Towards the innovative planning for child-friendly neighbourhood in Jakarta

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Abstract. Child-friendly City is a global movement that aims to value the rights of children as citizens of urban society. The awareness of this movement is considered essential for the city. There is an urgency to provide not only a safe, healthy, and sustainable environment for child development but also the inclusion of children to be valued, treated, and accepted in the urban community without discriminations. As the smallest unit of the spatial environment, the neighbourhood is the first place where children are exposed to the social world. Children’s experiences in valuing their surroundings and positioning themselves in the urban context start from this unit. However, the efforts are not easy to be implemented evenly in many aspects, especially in the context of developing countries. In Jakarta, Child-friendly City initiatives focus more on fulfilling children’s social rights since the city is also fragmented in many ways. The spatial aspects of developing an appropriate living environment for children in Jakarta are limited to certain indicators, such as creating playgrounds and free smoking areas on the neighbourhood scale. Another encountered problem is the issue of inclusivity in Jakarta’s urban spaces, which is heavily attached to the social status of citizens. This reality has raised the issue of discrepancy on how a child-friendly city ideally should be done in this urban segregated environment. This study aims to revisit Jakarta’s Child-Friendly City movement in the context of neighbourhood spatial planning and explore the possibilities of its improvement. Our study adopts critical thinking regarding the spatial fabric to set a clear recommendation on planning innovations and directly responding to the spatial challenges.

1. Introduction

1.1. Redefining the Child-friendly City Perspective
As urbanization and urban populations rapidly grow in the present day, the number of children who live in the cities also increases. The universal ratification of the Convention on the Right of the Child calls for cities to look at children as part of urban citizens who should be valued and respected [1]. Cities are the home for future generations. Therefore, city planning should be responsive to their development. Furthermore, children's concerns are comprehended as one of the critical components to achieving sustainable development goals [2]. Enrique Penalosa, the Mayor of Bogotá, once stated, “Children are a kind of indicator species. If we can build a successful city for children, we will have a successful city for all people.” [3] Penalosa’s argument has emphasized the importance of child-friendly urban planning, which goes beyond the mere provision of playgrounds. The interaction between children and
their surroundings is an important key factor to be addressed. Child-friendly planning will create a sustainable living environment for all. In return, the built environment will set a fundamental foreground in shaping children's development.

As reported by UNICEF, the analysis of urbanization shows a lack of concern about inducing sustainable urban environments for children [2]. Urbanization has occurred in fragmented ways globally, creating vulnerabilities for children in many aspects. The rapid urban developments' focus on the economic growth leaves children with spatial dimension constraints. As we have seen in metropolitan cities, heavy traffic indirectly creates an unsafe environment and limits children's access to be freely connected. A healthy environment is another factor to observe, as a poor-quality environment will affect children’s physical and mental development [3]. Moreover, the spatial dimension and locality play an important role in nurturing children’s collective memories and behaviours. In regards to all the issues above, we believe that a child-friendly city should be planned carefully starting from the neighbourhood level and gradually be developed at various levels of urban scales.

At the neighbourhood scale, children experience their first interface with their surrounding community and built environments. They navigate, explore, and map the spatial dimension to understand and form their perspective upon the space. Based on this concept, children’s participation is considered essential to define their real concerns in urban settings. Many papers and researches try to articulate the best way to form children's participation in systematic planning and design approaches. However, the results are not easy to implement. Political factors will have a determinant role to generate the efforts, whilst assistance and commitments from all urban planning stakeholders are needed in the process. In a more complex urban setting, such as in developing countries, planning a child-friendly city is more challenging. The developing cities evolve to fulfill the fundamental needs for housing, basic services, and land tenure [2], while at the same time tailor together the fragmented built environments within the urban sustainability frameworks.

In the context of Jakarta, the capital city of Indonesia, the Child-friendly City initiative was officially launched in 2013. In 2017, the initiative was developed further in the Grand Design of Jakarta’s Child-Friendly City 2018-2022 agenda, where the city set some indicators to manage the performance of child-friendly city development goals in various levels of urban settings. On the document, the city categorized children as those within the age range of 0 - 18 years old [1], which covered approximately 25% of Jakarta's total population of 10.5 million persons in 2019 [4]. Like other developing cities, rapid urbanization in Jakarta formed segregated built environments within Jakarta's urban area of 664.01 square kilometers in total [5]. The pace of dense urban populated areas unfolds environmental challenges and social urban inequity. This condition is apparent in the forms of human settlements and discursively differentiates child-friendly city approaches into particular living environment conditions. Our study indicates that not all children in Jakarta have the same opportunities in terms of accessibility to utilize urban settings. Unfortunately, this issue lacks consideration. Additionally, the mentioned child-friendly city indicators are also less discussed when it comes to building improvements to the environment that will help foster a friendly-city for children.

1.2. Methodology

Based on the above perspectives, our study tries to tackle the spatial dimension issue of Jakarta’s urban setting to constitute a child-friendly city from the neighbourhood scale. In this paper, we use qualitative analysis on several publications and our observations from previous studies on child-friendly city development topics. One of the well-known initiatives that Jakarta’s local government has introduced is the development of Child-friendly Integrated Public Spaces or known as Ruang Publik Terpadu Ramah Anak (RPTRA). This paper collects a study related to RPTRA, conducted in April 2019 with the case of RPTRA Kalijodo. The study was conducted through a two-week site observation, documentation, and interviews. The interviews were held with users of the park, from children to adults, and related government agencies in Jakarta: RPTRA Management and Partnership Section of DKI Jakarta Empowerment, Children Protection and Population Control Agency.
Children, being the youngest group of citizens, are considered the most vulnerable group in the city, where their existence and choices rely on adults’ presence. A holistic approach should be taken to support their families and the communities where they live. In particular, this paper will focus on children within the range age of 0-12 years old. We determined the age group based on our observation of indoor and outdoor playgrounds in Jakarta. This range also includes the age group of children that the RPTRA case targeted. Most playgrounds that enhance the essence of playing usually put the admittance age between 0 – 12 years with the supervision of parents or caregivers. Children at this age group are considered to undergo rapid growth. This growth is not only physical; their senses and responses to their surrounding environments also vastly develop [6]. At this childhood development stage, they must have a well living environment to grow their potential to the fullest. Thus, this paper will examine the importance of how a neighbourhood has to be planned and well designed for a better experience in early childhood years. Our study will be outlining some spatial innovations to be considered in generating a child-friendly environment for children according to Jakarta’s neighbourhood context typology.

2. The Needs of a Child-Friendly Neighbourhood in A City

2.1. Background: Why Child-based Planning?
The approach of child-based planning was first introduced by Kevin Lynch in 1977 in his book ‘Growing Up in Cities’, an urban study of four cities that was conducted to record the observations on how children perceive their urban settings as part of a family in a city context [7]. As children grow up, the image of their living environments will be stored up in their childhood memory and the concept of the liveable city will be built upon this.

In the current era of globalization, most families with children live in a city. This leads to a condition where more children are exposed to the city lifestyle, such as high-density living, busy transportation networks, and fast forward communities. However, the impact of city life as it currently stands negatively impacts children. It brings an unhealthier and more unsafe environment, limited options to cycle and walk, as well as limited connection to social networks [2]. Children play an essential part in a family and community; therefore, it is important to address their needs in planning for a more liveable and sustainable city.

The setting of a city should be able to cater to a child’s needs, especially in their early childhood years. Every child deserves to experience the city as part of their childhood development. In 2018, UNICEF stated that the recognition of childhood as a crucial time for children to gain access to the urban setting and enjoy its advantages is the key to define spatial solutions for all ages [2]. Psychologists have learned that the emotional, social, and physical development of young children has a direct impact on their overall development and the adult that they will become [8]. With this in mind, many cities have developed key strategies to create a child-friendly city design. A good example was set by Rotterdam, a city in the Netherlands that won a national prize for the most child-friendly initiatives. The initiative has demonstrated practical guidelines in creating a child-friendly neighbourhood within a city [9]. It has then sparked up interests in many other cities to follow their footsteps.

2.2. The Benefits of a Child-Friendly Neighbourhood Within a City

According to UNICEF’s child-friendly city initiative, 4 billion people currently live in urban areas, and nearly one-third of them are children [10]. This is an opportunity for us to invest in our future in children. In the urban design context, designing for a child-friendly neighbourhood is a new potential study; it encourages a logical and comprehensive approach to create a city that improves children’s liveability and movement beyond their designated playgrounds [3]. Children are seen as a part of a city’s diversity
and are as important as other stakeholders in creating a vibrant, solid, and sustainable built environment that last for generations.

A child-friendly neighbourhood will not only enhance the quality of life experienced by the urban population but also will determine our future [3]. Child-friendly neighbourhoods can support the development of the health and mental well-being of children, allowing them to feel safe to move independently without boundaries. It can also foster a stronger community where they can help to create sustainable communities by attracting people to a place [3]. The long-term impact of this neighbourhood is a sustainable nation with a strong identity with economic stability, resilient cities, and thriving communities.

2.3. Planning for A Child-Friendly Neighbourhood

A child-friendly neighbourhood is an area that formed a community within a city that includes children’s perspective and participation in their city planning. Now that urban settings have become the context where most children grow up, and the urban environment is a determining factor in their development, shaping urbanization for children is essential [2]. Components in the city setting have left children with limited options to freely explore outdoors. They have often only been able to use formal playgrounds defined by the government, whereas it is important for a child to be able to develop their senses within spatial grounds. Cities have repeatedly neglected the needs of a healthy urban ecology for these young citizens. As stated by UNICEF, there are several key factors in planning the ecology of urban childhoods. This includes urban scales, proximity and walkability, public space, mixed-use, and the need for independent mobility [2]. These key factors will act as indicators to help planning professionals in shaping the city to become more resilient, liveable, and sustainable for the next generation.

![Key factors in planning for the ecology of urban childhoods. (Source: UNICEF Shaping Urbanization for Children Handbook, 2018, p.28).](image)

When planning a child-friendly neighbourhood development guideline, we must first understand children’s development stages. According to an article released by the US Office of Disease Prevention and Health Promotion website, early childhood, middle childhood, and adolescence represent the 3 stages of child development [11]. Early childhood spans from the age of 0 to 8 years old, middle childhood spans from age 8 to 12 years old, and adolescence spans from age 12 to 18 years old. Each of these development stages needs to be nurtured well in order to help the child flourish into their adult
life. During early childhood development, the human brain grows to 90% of its adult size by the age of 3 [11]. Children at this stage have tremendous growth across all areas of development. Moreover, physical changes in early childhood are followed by cognitive and language development [6]. This statement concludes that human development in early childhood plays a crucial role in a human’s health and mental development.

Furthermore, children learn the values of their societies in the middle childhood stage [6]. They begin to develop an image of their surroundings followed by their spatial skills within their immediate environment. The children might express certain likes or dislikes towards a particular building or area simply based on their observation and habitual actions. Most of their feedback is usually derived from the physical senses in which they use the space. Lastly, in the adolescence stage, children begin to develop a complex way of thinking and perceiving an idea. At this stage, they gain the ability to solve more abstract and hypothetical problems [6].

In this paper, we limit our research to children in the early and middle childhood age as part of participants in planning a child-friendly neighbourhood. The decision is made based on the urgency of these two stages of childhood development for a safe, thriving, and nurturing environment. During the early and middle childhood years, children learn at their best using hands-on experience. Hands-on experience includes playing, exploring, and watching activities. While all of these activities directly impact the child’s development, playing has been regarded as the best way of learning in childhood. Many preschool and kindergarten teachers have introduced play-based teaching to capture the child’s interest in learning. By playing, children will also develop their sense of well-being, which will sharpen their emotional response ability and interpersonal skills. It also enhances children’s creativity and exploration as well as language and problem-solving skills [12].

Playing is an important activity in early childhood, as it has the power to build character and stimulate brain development. Playing also helps children to interact with their surroundings and understand their world better. Playing can happen indoors and outdoors. Children who play in indoor spaces usually have a more structured and focused activity. In contrast, playing in outdoor settings can help children to play more freely and explore open-ended learning. Many studies have shown that children learn their best traits when exploring in an outdoor activity. Local parks and public open spaces are often regarded as the place where children explore the most of nature experience. But all too often in cities, especially large cities, children have less opportunity to use public open spaces due to the heavy traffic and fast-paced living. It is also part of children’s right to live in the cities where they have easy access to space and facilities, where they can play freely and free of charge, coming and going as they please. At the same time, the provision of designated play spaces and the opportunity to play in other public open spaces are very important to children [12]. The above-mentioned factors should be set as the highest priority when planning for a child-friendly neighbourhood.

In addition to planning for a child-friendly environment, UNICEF suggested that urban planning should define a child-responsive urban setting, stating the typology of 9 tangible components of an urban setting. It includes 3 urban spaces (housing, public spaces, and amenities), 4 urban systems (mobility, water, food, and waste) and 2 urban networks (energy and data, Information, Communication, and Technology (ICT)) [2]. It also highlights 10 planning principles for stakeholders to support a child-responsive urban setting. They are the investments, housing, and land tenure, public amenities, public spaces, transportation systems, integrated urban water and sanitation management systems, food systems, waste cycle systems, energy networks, and last, data and ICT networks.
Figure 2. Diagram showing 10 planning principles to a child-friendly city. (Source: UNICEF Shaping Urbanization for Children Handbook, 2018, p.44-45).

As contained by UNICEF’s handbook, the urban planning process should introduce children’s participation from the early visioning to the implementation stage [2]. Participating children should have the freedom to express their ideas and opinions; children’s consultation should be exercised together with key stakeholders. While the process might not be simple, children’s involvement in urban planning is the best investment for short-term results and long-term perspective [2]. Moreover, the data collection should mostly be conducted by planning professionals and the existing design instruments should be adjusted according to the children’s ability to process and the nature of the given project. If children and the participating community have a vision or concept about their neighbourhood, it must be brought forward as part of the design discussion process with other stakeholders [2]. The neighbourhood design must be done in compliance with children’s right to live equally in the city. In conclusion, planning professionals and government officials should put children’s perspectives and needs as their main consideration when they are designing a child-friendly neighbourhood.

2.4. Methods in planning for a Child-friendly Neighbourhood

In order to maximize results in a child-friendly neighbourhood, urban planners should adjust tools to design, engage stakeholders, and use evidence-based practice when collecting primary data at the beginning of the process [2]. Since urban planning is a process-oriented practice that involves people in physical and functional planning of urban places with city systems and networks, putting children first in terms of participation, coalition building and production will create a place that not only works for the children but also to other stakeholders and communities [2].

There are several ways of collecting data with children as participants. In most cases, data collection using observation and interview methods can be used to record how children use their spaces [7]. This might be applied to all children regardless of their current childhood development. When taking more detailed data, the interview might include parents, caregivers, and officers within the designated study area [7].
Figure 3. Examples of Interview and observation recording methods used in diagramming activities in public park Melbourne. (Source: Growing up in cities, 1977).

In areas that are predominantly occupied by children in the middle childhood and adolescence age group, recording mental maps of their environment can be useful to determine which areas have a positive image or which areas that need improvement. A mental map is a drawing created by a person based on their memory and experience of a place or environment. It captures the structure and imageability of an area, usually depending on the individual’s sense of space [13]. The information presented in a mental map might also capture the image of locality in which an individual feels belongs or most familiar with. Middle childhood participants are more appropriate as they start to value their societies and develop their image of locality [7]. Simple questions such as ‘What is your favorite place in this area? What is the ugly place in this area? Why do you like that building? Can you draw the building that you visit the most?’ can be a challenge during the process of drawing a mental map to keep children interested in their task and to access more information for the child. However, this type of data collection does not replace the expert urban situation diagnosis done by urban planners [2]. The location of study areas must always prioritize neighbourhoods and communities that have higher needs for change and design intervention.

Figure 4. Mental maps of Villa Las Rosas, Italy by a 12-year-old girl. (Source: Growing up in cities, 1977).
When conducting a visioning or brainstorming session in a responsive child-based urban planning, children can be encouraged to participate in a small-scale urban intervention project. It can start by addressing a small scale issue that rises within the community such as connectivity, walkability, or transportation network to commute to places [2]. Play-based and gaming techniques can be used to facilitate interaction between involved parties in the design process [2]. Gamification tools also can aid better proactive interaction and children's participation when addressing complex issues and create a better understanding of spatial parameters. In the long term, child-based planning should be exercised in building projects from scale-based to a multi-level scale based. The foundation of the work should be realized from a neighbourhood scale set up to a planning policy that serves as a standard nation-wide [2]. The use of child-based planning should be consistently used in every planning decision stage.

3. Reflection and Challenges on the Child-friendly City Concept in Jakarta

The Child-Friendly City development in Indonesia was introduced by the Ministry of Woman Empowerment and Child in 2005-2006 through the initiation of Child-Friendly City (Kota Layak Anak, KLA). The policy was intended to follow-up the nations’ ratification of the Convention on the Rights of the Child in September 1990, where Indonesia had committed to respect and uphold the rights of children [14]. The Convention on the Rights of the Child is the first legally binding international law agreement on Human Rights which is dedicated to assure and protect the children’s rights [1]. Along with the ratification, the KLA was inaugurated as a tool to adopt the commitment through the city development interventions to make all cities in Indonesia fit for children. This initiative was established through the Regulation of Indonesian Ministry of Woman Empowerment and Child No.2/ 2009 concerning the KLA Policy to reinforce the government act to make the programs being implemented in all provinces and cities.

As the capital of Indonesia, the city of Jakarta joined the KLA movement. The movement officially started on December 17th, 2013 with the launch of a Jakarta Declaration Towards Child-Friendly City [1]. The city followed up the effort with some interventions on its planning and development to fulfill the children's rights to have good health, education, recreation, comfort, and rights to play. In 2015, the city's municipality initiated Child-Friendly Integrated Public Space (Ruang Publik Terpadu Ramah Anak, RPTRA), as a new approach concerning the children's needs in the social spheres [15]. The city also produced a Grand Design of Jakarta towards the Child-Friendly City 2018-2022, which developed in 2017. The grand design envisions Jakarta as the center of excellence of Child-Friendly City and is intended to guide the manifestation of KLA programs in each KLA cluster. It contains the vision,
mission, road map, and action plans of the municipality to strive for the provision of best places in the fulfillment of children's basic rights.

According to the grand design plan, a city should achieve 24 KLA indicators to get the KLA predicate in the Indonesian framework of Child-friendly City [1]. The indicators are delivered from the five KLA clusters, which are based on the Convention on the Rights of the Child agreement. Amongst the 24 stated indicators, unfortunately, only some indicators are related to the spatial context of city planning infrastructure and environment. On its correlation to urban space development, these elements are limited to the provision of Child-friendly public space infrastructure (indicator no.10), non-smoking urban areas (indicator no.16), and children facilities to support cultural, creativity, and recreation/leisure activities (indicator no.20). There are fewer initiatives on the space planning interventions to make the city safe for children as just ‘simply to be’ out in the urban space, which we consider essential to make the city child-friendly. However, DKI Jakarta was awarded as one of the Child-Friendly Province Pioneer 2019 in Indonesia based on its accomplishment in encouraging all its administrative areas to be a Child-Friendly City following the KLA indicators [16]. This indicates the commitment of the capital city to build its capacities in spreading the child-friendly city initiatives evenly and implement it accordingly.

Figure 6. KLA Indicators Diagram. (Source: Grand Design of Jakarta towards the Child-Friendly City 2018-2022, 2017, p.12).

3.1. Ruang Publik Terpadu Ramah Anak/ RPTRA as a Child-friendly Instrument for the Neighbourhood
The RPTRA initiative is the realization of Jakarta’s KLA program in the city level strategy, which tries to integrate many sources and stakeholders. The developments of DKI Jakarta’s RPTRA projects began in 2015, with 11 RPTRAs built across Jakarta as the pilot projects [17]. The number continues to grow until today. According to the RPTRA Management and Partnership Section of DKI Jakarta Empowerment, Children Protection and Population Control Agency (Seksi Pengelolaan dan Kemitraan RPTRA Dinas Pemberdayaan Perlindungan Anak dan Pengendalian Penduduk, DPPAPP) DKI Jakarta, there are currently 308 RPTRAs in Jakarta. It comprises 74 units in the North Jakarta administrative area, 45 units in the Central Jakarta administrative area, 64 units in East Jakarta administrative area, 56 units in the West Jakarta administrative area, 60 units in the South Jakarta administrative area, and 9 units in Thousand Island administrative area.
The RPTRAs are planned to be obligatory in every neighbourhood urban communities or sub-district (kelurahan) level in Jakarta. Their operations are mainly managed by the head of the sub-district (Lurah) with the sub-district Family Empowerment and Prosperity Agency (Pokok Pemberdayaan dan Kesejahteraan Keluarga, PKK) [17]. Each RPTRA is assembled with indoor and outdoor facilities to support the intended programs by the government. The designs of RPTRAs have to follow certain standards of space programs, which have been enshrined in a regulation. In RPTRA, children are endorsed to train and participate in creative activity programs on a daily basis, whilst some special programs are held in the weekend times. The RPTRAs are run daily by six operational staffs who assist and do all the RPTRA’s maintenance. Additionally, they also provide social empowerment to the visitors and help supervise the children.

Figure 7. The standard of RPTRA’s building space programs prototype. (Source: DKI Jakarta Governor Policy No. 139 year 2016 regarding RPTRA’s Space Utilisation).

Figure 8a. Indoor facility: mini library at RPTRA Kalijodo. (Source: Personal documentation, 2019).

Figure 8b. Outdoor facility: Children’s playground in RPTRA Kalijodo. (Source: Personal documentation, 2019).

As reported by the DPPAPP Agency, RPTRA gained good responses from the citizens of Jakarta. The RPTRA visitor survey in 2018 showed a high rate satisfaction percentage with a total of about 10 million visitors for its 4 years operation [17]. The RPTRA is considered successful as an instrument in accommodating the children's needs for a space to learn and play in the city. During some conversations with the children's visitors in RPTRA Kalijodo (17/04/2019), they are happy to have the RPTRA as their playground, since they do not have an appropriate space to play freely within their neighbourhood. The
RPTRA provides parents with a sense of security as they let their children do activities within the spaces since the RPTRA area is well controlled and maintained. Control over the RPTRA’s space is considered as one important factor to bring safety for the children in the public area, especially in the fragmented social urban setting like Jakarta. In this sense, the fenced and gated area of RPTRA is welcomed by the users, instead of disrupting to inclusivity.

3.2 Jakarta’s Fragmented Neighbourhood Patterns and Child-friendly Environment

Without regard to the positive response towards RPTRA, based on observations, we oversee that most of the RPTRAs users come from the mid-low social class citizens who live close to the RPTRA location. This condition is associated with the RPTRAs locations, which are majorly located in the densely populated neighbourhood area of Jakarta. The official DKI Jakarta Statistic Data in 2019 stated that 162 sub-districts amongst a total of 267 sub-districts in Jakarta are considered as slum areas [18]. This data has strengthened the correlation of Jakarta’s urban social problems towards the RPTRA’s initial goal, which aims to bring good quality public spaces for the children who live in the indecent urban environment [15]. The above data led to the argument that the RPTRA does not fully reach all children in Jakarta.

Figure 9a. Children from the surrounding area of RPTRA Kalijodo. (Source: Personal documentation, 2019).

Figure 9b. Parents feel secure to let their children play in RPTRA Kalijodo. (Source: Personal documentation, 2019).

Figure 10. RPTRA number in 2019. (Source: Children Protection and Population Control Agency/ Seksi Pengelolaan dan Kemitraan RPTRA Dinas Pemberdayaan Perlindungan Anak dan Pengendalian Penduduk (DPPAPP) DKI Jakarta, 2019).
By looking at Jakarta city’s spatial pattern today, the neighbourhoods in Jakarta are greatly fragmented by social class patterns. The middle-lower class resides in dense areas of urban *kampungs* (village settlements) or public housing with limited space and amenities. In contrast, the middle-upper class of Jakarta lives in gated communities. They live in the residential real-estate compounds or middle-upper apartment complexes. Their living environments are commonly equipped with decent facilities, including facilities for children such as parks, sport courtyards, and children’s playgrounds. For the middle-upper class, their living environment is relatively stable and children are commonly exposed to a range of opportunities, although the advanced technologies nowadays made them more focused on their gadgets such as smartphones and tablets compared to exploring outdoor activities.

We generally differentiate the urban *kampungs* and gated real-estate developments as the two main neighbourhood patterns in Jakarta, where high social exclusion is commonly seen. In this micro-environment of the neighbourhood scale, children try to explore and nurture their adventure and curiosities. The built environment encourages them to navigate and experience a variety of challenges, which will be subtle to certain boundaries. In urban *kampungs*, children are commonly seen occupying small alleys or local streets as their playground. In this context, shared value has strongly occurred in the limited spaces of dense *kampung* neighbourhoods [17]. The community in this type of neighbourhood takes a role as the surveillance system for the children. The mutual trust and understanding between the local community make an inclusion open environment, where children could participate in the public space on a bigger scale and could develop their better sense of place. Children also feel safe and allowed to explore spatial options within their neighbourhood, as the city’s outdoor space is their playground.

Opposed to this circumstance, children in gated communities are physically constrained with physical limitations in their living environment. The real-estate developments are strained with residential cluster gated security and restrain people’s mobility in or out of the neighbourhood cluster. The car-oriented neighbourhood makes parents reluctant to let their children out of the house. The streets are a dangerous place to be and children have limited exposure to the public space. Consequently, they have less knowledge of the city with experimental interactions. Houses are their safest nest, while the public space is out of their reach. Undoubtedly, every real-estate development should be equipped with neighbourhood parks by planning policies. However, these small parks are less utilized in reality. The urban lifestyle has changed people’s preferences to be more individualists and secure their privacy within the community, and children have limited access to explore their urban surroundings. This condition has an indirect impact on how a child appreciates their spatial environment. In particular, it made a less coherent way of children in valuing their surroundings.

The discrepancies in the living environment do bring an impact in finding ways to create an inclusive Child-friendly City. As described on the Growing Up in Cities project, the studies in four nations indicate the relations between children and their spatial surrounding has shaped the children's developments [7]. Furthermore, in his summary of this UNESCO research, Kevin Lynch argues that community identity is important and the immediate locality is a crucial element for children. Lynch
emphasized this issue for the developing countries, where micro-environment quality has more impact on human beings since they are dependent on it [7]. The living environmental setting at the neighbourhood scale will give different aspects of exposure, access, and perceptions of the city. In return, the physical and social spheres of the neighbourhood will shape the foundation of children's development at the early stages. For the case of Jakarta, we highlight the importance of this physical aspect which is apparent in the fragmented neighbourhood characteristics. To be a Child-Friendly City, a city should become a decent place to grow for all children regardless of their social status. In this sense, the question lies on how to minimize the impact of the fragmented social issue to make children from every neighbourhood in Jakarta get the same opportunities to participate in the cities.

4. Improvements for Jakarta’s Child-friendly Neighbourhood

Through the reflections upon the neighbourhood pattern in Jakarta, there is a fundamental issue of social-economic segregation in Jakarta’s society which significance the city’s spatial pattern of neighbourhoods. As contained in UNICEF’s publication on State of World Children: Children in an Urban World, urbanization makes cities more likely to have higher economic incomes, but at the same time, it also creates more marginalized urban settings in the city that impacts more children [19]. The report discusses further the facts of high disparity occurred in this context, where poorer children who live in the informal settlements are excluded from access to basic services, while on the other hand, privileged children gain better well-being.

The urban setting of Jakarta shows the exact same pattern of these mentioned conditions and the efforts to bring an evenly child-friendly city for all children should be done holistically. The awareness towards this societal condition should be the key element in addressing the needs of children in Jakarta since one approach could not effectively cover all the concerns and issues. Children from each urban setting have their specific conditions to be dealt with. By moving from this perspective, the spatial approach towards each context is essential to understand the exclusion that affects children’s development. The improvement to the quality of the built environment, from a very small scale such as in a neighbourhood, will help to reduce the impoverished living environment that children face.

On its correlation to the spatial dimensions, ARUP’s publication states some core challenges to urban childhoods: traffic and pollution; high-rise living and urban sprawl; crime, social fears, and risk aversion; inadequate and unequal access to the city; and isolation and intolerance [3]. All the above factors commonly limit children’s access to contact with nature, community, and living environment. Furthermore, these issues will lead to other consequences on children’s development, health, and behaviors. Following Kevin Lynch's observations’ method, understanding the context of each living environment is crucial to explore the issues and concerns of children. Children’s involvement and participation are needed to evaluate the existing conditions and construct a friendly neighbourhood from their perspectives [7]. As mentioned before, children-based planning could help the process of children's participation. However, some indicators should be set-up in advance to guide the reconstruction of the measurement of current conditions and indicate directions for solutions and innovations.

In this paper, we list several child-friendly spatial planning indicators for Jakarta to achieve a better planning solution for a child-friendly neighbourhood. The indicators are generated from the existing current problems of Jakarta’s neighbourhoods based on local social conditions, which indicate from the existing child-friendly open space and neighbourhood infrastructural approaches. From the indicative problem mapping of each neighbourhood typologies, some suggestions are developed from the literature and theories to seek solutions in minimizing the spatial dimensions’ high deprivations caused by the marginalized urban settings.
### Table 1. Child-friendly Neighbourhood Indicators.

| Child-friendly Neighbourhood Indicators | Existing Urban Dense Settlements’ (kampungs) Issues | Existing Gated Communities in Residential Clusters’ Issues | Suggested Solutions/ Innovations |
|----------------------------------------|---------------------------------------------------|----------------------------------------------------------|---------------------------------|
| **Children playground in the public space** | Playground in dedicated Child-friendly Integrated Public Space (Ruang Publik Terpadu Ramah Anak / RPTRA) which located dispersedly | Playground in clusters’ garden (*Taman kompleks*) are exclusively for cluster residence | Allow more ‘unplanned’ space within the neighbourhood that allows children to express their actions freely in the public space. |
| **Access to a public park** | Non-existent direct access to public parks in a densely populated urban setting | Limited access to public parks | Connecting public parks to the well-pedestrianized networks. |
| **Management of green areas** | Non-existent | Developer’s responsibilities (depends on the residential neighbourhood’s social-economic character) | Develop a standard design with children as the main stakeholder; standard design management to be applicable for all green areas in Jakarta. Encourage a sense of belonging in the community to help the lifelong of the green areas. |
| **Children’s safe and independence mobility** | Narrow streets, organic street pattern with non-standard street design (open drained and bumpy roads) | Car dominance in residential clusters | Design to control slow and less traffic in housing neighbourhoods. Encourage walkability or cycling in school zones within safe boundaries. |
| **Establishment of cycle routes** | Non-existent. Cycle routes are using local alleys/ street within *kampung* | Minimum to non-existent | Design cycle route from house to school, promoting safe street design for children so they can be independent. Design streets in conjunction with cycle routes outside the school zone. Should also have access to a green open spaces network. |
| Child-friendly Neighbourhood Indicators | Existing Urban Dense Settlements’ (kampungs) Issues | Existing Gated Communities in Residential Clusters’ Issues | Suggested Solutions/ Innovations |
|----------------------------------------|---------------------------------------------------|----------------------------------------------------------|---------------------------------|
| Creation of pedestrian connectivity    | To a certain level                                 | Minimum to non-existent                                   | Encourage designated pedestrian streets with access to multi-level activities and caters for all ages |
| Connectivity for movement              | Organic connectivity following the neighbourhood structure | Grid or rigid connectivity following clusters’ housing lots pattern. | Weave the existing urban fabric with open spaces and green areas to create legibility within neighbourhoods |
| Child-friendly housing environment     | Non-existent                                      | Minimum (by pavement and to non-existent)                | Street design with landscapes to promote low-speed control within the housing clusters |
| Children’s participation in community action | Non-existent                                      | Non-existent                                              | In the dense urban settlements, the children have better access to most open spaces within their neighbourhood, this means they know a lot about locality; their participation will improve an area to become more efficient and effective |
| Control and surveillance               | Non-existent or using ‘eye on the street’ and local community as the surveillance instrument in the local area. | CCTV                                                      | Active community participation to improve and help the safety measures in the neighbourhood. |
| Monitoring through ICT                 | Minimum to non-existent                           | Possibly maintained and gathered data by the developer    | Sensor-based infrastructures and workforce-based applications for real-time report issues and fast response. The city dashboard will help to centralized information and help stakeholders in monitoring and analyzing children’s issues for improvements. |

Regarding the impact on early and middle childhood we discussed earlier in this paper, we believe a child-friendly neighbourhood is crucial in creating a better childhood experience for these childhood stages. It will foster children’s social skills, encourage children to be independent, make decisions, and contribute to the overall well-being of children. At these stages, children will not only learn to enhance their sense of space and develop their sense of belonging to their community, but they also will
appreciate their childhood years in years to come. This engagement will make children proud to be part of their community. In a bigger picture for the community itself, the efforts will be valuable in creating a sustainable community, and a child-friendly neighbourhood will create a better childhood experience for children as a foundation for their healthy future.

5. Conclusions
Enhancing the living environment of children is necessary to achieve a child-friendly neighbourhood. As the city’s smallest unit after family, a neighbourhood holds an important role to let children grow and have their rights in the city. A neighbourhood should be open for children, where they can have the freedom to independently get around, actively enjoy the urban settings, and have a sense of belonging to their living environment. To achieve this goal, a comprehensive spatial approach should be taken into consideration. Creating a child-friendly neighbourhood should go beyond simply the provision of a playground area for children as an instrument. Rather than that, it is more about creating the essence of ‘playing’ as part of children’s nature in exploring things in a safe neighbourhood, instead of focusing on a single space entity for playing activities.

In the context of Jakarta, the fragmented neighbourhoods are attached to the socio-economic condition whereas not all children have the same equal opportunities. By seeing the constraint of varied local capacities of dense urban settlements (kampung kota) and gated communities (residential real estate cluster), the child-friendly city approach should be addressed differently. As described by the theories, the locality is important and therefore observations on the local context are essential. Inclusivity and equity for children in the public realm could be encouraged upon the improvement of the neighbourhood’s infrastructure as the spatial dimensions in accommodating the children’s needs. Additionally, working with the community will also help lay the foundation to enable local awareness of children’s concerns, as issues such as safety and surveillance have been often regarded as constraints on children’s accessibility to the outdoor spaces.

To conclude, the innovative planning for a child-friendly neighbourhood in Jakarta should be developed practically through the physical environmental improvement and social local community consciousness to gear and deliver a safe neighbourhood for “play”. Environmental improvement should be contextually driven with the engagement of children’s participation as the core base to unfold the potentials of each neighbourhood. We believe by creating a child-friendly neighbourhood, both children and the city will benefit greatly from each other. A child-friendly neighbourhood is a foreground where children begin to know their essence of being in society, learn to communicate, and be familiar with every aspect of the urban settings. In turn, it will foster strong communities within the city and generate a sustainable and resilient city that lasts for generations. However, we are mindful that further studies are required to establish a child-friendly neighbourhood innovation map. Therefore, fostering policy-making and actions to build the city’s sense of a child-friendly environment is a pivotal role to plan a successful friendly city for all children.

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