit are accessible through a hidden service wall. The private roof terrace will function as a corridor and also the terrace for the small social space of the home community.

Figure 17: Ground floor plan of the vertical community amenities in an urban social high-rise residential building.

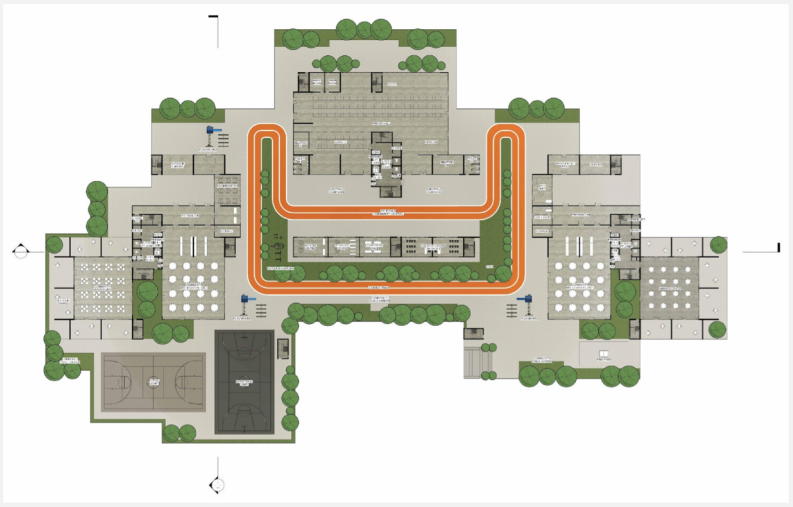

Figure 18: The fifth floor plan (Sky Podium) of the vertical community amenities in an urban social high-rise residential building.

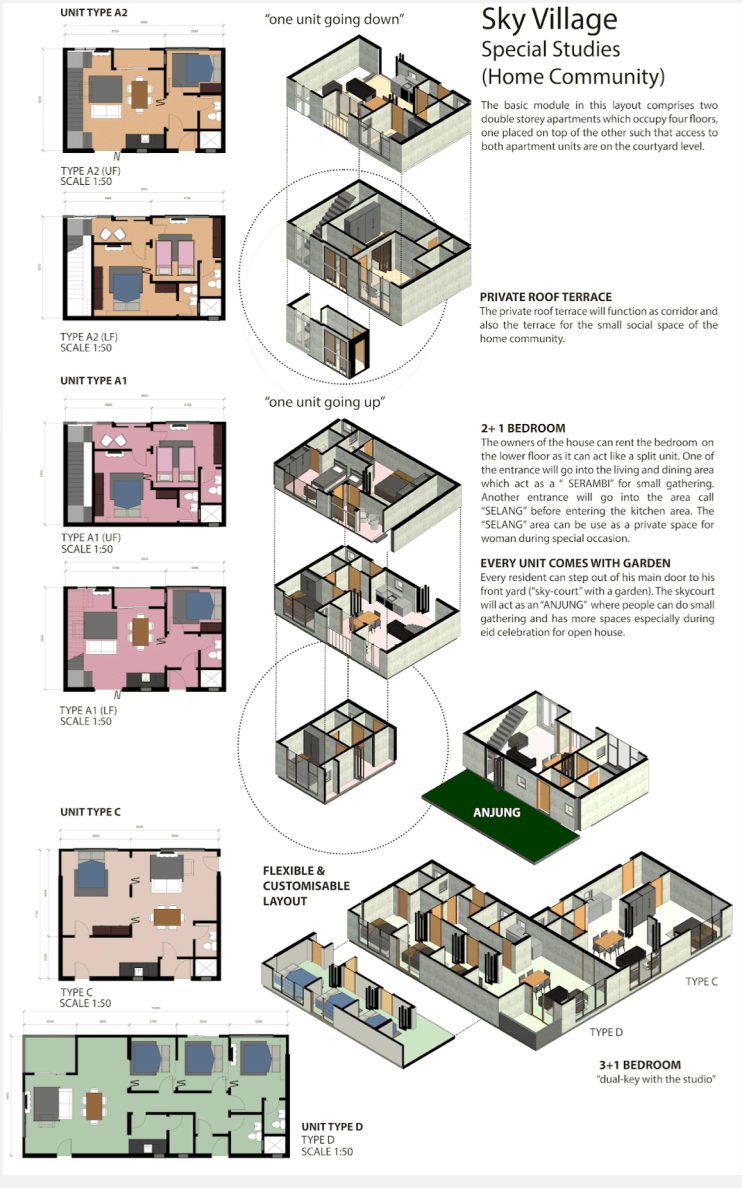

Figure 19:The special study of the home community at the Sky Village.

At level and block community, a cluster of six stories is set up. After that, the cluster is twisted for every six stories. Thus, each Sky Village has 12 stories based on the arrangement of the cluster. Each Sky Village has integrated the invisible space to generate programmes and provide shared spaces for the community which is the “Sky Bridge Corridor Garden”. The sky bridge corridor garden will be integrated into each of the stacked villages. Each of the stacked villages will highlight the cluster of individuals that come together as a community such as startup, sports and healthy, arts and crafts, and the garden and edible village cluster to foster the **“Kampung Spirit”** and generate social interaction as the community bump into each other at the sky bridge corridor garden and other spaces of community amenities. Lovers of plants, retirements, and other community planters can have the opportunity to pursue gardening during their free time at the garden and edible village cluster. In addition, the arts and crafts village cluster has provided space for the community creative area. The community can explore creative ideas by doing arts and crafts such as batik and wood crafts and get the vibe of living in the setting of a village. The arts and crafts like batik can be sold at the art and craft shop which is located at the sky podium. This exploration can give the community work experiences and profits. Furthermore, the sport and healthy village cluster can get the opportunity to explore the triple-volume of communal amenities such as the badminton court which is located at the 18th level. The triple volume space of community amenities can also function as a multipurpose room for special occasions such as the celebration of birthdays or weddings with a grand view of Kuala Lumpur’s city skyline.

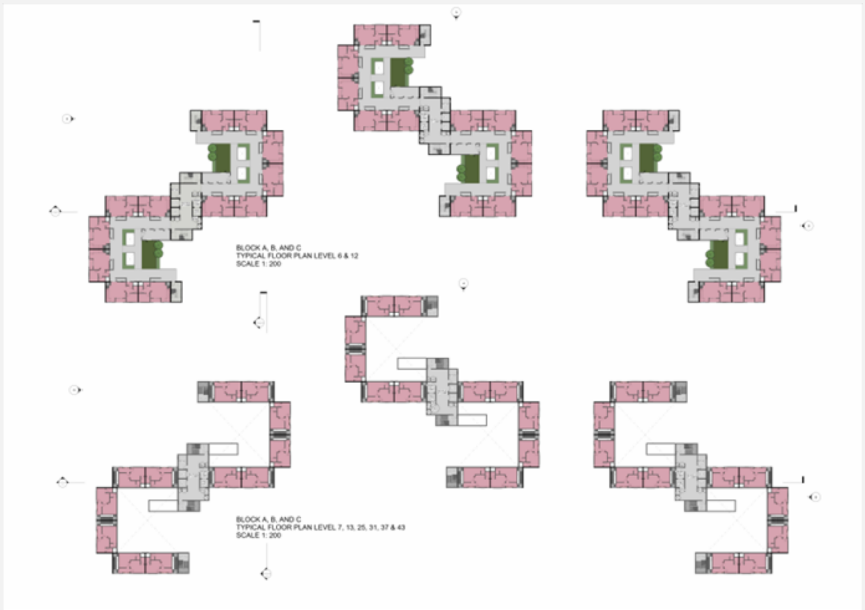

Figure 20: The floor plan of level six and seven which integrated the architectural space of skycourt.

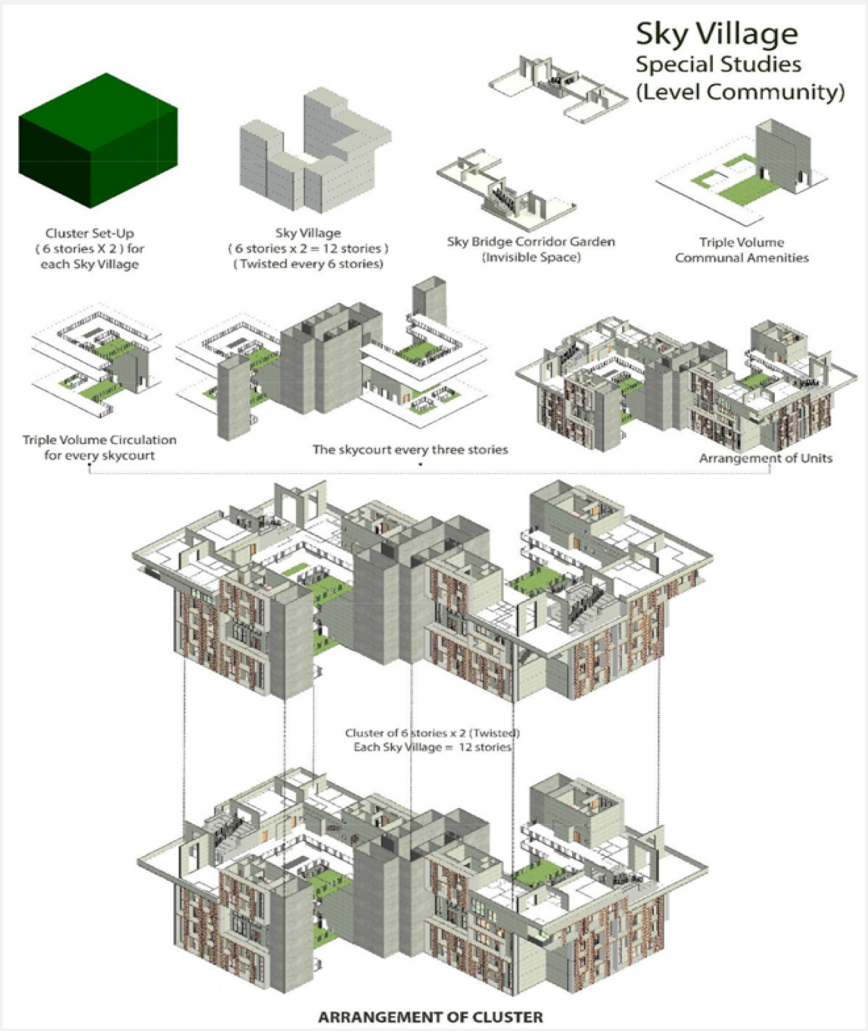

Figure 21: The diagram shows the cluster set-up of the Sky Village.

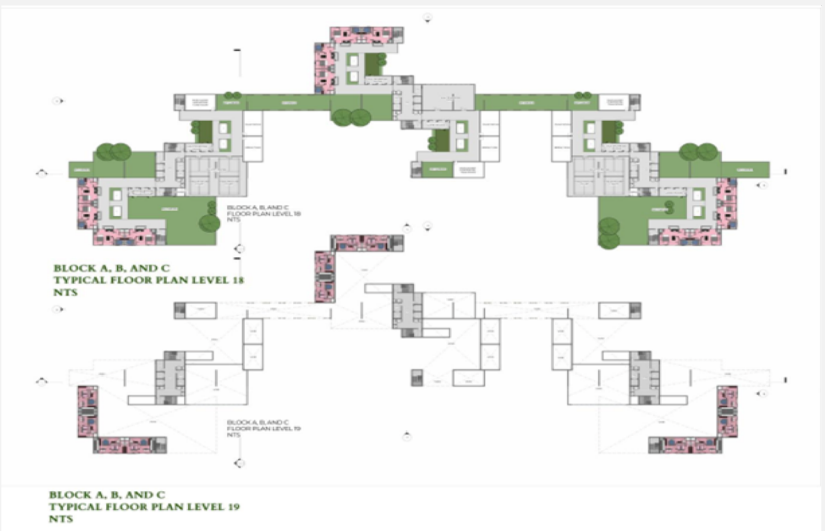

Figure 22: The floor plan of 18th level which is the sport and healthy village cluster. The triple volume of the sport amenities has been implemented in the building.

Sky Village also has integrated the community plaza, sky podium, rooftop skypark, sky bridge and community edible garden, and other appropriate community amenities for the whole building community. The community plaza can act as a central gathering area for residents to socialise, relax, or hold events. It is equipped with seating areas, playgrounds, gardens, and retail spaces such as cafes or convenience stores. The community edible gardens will function as a communal area where a number of people can grow and care for plants, fruits, vegetables, herbs, and flowers. These community edible garden can encourage local food production, sustainability, and social engagement. The community edible gardens can provide a gathering place for neighbours to socialise, collaborate, and strengthen community bonds. Furthermore, the sky podium which is located at Level 5 will function as a common area for the community and has a green, social, and recreational spaces. It is designed as a social hub to encourage interaction among residents or tenants in a communal setting. Last but not least, the sky bridge has connected the three towers of the Sky Village horizontally. It is designed as an elevated and open-air walkway that connects the three separate towers which is located above ground level. The sky bridge can function as a place for small gatherings and social spaces with the provision of seating areas and gardens. Lastly, the design of the building always reflects people's perspectives of the building for the first time. The façade of the Sky Village was inspired by the architectural design of a traditional Malay house which uses wood panels.

Figure 23: The façade of the Sky Village was inspired by the architectural design of traditional Malay house which is by using the wood louvers panel.

PERSPECTIVE VIEW

Figure 24: The exterior perspective view of the skycourt at the Sky Village.

Figure 25: The community can have more space during special occasion such as eid celebration or birthday's party for small gathering and social interaction at the skycourt.

Figure 26: The sky bridge corridor garden (invisible space), which acts as a community's playing and study area.

Figure 27: The food bazaar can be open at the community plaza which the community can sell or buy a diverse mix of traditional Malay food. The public can also access to this area to buy their favorite local foods.

Figure 28: The community edible garden will function as a communal area where a number of people can grow and care for plants, fruits, vegetables, herbs, and flowers. The plants can be used or sell at the community plaza or community edible garden.

Figure 29: The sky podium which is located at Level 5 will functions as a common area for the community and has a green, social, and recreational spaces such as basketball courts.

CONCLUSION

In conclusion, the study of the vertical communal amenities in urban social high rise residential building can provide significant positive impacts. The provision of communal amenities such as the skycourts, sky podium, rooftop sky park, community plaza, community gardens and others can improve residents' physical and mental well-being. It will improve the quality of life of the community. The study can give more understanding of the appropriate community amenities space that can help foster a sense of belonging and community spirit among diverse residents. It can encourage the social interaction, reducing feelings of isolation which is common in high-rise living. Affordable housing projects with amenities may help reduce social stigma attached to low- and middle-income housing and increase the economic value. This study will help policymakers to understand the needs of residents and integrate appropriate amenities into urban housing policies.

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