

## THE IMPACT OF SOCIAL SPACES IN RESIDENTIAL NEIGHBOURHOOD DURING THE COVID-19 PANDEMIC: URBAN FARMING INTO A SELF-SUFFICIENT COMMUNITY

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### ABSTRACT

The announcement of Malaysia's first coronavirus (COVID-19) case in January 2020 triggered a nationwide lockdown on March 18, significantly affecting food supply chains and exposing the weaknesses of non-self-sufficient economies. This study critically explores residents' perceptions of social spaces in Port Dickson, Negeri Sembilan during the pandemic through a mixed-method approach. It combines photographic documentation and a questionnaire survey to assess the impact on residents' quality of life. Insights from a semi-structured interview with representatives of PLAN Malaysia in Negeri Sembilan, revealed that the design of social spaces is intended to enhance cost efficiency while alleviating the burden on local authorities. Results indicated that majority of the respondents experienced significant stress during the pandemic, driven by anxiety, job loss, and livelihood challenges while many emphasized the importance of effective space allocation and varied options within residential neighborhoods. These findings imply that strategically designed social spaces and zoning practices are key to developing self-sufficient communities in residential areas. Future research agenda should prioritize on the long-term implications of diverse social space designs for community well-being and self-sufficiency in the post-pandemic landscape.

**Keywords:** Social spaces, COVID-19 pandemic, Urban Farming, Self-sufficient Community.

## 1. INTRODUCTION

The COVID-19 pandemic has profoundly altered daily life for much of the global population, revealing vulnerabilities in our social systems and highlighting the critical need for resilient community infrastructures. In 2020, an estimated 3.9 billion people, or half of the world's population, experienced some form of lockdown restrictions (Sandford, 2020). As the World Health Organization (WHO) recorded over 776 million COVID-19 cases and more than 7 million deaths by 2024, recent weekly increases of 58,572 cases and 997 deaths further illustrate the ongoing crisis (WHO, 2024a; WHO, 2024b). This disruption extended beyond economic downturns, emphasizing the importance of community systems that not only provide essential services during emergencies but also enhance overall well-being by fostering connection and support (Callenberg et al., 2024; Moghaddam, 2024; Kleeman & Foster, 2023).

In Malaysia, the Ministry of Health (2024) reported a total of 5,274,039 confirmed COVID-19 cases and 37,351 deaths, with Putrajaya and Kuala Lumpur recording the highest case counts since the pandemic's outbreak. During that time, the Malaysian government urged citizens to stay at home, practice social distancing, and limit interactions with individuals outside their households in response to the increasing number of daily cases (Shah et al., 2020). Strict travel restrictions were enforced, permitting only essential trips within a 1 km radius from home, which even limited outdoor exercise (Ali et al., 2021).

These measures significantly disrupted the food supply chain, exposing the fragility of food security and access globally (Adnan & Nordin, 2020). The urgency of the situation intensified as many individuals had little time to prepare for the abrupt changes brought on by the pandemic. The implementation of the Movement Control Order (MCO) led to immediate interruptions in food supply lines, particularly in urban areas, due to transportation restrictions and altered market operating hours (Tang, 2022). Amidst these difficulties, the pandemic has demonstrated the impact of social spaces in fostering community resilience.

According to Cabrera-Barona et al. (2023), social space refers to urban areas such as public spaces or neighbourhoods that are shaped not only by their physical location but also by the sense of place, daily life activities, and the social interaction among people. In this study, social spaces are defined as various places utilised by communities for social connections referring to neighbourhood parks, community gardens, and multifunctional communal areas. For instance, social spaces in neighbourhood parks are designed to fulfil basic human needs. These social spaces enable people to engage in physical activities, socialise, appreciate nature, and get away from the hustle and bustle of urban life, thereby supporting healthier lifestyles (Moulay et al., 2017).

## 2. LITERATURE REVIEW

Social spaces play an integral part in building self-sufficient communities by encouraging social interaction, local resource use, and a stronger sense of place (Buheji et al., 2020). During the pandemic, social interactions within communities were profoundly reshaped in the pursuit of support and connection. Public spaces such as parks, playground, and community gardens which were originally designed for social engagement and recreation, evolved into important sources of support for residents yearning for connection during times of isolation (Gunawardana et al., 2024; Bereitschaft & Scheller, 2020). Swapan et al. (2024) noted that as conventional methods of interaction were restricted, the majority of people found comfort and companionship in their nearby public spaces, which progressed into essential hubs for social assistance. In fact, Kleeman and Foster (2023) proposed that exposure and interaction with green spaces have a substantial effect on physical well-being and mental health and help to dissipate stress and anxiety accumulated by the changes experienced during the pandemic. In addition to these social activities, such social spaces have inspired grassroots initiatives like urban

farming, which has grown as a result of the interest of residents in food security and in reconnecting the community with the environment, among other effects strengthening community ties and fostering the range of positive engagements that are caused by their development (Duch Crosta, 2024; Nicholas et al., 2023).

Furthermore, the development of urban farming initiatives also represents a response to food insecurity, enabling residents to grow their own fresh food supplies and thus instigate self-sufficiency across the neighbourhoods (Moghaddam, 2024). As Richardson (2022) mentioned eloquently, this shift was not addressed immediate dietary but also about interacting and working collectively with their neighbours, emphasizing the benefits of social environments through the pandemic. Turning vacant spaces into useful gardens will facilitate the communities to minimize their dependence on external sources of food which is important during the pandemic (Khan et al, 2020). Several previous researches indicated that urban farming significantly improves food security, offered learning experiences, encourage community unity, and promoted eco-friendliness (Qiu et al., 2024; Callenberg et al., 2024; Fantini, 2023; Nicholas et al., 2023). The incorporation of farming within urban settings fullfills the tangible requirements of residents while simultaneously enhancing their psychological and social health (Swapan et al., 2024).

As these neighbourhoods learning from their experiences during the pandemic, there is an urgent need to support initiatives committed to establishing multifunctional spaces. These places play a vital role in producing adaptable urban environments that can respond to upcoming challenges. Through the allocation of resources towards these facilities, neighbourhoods can foster not only physical resources but also foster a feeling of community and assistance among individuals, thus leading to the establishment of healthier and more sustainable neighbourhoods (Fantini, 2023; Sarkis et al., 2020). In other words, these social spaces offer essential opportunities for active involvement, social connectivity, and enjoyment of the outdoors, serving as a necessary escape from urban life (González et al., 2023). These share natural spaces play a crucial role in defining the character of the community and strengthening relationships among residents, as they create values for recreation, social interaction, and a connection with nature, all of which supply to the overall health and sustainability of urban environments (Mouratidis, 2022). However, both government authorities and the private sectors often view this green infrastructure as luxury amenities rather than essential necessities for local residents (Marzukhi et al., 2012).

Furthermore, the fear of infection during COVID-19 had a profound effect on mental health, leading to feelings of stress, anxiety, and helplessness among individuals facing inadequate supplies, insufficient information, and job loss (Ariffin et al., 2023). Are Malaysians ready for extreme situations like a significant shortage of food and resources? Is the social space design sufficient to create socially, economically, and environmentally adequate communities in the aftermath of the pandemic? Interestingly, Moulay et al. (2017) argued that despite all attempts to support public gardens in urban environments, the pressures of urban development have contributed to a deterioration of social connections and cohesiveness in metropolitan areas. The pandemic engaged the communities towards environmental issues and the need to be self-sufficient in resources and achieve long-term sustainable goals (Sarkis et al., 2020).

Self-sufficiency is a commitment to effectively managing the resources required for survival or development in normal circumstances or during a catastrophe (Buheji et al., 2020). This approach advocates for a living style that emphasizes unity and sustainability, enabling community members to join forces in the pursuit of more ethical and equitable societies (Qiu et al., 2024; Cabrera-Barona et al., 2023). These studies suggest that by implementing food production into social spaces of the local residential neighbourhood, researchers would be able to alleviate the problems of food, life material shortages, and mental health issues during any lockdown or pandemics. For instance, Dzhambov et al. (2021) discovered that green spaces and outdoor environments can positively influence mental health during quarantine by giving a sense of escape and a connection to nature. As Buheji et al. (2020)

pointed out the foundation of a self-sufficient community relies on the development of local farmers' livelihoods, amidst rising concerns about socio-environmental issues and sustainable consumption.

An individual's routine, such as physical activity and diet, is only one of the factors, while the other factors include social and community connections (Khotdee et al., 2012). Moreover, broader aspects that influence health include general socio-economic, cultural, and environmental conditions. In this context, designers of social places should consider designing places that promote physical health, by designing urban farming places, entertainment, recreation, and the rest community places (Cabrera-Barona et al., 2023; Khan et al., 2020). This study investigates why self-sufficiency is important today and in New Norma during the outbreak. It also stated how these present situations had created greater chances for the topic to liberate people from the restrictions of the capitalist economy.

As noted by González et al. (2023), the foundation of urban agriculture design is the synergy between ecological principles, design elements, and community involvement. For example, the Farmscraper that introduces a vertical farm project, shifted the roles of social spaces from being just green spaces to cultivable, eatable, and nutritive spaces (Zadeh, 2017). On the other hand, Regen Villages is an integrated village designed to power and feed self-sufficient communities, addressing the economic, social, and environmental issues posed by climate change and overpopulation (Ehrlich et al., 2021). The precedent studies have shown that projects and designers worldwide forge new paths to the sustainable city through urban agriculture landscapes.

Furthermore, there are economical, social-cultural and environmental benefits of establishing urban farming in social spaces. Taylor and Lovell (2015) agreed that producing own food helps increase food availability and access. The cultivation of local food sources leads to improved dietary quality and variety, financial savings, and greater food security (Ariffin et al., 2023). Besides, the pleasure of collaborative work and spending quality time in the social spaces can bridge the gap between residents of the local community (Agustina & Beilin, 2012). Cleveland et al. (2017) added that community gardening is more ecologically friendly because it eliminates greenhouse gas emissions from transportation and delivery operations such as lighting, heating, ventilation, and air conditioning that are typical of conventional food supply chains.

Marzukhi et al. (2012) mentioned that existing social spaces in Malaysian residential neighbourhoods lack community facilities such as local shops to fulfil basic daily needs. According to Mansor et al. (2019), people demand spaces for leisure activities that can offer relaxation and a variety of spaces to socialise instead of just immutable sports facilities provided in the residential neighbourhood. COVID-19 presented several questions about the state, preparation, and competence of different communities and nations' self-sufficiency under lockdown and social distancing needs. The socio-cultural pattern worth monitoring shifts from single-family homes to more inclusive communities of self-employed millennials and ageing in place. This is changing the way of doing things and it is necessary to plan and design spaces for socialization in neighbourhoods to foster the realization of the potential of self-sufficient communities (Moulay et al., 2017).

Bereitschaft and Scheller (2020) added that these efforts should concentrate on creating multifunctional spaces that encourage community interactions, promote sustainable practices, and facilitate access to local resources, thereby create a condition of belonging and resilience among residents. Indeed, these exceptional challenges posed by COVID-19, this paper pursues to understand the potential contribution of different functions such urban farming, entertainments, recreation, and community space in residential areas in achieving a self-sufficient community. By examining the effects of these social spaces in residential areas, the study addresses a significant knowledge gap regarding their ability to enhance resilience and sustainability during challenging periods.

### 3. METHODOLOGY

This research employed a mixed-methods approach by integrating both qualitative and quantitative strategies. The qualitative attribute of the research focused on exploratory or descriptive type of approach, using numerous approach including case studies, ethnographies, and in-depth interviews to be familiar with the complexities of human behaviour and social environments (Leavy, 2023; Babbie, 2021). In this study, case study and semi-structured interviews were carried out to identify the objectives of the social spaces and the developments of the area.

On the other hand, the quantitative approaches relied on the instruments like questionnaires, tests, and checklists to capture numerical data in a systematic way through counting and documenting variables based on the established questions and response options (Creswell & Guetterman, 2019). Therefore, researchers need to have both research expertise when applying those approaches, including an awareness of data gathering methods such as measurement devices and closed-ended attitudinal scales, an understanding of hypothesis testing logic, skill in employing and interpreting statistical evaluations from various software, and understanding critical rigor factors such as reliability, validity, experimental control, bias, and the ability to generalize findings (Creswell & Clark, 2018).

#### 3.1 Research Design

The research methodology adopted was divided in three phases according to the information gathering technique. The aim was to answer the following questions: How has the pandemic affected residential's mental health and perception of social spaces in their neighbourhoods?; What are the perception of residential towards urban farming in social spaces of the residential neighbourhood?; How does urban farming in social spaces of residential neighbourhood contributes to achieving a self-sufficient community? Each methodological phase explored a certain layer of space: the first phase described the psychological impact of the pandemic and perspective layer of residents, the second phase tackled the physical qualities, and the third phase investigated the design criteria for future development.

#### 3.2 Study Area

It is estimated that Negeri Sembilan's population will rise to 1,201,800 by 2024, with projections indicating growth to 1,300,400 by 2040 (Department of Statistics Malaysia (DOSM), 2016). This expected growth, along with the state's strong infrastructure and its role as a southern gateway, enhances its status as an investment destination for domestic and international investors. This research study centered on Port Dickson, which is part of the area covered by the Malaysia Vision Valley 2045 (MVV 2045) plan initiated by the Negeri Sembilan government. This plan encompasses the entirety of the Seremban (95,363.79 ha) and Port Dickson (58,310.32 ha) districts, focusing on efficient and integrated service delivery (Department of Town and Country Planning Negeri Sembilan, 2021). This initiative, driven by the private sector and supported by the state, seeks to create a world-class metropolis that is competitive, inclusive, and clean, while enhancing Malaysia's economy through job creation and investment opportunities.

In this study, the researchers focused on a residential neighbourhood in Taman Bandar Baru Lukut Jaya, Negeri Sembilan, Malaysia. Port Dickson comprises 204 residential neighbourhoods, with household numbers ranging from 8 to 2,614, and Taman Bandar Baru Lukut Jaya which consists of 204 houses representing the average size, making it purposely selected as the case study area to ensure a representative and manageable research focus within the constraints of time and available resources (Figure 1). The neighbourhood is conveniently located near schools, a bus station, and other residential areas. Furthermore, the residents represent a diverse range of age groups and ethnic backgrounds. The social spaces of the neighbourhood consist of basic facilities, including an open playground and a

basketball court, which serve a huge function and are located near a residential area (Figure 2). The shared spaces in this residential neighbourhood are similar to those found in other neighbourhoods throughout Malaysia. Thus, it is suitable to investigate the utility and social interaction among the residents.

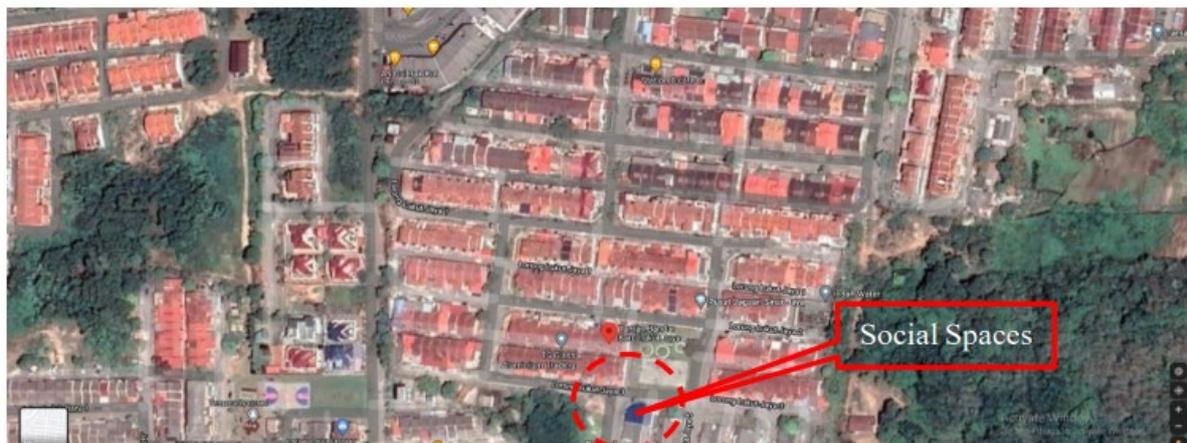


Figure 1: Taman Bandar Baru Lukut Jaya  
(Source: Google Earth, 2024)

The main purpose of this research was to review social spaces in residential neighbourhood to achieve a self-sufficient community during the COVID-19 pandemic. The primary source of the study involved field observations through photographic recordings and archiving through documentation of plan and sketches. The drawings produced consisted of sketches of the components of the selected social spaces. The secondary sources evaluated the impact of the COVID-19 quarantine and/or MCO on Malaysian's quality of life through a questionnaire survey. In addition, the photographs and sketches depicting the existing conditions of social spaces were presented to town planners during interviews to obtain further information on the design intentions of these social spaces and the benefits of urban farming within residential neighbourhoods. The relationship between urban farming in communal spaces and self-sufficiency was then evaluated using both physical and theoretical data from the fieldwork and interviews.



Figure 2: Social Spaces in Taman Bandar Baru Lukut Jaya  
(Source: Google Earth, 2024)

### 3.3 Sampling Technique and Sample Size

A convenience sampling technique was employed to reach residents in the selected neighbourhood due to MCO constraints. This approach allowing the researchers to gather responses

efficiently during restricted conditions (Etikan et al., 2016). Meanwhile, key informants were purposively selected based on their expertise in urban planning and local community management. The interviews were conducted to understand the function and transformation of social spaces in a residential neighbourhood. Semi-structured interviewing is a qualitative research approach that consists a list of open-ended questions with the possibility for the interviewer to explore specific themes in greater depth (Palinkas et al., 2015). The final sample of 119 respondents, aged 18 and above, was deemed adequate for descriptive analysis within this case study context.

### 3.4 Data Collection Techniques

#### 3.4.1 Phase 1: Site Observation

The first phase involved direct observation and documentation of the social spaces within the residential neighbourhood. Observations were carried out in Taman Bandar Baru Lukut Jaya, focusing on the physical features and functions of the playground (Figure 3 )and basketball court (Figure 4). All facilities consisted of open spaces, without any sheltered areas. All data were recorded using photographs, sketches and field notes. The main indicators recorded included surface area, usage and function, open and private use areas, setting features, and environmental regulation services.



Figure 3. Playground  
(Source: Google Earth, 2024)



Figure 4. Basketball Court  
(Source: Google Earth, 2024)

#### 3.4.2 Phase 2: Survey Questionnaires

The second phase was conducted within three weeks in January 2022. The questionnaire was designed to investigate the impact of the COVID-19 pandemic on mental health using the Perceived Stress Scale Test (PSS) and to understand residents' subjective experiences of social spaces in their neighbourhood. The scale's questions were aimed at capturing the respondents' feelings and thoughts over the past month. Participants rated the frequency of their emotional responses to various scenarios. Although some questions may seem similar, each one addresses distinct aspects and should be considered individually.

Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

- ▶ Scores ranging from 0 - 13 would be considered low stress.
- ▶ Scores ranging from 14 - 26 would be considered moderate stress.
- ▶ Scores ranging from 27 - 40 would be considered high perceived stress.

The expected outcome at this phase was to evaluate the impact of the COVID-19 quarantine and MCO on Malaysian's quality of life and to identify the psychological impacts of the MCO. The questionnaire consisted into four sections covering the demographic profile with age, gender, marital

status and ethnicity, the impact of COVID-19 pandemic on health using the PSS, the programme and zoning of social spaces and, residents' perceptions of urban farming. Responses were gathered through closed-ended questions using Likert scales. The 119 valid responses were analyzed in Statistical Package for the Social Sciences (SPSS) to disclose patterns and relationship relevant to the research objectives.

### 3.4.3 Phase 3: Semi-Structured Interviews

The last phase involved semi-structured interviews with informants to obtain deeper insights into the design objectives and future potential of social spaces in the area. As reported by Kallio et al. (2014), semi-structured interview is a type of qualitative research that is based on a series of open questions that enable the interviewees freely to decide upon their answer and allows interviewers to explore certain questions in greater depth. Two (2) representatives from PLAN Malaysia and the Development Planning Department, Seremban City Council were interviewed.

## 4. RESULTS AND DISCUSSION

### 4.1 Section A: Demographic Analysis

This study was carried out among 119 respondents from 204 housing house in Taman Bandar Baru Lukut Jaya, Negeri Sembilan. The survey questionnaires targeted the residents of Taman Bandar Baru Lukut Jaya, as they are the primary users of the social spaces in the residential neighbourhood, especially during the MCO. The limited number of respondents resulted from time constraints and travel difficulties during the COVID-19 pandemic. The demographic profile of the respondents including age groups, gender, marital status, and ethnicity, is detailed in Table 1. Among the respondents, 47.9% were aged between 21 to 30 years with 56.3% identify as female and 43.7% as male. In terms of marital status, 52.9% were single, 43.7% married, and 3.4% widowed while the ethnic composition comprised Chinese (56.3%), Malays (35.3%), and Indians (8.4%).

Table 1: The Demographic Profiles of the Respondents

		n	Percentage (%)
<b>Age</b>	< 21 years old	1	0.8
	21- 30 years old	57	47.9
	31- 40 years old	30	25.2
	41- 50 years old	10	8.4
	51- 60 years old	8	6.7
	< 61 years old	13	10.9
	<b>Total</b>	<b>119</b>	<b>100.0</b>
<b>Gender</b>	Male	52	43.7
	Female	67	56.3
	<b>Total</b>	<b>119</b>	<b>100.0</b>
<b>Marital Status</b>	Single	63	52.9
	Married	52	43.7
	Widowed	4	3.4
	<b>Total</b>	<b>119</b>	<b>100.0</b>
<b>Ethnicity</b>	Malay	42	35.3
	Chinese	67	56.3
	Indians	10	8.4
	<b>Total</b>	<b>119</b>	<b>100.0</b>

## 4.2 Section B: The COVID-19 Pandemic’s Impact on Mental Health (PSS)

The findings presented in this section were intended to discover the pandemic’s effects on the residents’ mental health using the PSS. Scores ranges from 0 to 40, with higher scores indicating higher perceived stress. The results show that most respondents fell within the moderate stress range (14 – 26), indicating they experienced noticeable psychological strain during the MCO period (Table 2). Almost half of the respondents feeling stressed, nervous and unable to control important aspects of their lives.

Table 2: The Pandemic’s Impact on Mental Health (Perceived Stress Scale)

The effectiveness of space allocation (public, semi-public, private) in social spaces	n (%)				
	Never	Almost Never	Sometimes	Fairly Often	Very Often
Upset because of something that happened unexpectedly.	4 (3.4%)	20 (16.8%)	<b>72 (60.5%)</b>	18 (15.1%)	5 (4.2%)
Felt that you were unable to control the important things in your life.	6 (5.0%)	27 (22.7%)	<b>63 (52.9%)</b>	16 (13.4%)	7 (5.9%)
Felt nervous and stressed.	2 (1.7%)	24 (20.2%)	<b>64 (53.8%)</b>	20 (16.7%)	9 (7.6%)
Felt confident about your ability to handle your personal problems.	4 (3.4%)	10 (8.4%)	<b>56 (47.1%)</b>	42 (35.3%)	7 (5.9%)
Felt that things were going your way.	2 (1.7%)	11 (9.2%)	<b>71 (59.7%)</b>	30 (25.2%)	5 (4.2%)
Could not cope with all the things that you had to do.	5 (4.2%)	22 (18.5%)	<b>69 (58.0%)</b>	16 (13.4%)	7 (5.9%)
Been able to control irritations in your life.	4 (3.4%)	11 (9.2%)	<b>52 (43.7%)</b>	49 (41.2%)	3 (2.5%)
Felt that you were on top of things.	7 (5.9%)	19 (16.0%)	<b>68 (57.1%)</b>	21 (17.6%)	4 (3.4%)
Been angered because of things that happened that were outside of your control.	7 (5.9%)	27 (22.7%)	<b>52 (43.7%)</b>	28 (23.5%)	5 (4.2%)
Felt difficulties were piling up so high that you could not overcome them.	9 (7.6%)	32 (26.9%)	<b>49 (41.2%)</b>	24 (20.2%)	5 (4.2%)

Moreover, interview insights from Mr. Muzhafar Mokhtar, Assistant Director of PLAN Malaysia at the Department of Town and Country Planning, Negeri Sembilan, supported the finding that many residents faced economic disruptions, including job losses and reduced income, which were key contributors to stress, particularly among small entrepreneurs. These findings signify that restricted mobility, isolation, and lack of access to communal support spaces aggravated mental health challenges. The results unveiled the critical requirement for mental health resources and community support systems. It also urged urban planners to design neighbourhoods that promote mental health by featuring accessible green spaces and communal areas.

This interpretation is also consistent with previous studies. Cabrera-Barona et al. (2023) also supported this notion by indicating that green space significantly contributes to mental health where proximity to nature was associated to lower anxiety and higher level of well-being. Indeed, social support and community connectivity have been recognized as relevant for stress management by providing emotional resources and a feeling of belonging which are critical in fostering resilience

during difficult challenges (Callenberg et al., 2024; Khan et al., 2020). These were among the essential interventions to enhancing the quality of life of residents and building resistance in the face of the pandemic. For example, Valle (2021) argued that gardens other than serving as the gateway to nature also constituted transformative spaces that made possible the restoration of social solidarity and the recovery of the collective human in times of adversity.

In particular, the results suggest the pandemic had effects on the residents' mental health, as well as changes in the importance and appreciation of social spaces in the neighbourhood. The outcomes contribute to the aim of this study as they suggest that well-designed multifunctional social places which enable recreational, social interaction, and local food production may help to build community resiliency and entertain as part of stress relief during disruptions.

### 4.3 Section C: The Program and Zoning of Social Spaces

This section presents findings from interviews and planning documents to explain the current programming and zoning practices for social spaces.

#### 4.3.1 Demographic of the Interviewees

Mr. Khairul Zaman, the Director of PLAN Malaysia at the Negeri Sembilan Department of Town and Country Planning, and Mr. Muzhafar shared their perspectives during the interview on urban planning leadership influenced neighbourhood resilience during the pandemic. Mr. Khairul mentioned their commitment to creating a thriving and sustainable living space by 2030 reflects a clear focus on improving daily life while ensuring that all development aligns with national objectives. He emphasized the demand for strong planning policies and proper enforcement of the Town and Country Planning Act (Act 172) to guide land use, coordinate development effectively, and ensure conservation efforts, so that all agencies work together toward shared goals.

Likewise, Mr. Muzhafar highlighted the department's dedication to maintaining fundamental public infrastructure for Seremban City residents, including managing roads, drainage systems, streetlights, community centres, and recreational facilities while regulating planning approvals, public health standards, and business licenses to foster a thriving community. In other words, these insights present that planning decisions directly affect residents' daily comfort and safety. Both planners balance policy with practical needs, making their perspectives essential for keeping the neighbourhood strong and connected in the future.

#### 4.3.2 Planning Guidelines

Additionally, the planning guidelines applied in Negeri Sembilan, such as the *Planning Guidelines and Standard Manual Negeri Sembilan Version 1.0* (2020), *Housing Planning Guidelines Negeri Sembilan* (2020), *Open Space and Recreation Planning Negeri Sembilan* (2020), *Community Facilities Planning Guidelines Negeri Sembilan* (2019) and the *Crime Prevention Through Environmental Design (CPTED)* (2010) have established clear structure on how open space and community facilities are supposed to be planned and managed. These documents help local authorities decide where parks, recreational areas and community centres should be located to benefit residents. Mr. Khairul mentioned that these standards guide settlement areas so that all facilities follow state-approved requirements. Local authorities also have the flexibility to adjust these rules to suit local conditions, which helps address the different needs of each neighbourhood.

However, the COVID-19 pandemic displayed that while these guidelines cover green spaces and recreation well, they do not fully consider the role of urban farming as part of the neighbourhood planning. Many green areas are still seen only as spaces for leisure rather than places that could help residents grow food during supply disruptions. This reveals clear opportunities to update planning manuals so that social spaces can also support local food production and make communities more self-

sufficient when facing unexpected challenges.

### 4.3.3 Design Intention of Social Spaces

Moreover, the way social spaces are planned shows a clear effort to combine safety, usability and community benefit. Design principles, such as Natural Surveillance from the CPTED framework, planners aim to make sure that open spaces and recreation areas are visible and accessible at all times. This approach enhances perceived safety and encourages continuous activation and stewardship of shared spaces when special layouts are well planned, residents feel more at ease occupying outdoor environments, engaging in passive and reactive recreation, and participation in community interaction that reinforce social cohesion.

Creating adaptable and shared social spaces allows local authorities to optimise budgets, as developers provide multi-purpose facilities that serve diverse functions. However, when funding is limited, some areas remain vacant but can still be repurposed as community gardens or urban farms, transforming underutilised land into productive spaces. This design approach demonstrates that strategic site planning and flexible programming able to meet daily needs and strengthen local food systems. By promoting multifunctional spaces, planners help create safer and more inclusive neighbourhoods.

### 4.3.4 Future Development

The future planning of social spaces in residential neighbourhood was guided by the *Negeri Sembilan Guidelines and Planning Standards Manual*, approved for adoption in 2021. This manual outlines the criteria for determining the type and scale of social spaces based on population density and identifies suitable locations to ensure a high level of accessibility for residents.

Moreover, PLAN Malaysia acknowledged that Negeri Sembilan lacks a dedicated framework specifically for the future planning of social spaces in residential areas. Instead, the department relies on established practices to develop safe social spaces in strategically selected locations, facilitating easy access and providing high-quality facilities that cater to residents' needs. While these spaces can be used effectively, the department remains committed to adapting its approach in response to evolving demands and emerging needs.

Table 3: The Program and Zoning of Social Spaces

	n (%)				
	Not Important	Somewhat Important	Important	Very Important	Extremely Important
The effectiveness of space allocation in social spaces.	2 (1.7%)	9 (7.6%)	<b>45 (37.8%)</b>	41 (34.5%)	22 (18.5%)
The effectiveness of the communal spaces (multipurpose halls, studios, workshops).	3 (2.5%)	16 (13.4%)	<b>56 (47.1%)</b>	32 (26.9%)	12 (10.1%)
The availability of space for various activities (urban farming, exercise, relaxation).	2 (1.7%)	10 (8.4%)	<b>45 (37.8%)</b>	43 (36.1%)	19 (16.0%)
The availability of space design for self-sufficiency (produce food supplies, self-help).	2 (1.7%)	16 (13.3%)	<b>49 (41.2%)</b>	38 (31.9%)	14 (11.8%)

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According to Table 3, the respondents view the effectiveness of space allocation whether public, semi-public, or private as important in the design of social spaces. This information was crucial as most of the social spaces in Malaysia offered only open spaces, often lacking functional diversity. Besides, majority of the respondents (47.1%) highlighted the importance of incorporating facilities such as multipurpose halls, studios and workshops within these spaces. Furthermore, 37.8% indicated that the availability of spaces for various activities such as urban farming, exercise and relaxation was important. Notably, 41.2% of respondents feels that the availability of space design for self-sufficiency was important. Indeed, a clear expectation that future social spaces should evolve from simple parks and playgrounds into lively centres that accommodate diverse functions.

The notable demand for facilities such as multipurpose halls and designated urban farming areas reflects a growing acknowledgment of the importance of multifunctional spaces in promoting sustainable practices and strengthening community resilience, particularly in urban areas (Qiu et al., 2024; Fantini, 2023; Cleveland et al. 2017). In this situation, the respondents' emphasis on the importance of effectively allocated spaces in social environments reveals a critical need for diverse and multifunctional areas that serve various community activities, indicating that well-designed public spaces enhance social interaction and community well-being (Moghaddam, 2024; Mouratidis, 2022).

The type of programs provided in the social spaces were key to developing residential neighbourhoods into self-sufficient communities. In other words, most precedents offered spaces for urban farming while also assimilates spaces for entertainment and workshops for more social interactions. Besides, based on the interviews, local authorities had supported community farming and were open to providing community spaces such as community halls if the budget allows. On the other hand, most residents had perceived the availability of having different spaces for various activities as important or very important. A balanced supply and demand approach ensures that land is utilised efficiently and resources are not wasted on underused spaces. Another key to develop the residential neighbourhood towards a self-sufficient community was the zoning of social spaces. The public, semi-public and private spaces will provide spaces for different needs of the residents. The local authorities were willing to improve the design of social spaces, provided that they were designed with consideration for surveillance.

In this context, there were no specific guidelines for the purpose of zoning social spaces, whether open, closed, or otherwise. The design and allocation of these spaces were subject to the creativity of the developer or the facility provider. However, it was important to ensure that each facility provided had its own characteristics and specifications to ensure that its feasibility, functionality, and prevent wastage. For example, badminton courts could not be instructed in open, uncovered spaces, as outlined by PLAN Malaysia in the new local plan, *Rancangan Tempatan Malaysia Vision Valley 2045 (RTMVV2045)* (Department of Town and Country Planning Negeri Sembilan, 2021). The content itself also stated about the facility include in social space based on initial discussion through the Program of Publicity and Public Participation. Hence, collaboration between all stakeholders such as developers, landowners and consultants should review and validate the zoning plan before deciding to undertake any development, although the lands were 100% owned by them.

Regardless, collaboration between local authorities, Residents Association (RA) or *Kawasan Rukun Tetangga* (KRT) and other community groups plays a vital role in making these ideas practical. Funding and support often rely on strong partnerships, not just within government departments but also with non-governmental organisations (NGOs) and political representatives. According to Mansour et al. (2019), partnerships enhanced resource mobilization and adequately address community needs, which in turn leads to improved program implementation and sustainability. Coordinated efforts help secure budgets and make sure new facilities are properly maintained, accessible and used for meaningful community activities. This process strengthens community ties and keeps spaces active and safe. For instance, common open spaces and recreational areas like playgrounds, were typically accessible 24 hours to the public.

#### 4.4 Section D: Residents' Perception in Urban Farming

In this section, Table 4 revealed a generally positive perception of urban farming among residents. Although most households did not grow their own food before COVID-19, many struggled with food access when movement was restricted. In contrast, those with home gardens experienced fewer obstacles, showing that small-scale food production embedded within residential environments can ease sudden shortages. The perception shifted further as more residents realised that food production within neighbourhoods can reduce dependence on external markets and bring a sense of security during uncertain times.

Table 4: Residents' Perception in Urban Farming

Residents' Perception in Urban Farming	n (%)				
	Not Likely	Less Likely	Moderate	Likely	Most Likely
Participate in urban farming if this facility is provided.	7 (5.9%)	16 (13.4%)	30 (25.2%)	<b>52</b> <b>(43.7%)</b>	14 (11.8%)
Participate if given the opportunity for workshops or training in basic urban farming skills.	7 (5.9%)	15 (12.6%)	24 (20.2%)	<b>57</b> <b>(47.9%)</b>	16 (13.4%)
Food production in your neighbourhood could help with shortages of food supplies during MCO.	5 (4.2%)	10 (8.4%)	17 (14.3%)	<b>63</b> <b>(52.9%)</b>	24 (20.2%)
Urban farming activities can improve social interactions within family members and communities in the neighbourhood.	4 (3.4%)	1 (0.8%)	24 (20.2%)	<b>67</b> <b>(56.3%)</b>	23 (19.3%)

Other than that, the respondents demonstrated positive feedback, with 43.7% expressing a willingness to participate in urban farming if appropriate facilities and workshops were made available. A similar share 47.9% indicated their interest in taking part if given the opportunity to attend workshops or receive training in basic urban farming skills. Meanwhile, 52.9% of the respondents agreed that food production in their neighbourhood could help address shortages of food supplies during MCO, and 56.3% acknowledging its role in enhancing social interactions, urban farming has become both a practical and social strategy.

This is due to the increase in community farming applications which reflects a shift among residents especially for small entrepreneurs who lost their job and sources of livelihood during the pandemic. Therefore, they choose to implement community farming at the nearest social spaces owned by the local authorities or technical departments to produce enough food sources for themselves and to share with the needy.

In Negeri Sembilan, applications for community farming must be submitted by RAs or KRTs or any association that has been registered with Registrar of Societies Malaysia (ROS). This local trend reflects broader global patterns. As mentioned by Bieri et al. (2024), the demand for urban gardening increased significantly before, during, and after the COVID-19 pandemic, primarily due to growing concerns over food security and the mental health benefits associated with gardening. In parallel, Gunapala et al. (2025) stated that urban agriculture as a strategic approach to strengthening urban resilience and ensuring sustainable food systems in cities. In this context, the incorporation of community farming into urban development not only addresses immediate food and social needs but also aligns with Malaysia's Low Carbon City Approach. Thus, these community-driven initiatives can contribute meaningfully to both resilience and environmental sustainability.

## 5. CONCLUSION

This study demonstrates that social spaces in residential neighbourhoods hold significant value as more than recreational areas, acting as hubs for community interaction, everyday activities and local food production. Residents increasingly recognise urban farming as a meaningful addition that enhanced neighbourhood resilience and improves access to fresh produce when normal supplies are limited.

Figures 5 and 6 indicate several critical areas for improvement in the social spaces of residential neighbourhoods. It highlights the social spaces draw on insights from the case studies, emphasizing the potential for these designs to enhance community engagement and resilience. Both the questionnaire survey and interviews revealed issues regarding the use and functionality of open and private areas, as well as the amenities provided in these social spaces. The findings indicate substantial community support for well-designed spaces such as community gardens, multipurpose halls, studio and workshops, which play a significant role in fostering self-sufficiency and strengthening social capital within residential neighbourhoods.



Figure 5. Illustration of the Integration of Urban Farming, Open Spaces, and Private Areas in Social Spaces of Residential Neighbourhoods

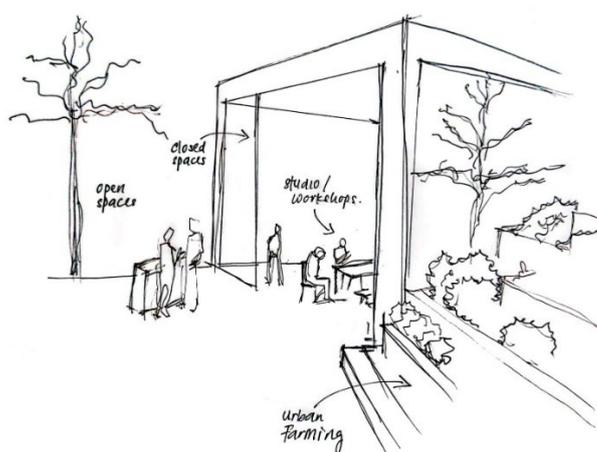


Figure 6: Illustration of Social Spaces by Author

It also provides a significant guidance for planners, local authorities and community groups to create multifunctional spaces that integrate edible landscapes, flexible layouts and shared amenities. This research makes an important contribution by highlighting that social spaces can be planned as practical instruments for everyday sustainability and collective well-being. Strengthened

collaboration, effective site allocation and community partnerships will ensure these spaces remain active, safe and valued by residents.

Despite its contributions, this study acknowledges limitations including the lack of pre-pandemic baseline data and limited details on implementation costs, maintenance strategies and economic feasibility. Future research should expand on these significant findings by incorporating longitudinal datasets and rigorous evaluation of funding mechanisms and operational sustainability. Well-planned implementation frameworks and shared stewardship will enable residential neighbourhoods to maximise the potential of social spaces as significant assets for community self-sufficiency and collective well-being.

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