

Development of Cemara Asri's Children-Friend Play Room

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Abstract

Child-friendly Playroom which is abbreviated as RBRA is a space that accommodates children's activities to play safely, comfortably, protected from violence, not in dangerous situations and discriminatory conditions, for the sake of optimal and comprehensive continuity of children's growth and development. Children's rights to use their free time and cultural activities have a significant impact on the growth and development of children's creativity, imagination, and self-confidence, in addition to affecting children's cognitive, motoric, and socio-emotional development. Law Number 35 of 2014 which is an amendment to Law Number 23 of 2002 mandates that the State, Government, and Local Government are obliged and responsible for providing support for facilities, infrastructure, and the availability of human resources in the implementation of child protection.

Keywords

child-friendly playroom; taman cemara asri; riau islands



I. Introduction

Batam City is located between 0 degrees 25' 29" North Latitude - 1 Degree 15'00" North Latitude and 103 degrees 34' 35" East Longitude - 104 degrees 26'04" East Longitude. Batam City is one of the cities that is very strategically located because it is located on international shipping lanes and is directly adjacent to Singapore in the north. Batam is one of the fastest growing cities in Indonesia. When it was built in the 1970s by the Batam Authority, the city was only inhabited by around 6,000 people and within 40 years Batam's population grew by 158 times. According to the Batam City Population and Civil Registry Office, in 2021 the population of Batam will reach 1,193,088 people, with a density of 1,153 people/km².

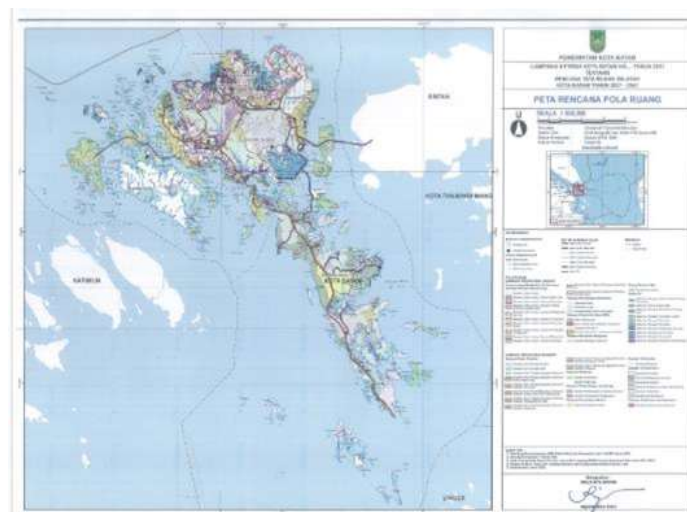


Figure 1. Batam City Map

Batam City consists of 12 Districts, namely: Batam City, Batu Aji, Batu Ampar, Behind Padang, Bengkong, Bulang, Galang, Lubuk Baja, Nongsa, Sagulung, Sei Beduk and Sekupang. Seeing the activities and population that continues to increase from year to year rapidly until the expansion of the number of sub-districts continues to grow in order to provide services to the community which can have implications for the need for space for residential areas and other activity spaces (social, cultural, and economic) in Indonesia. Batam city. The migration flow that occurs is quite high, which is directly proportional to the occupancy of the land.

A challenge is the problem of structuring in presenting an environmentally friendly city and not only filled with solid building elements but by presenting a city with void elements such as open space (child-friendly playgrounds) or natural elements. In addition to making the face of the city comfortable to look at, the elements of the city allow residents in urban areas to have a much better perception and appreciation of the environment (Christensen, 2003).

Law Number 35 of 2014 concerning Amendments to Law Number 23 of 2002 concerning Child Protection Article 1 child is someone who is not yet 18 (eighteen) years old, including children who are still in the womb. Article 4 Every child has the right to be able to live, grow, develop, and participate fairly in accordance with human dignity and rights, and to receive protection from violence and discrimination. Article 5 Every child has the right to a name as self-identity and citizenship status. Article 6 Every child has the right to worship according to their religion, think and express themselves according to their level of intelligence and age, under the guidance of their parents. Article 56 in paragraph (1) the Government and Regional Governments in carrying out maintenance and care are obligated to seek and assist the Child, so that the Child can: e. free to rest, play, recreation, be creative, and create arts and culture; and f. obtain play facilities that meet health and safety requirements. (2) Efforts as referred to in paragraph (1) are developed and adapted to the child's age, level of ability, and the environment so as not to hinder and interfere with the child's development.

The principles of RBRA Development (Child Friendly Playroom) are free (later paid ones will be audited), non-discrimination, best interests for children, children's participation, safe, secure, comfortable, creative, innovative and healthy (Pandemic Protocol (Green zone, thermo gun, etc.) masks, disinfectants, hand sanitizers, furniture cleaned with running water, restrictions on the number of children, behavior in playing) The purpose of standardization and certification of RBRA is as a guarantee in terms of: safety, health, comfort, convenience and security for children with equality between genders and also equality between normal children and children with disabilities and special needs.

Play is the right of children who are in the playroom, children should be able to play happily, not experience sad stories, such as experiencing violence and sexual exploitation. Therefore, standardization and certification of the Children's Playroom (RBA) is important to ensure that the process of fulfilling the rights and special protection of children is actually realized in the playroom. Synergy between the central government, local governments, and all levels of society is also very much needed to create a Child Friendly Playroom (RBRA).

II. Research Method

The research method used is descriptive qualitative. The purpose of this descriptive research is to make a systematic, factual and accurate description, picture, or painting of the facts, characteristics and relationships between phenomena. This method is a particularly suitable tool for the planning profession which is mandated to improve the quality of life that takes into account the human, social, physical and aesthetic aspects. (Qualitative Method, Hemalata C. dandekar). From the problems, the following problems can be formulated, namely: How to provide facilities and infrastructure for a Child Friendly Playroom.

III. Result and Discussion

3.1 Location Selection as a potential Child Friendly Playroom

The selected sub-district is Sagulung District, Tembesi Village with the highest population density which is the location for choosing the location for the Child Friendly Playroom. The community has been actively involved in maintaining and utilizing the existence of RBA by maintaining cleanliness and not littering. Involvement of children and other stakeholders in planning discussions as well as supervision and establishment of the Batam City Children's Forum during Musrenbang

The location is in accordance with the use of the Batam City Spatial Regulations 2021-2041, and is under the authority of the Batam City Public Housing, Settlement and Parks Service, with an area of 2969 m², which is located on Jalan Letjen Suprpto



Figure 2. Cemara Asri Park

Not located in the core area of waste management, because based on the Batam City Regulation No. 3 of 2021 concerning the Regional Spatial Plan (RTRW) of Batam City for 2021-2041 is in the designation of a trade and service area. The explanation in Article 66 paragraph 3 letter e of the regional regulation is that green open space is one of the components that must be provided in trade and service areas. In Article 30 concerning Green Open Space, so that the location of the RBA is in accordance with the allotment of space utilization. At the location of the RBA, there is already a legal umbrella that supports the RBA through Perda no. 02/2016 concerning the Implementation of Child Protection.



Figure 3. Signs of the Asri Cemara Garden

The need for land area in green open spaces for the lungs of the urban environment and playgrounds is based on service capacity according to the number of residents, with a standard of 1 m²/resident. The land requirements are

- a. Park for RT unit » 250 residents, at least 250 m² is required or with a standard of 1 m²/resident.
- b. Park for RW units » 2,500 residents, a minimum of 1,250 m² is needed or with a standard of 0,5 m²/resident whose location can be integrated with other RW activity centers, such as meeting halls, security posts and so on.
- c. Parks and sports fields for Kelurahan units » 30,000 residents, 9,000 m² of land is required or with a standard of 0.3 m²/resident.
- d. Parks and sports fields for the Kecamatan unit » 120,000 inhabitants, a land area of 24,000 m² (2.4 hectares) is required or with a standard of 0.2 m²/resident.

The main elements of RBRA (Child Friendly Playroom) are:

- a. Public green open space with lawn with trees.
- b. Playing furniture with a variety of play equipment and equipment that does not have to be expensive but can be used to play – can be made by yourself, not manufacturing.
- c. Environmental furnishings with shade, seating, signs and markings.
- d. Supporting facilities and infrastructure for Security Posts within the RBRA and sarpras that can be outside the RBRA, such as: puskesmas, canteen, toilets and parking lots.



Figure 4. Pedestrian area for walking and education area on how to plant trees

Zoning in the park area is grouped based on the classification of age, weight and/or height, namely:

- a. Play Zone for Children and Adolescents age: 5 – 15 years, weight: 15 - 50 kg and height: 80 - 150 cm
- b. There are benefits to every play piece of furniture.
- c. There is access for children with disabilities and special needs equipped with access in the form of a ramp.



Figure 5. Playground facilities

Although there is no special area for people with disabilities within the RBRA area and in principle it is easy and can be used by children with disabilities and special needs because it is equipped with a path/accessibility for people with disabilities to play furniture, or an RBRA area that is easy to use by children with disabilities, namely:

- a. Slides: deaf, mute, tunalaras, mentally retarded
- b. Climbing: deaf, mute, tunalaras, mentally retarded
- c. Swing: deaf, speech impaired, visually impaired, quadriplegic, tunalaras, mentally retarded, double impaired
- d. Platform: deaf, speech impaired, tunalaras, mentally retarded
- e. Stairs: deaf, mute, tunalaras, mentally retarded
- f. Seesaw: deaf, speech impaired, visually impaired, quadriplegic, tunalaras, mentally retarded, double impaired
- g. Stilts: deaf, speech impaired, tunalaras
- h. Jegket: deaf, speech impaired, tunalaras, mentally retarded
- i. Limbo: deaf, speech impaired, hearing impaired
- j. Titian beam: deaf, speech impaired, tunalaras, mentally retarded
- k. Farming Games: deaf, mute, deaf

Play furniture is in a shady area or if for some reason it is impossible to place the play furniture in a shady area, then with certain engineering the play furniture is not exposed to direct sunlight or all furniture is protected by anti-heat materials (metalizing coating and high temperature paint).). Here are 7 types of play furniture that match the examples in the manual. State the types of play furniture and the number of each type, including:

- a. 1 unit slide (3 fiber slides) and 1 unit kalsiboard slide
- b. Climbing 1 unit (Monkey bar set, Pull up 1 set, Wall climbing 2 sets)
- c. 1 unit swing (3 swing sets)
- d. Stairs 1 unit
- e. 1 unit stepping platform
- f. Seesaw 1 unit
- g. Titian Bridge 1 unit



Figure 6. *Education and Evacuation Signs*

Regulation of the Minister of Public Works Number: 05/prt/m/2008 concerning Guidelines for the provision and utilization of green open space in urban areas and Minister of Public Works Regulation number: 12/prt/m/2009 concerning guidelines for the provision and utilization of non-green open spaces in urban areas /urban areas and other sources

- a. Vegetation/Plants, is the entire plant from an area either originating from that area (endemic) or imported from outside, including trees, shrubs, shrubs, and grasses.
- b. Shrubs, are woody plants with branches starting from the base of the stem and having more than one main stem.
- c. Trees are all plants with a single trunk, hardwood.
- d. Small tree, is a tree that has a height of up to 7 meters.
- e. Medium tree, is a tree that has a mature height of 7-12 meters.
- f. Large tree, is a tree that has a mature height of more than 12 meters.
- g. Shrubs, are green-trunked and non-woody plants referred to as herbaceous.
- h. The crown, is the natural form of the branching structure and the diameter of the crown.

Some outdoor plants that can produce oxygen include calculating that each adult needs 1.17 kilograms of oxygen per day or 0.013 grams per second. In one second normal breath goes 16-18 times. So that in one normal breath we need approximately 0.00081 grams of oxygen. Calculating each person's oxygen demand is of course a complicated job because there are many factors that affect each person's oxygen demand: health, environment, population density, air quality, amount of energy, length of rest, temperature. Researchers at Science came up with a figure of 1.17 kilograms of oxygen by assuming it for adults who work 8 hours and energy fluctuations during activity and rest are 16 hours a day. Other sources say humans need 0,

Each type of tree certainly produces different oxygen because photosynthesis is affected by chlorophyll substances, leaf surface area, stems, root depth. But generally a tree consists of 5% leaves, 15% stalks, 60% stems, and 20% roots. We just take the Sonokeling and Acacia trees. One Sonokeling tree (*Dalbergia latifolia*) as high as 10 meters can produce 207.33 kilograms of oxygen per day. While one Acacia tree produces 143.33 kilograms of oxygen a day. So, assuming that oxygen demand and production, one Sonokeling tree can supply oxygen for 177-239 people and Acacia 122-165 people a day.

Whatever the number, planting trees will be good for the environment and living things on earth. In photosynthesis, the absorption of CO₂ is very useful for the earth because this gas is part of the greenhouse emissions that pollute the atmosphere. The tree that absorbs the most CO₂ and CO is Trembesi. (Source: Kabar Baru 8 January 2021, from

the article The global oxygen budget and its future projection, Science bulletin, 30 September 2018, composed by Rino Wicaksono, 2021)

What is absorbed by trees is carbon called carbon monoxide produced from incomplete combustion of carbon compounds, occurs in internal combustion engines. When we inhale, carbon monoxide enters the bloodstream and attaches to hemoglobin, a component of red blood cells that carries oxygen and carbon dioxide. This makes the blood unable to supply enough oxygen to the body's organs or remove carbon dioxide properly. Some of the Pollutant Absorbing/ Pollutant plants are: Angsana (*Pterocarpus indicus*), Big leaf acacia (*Accasia mangium*), Oleander (*Nerium oleander*), Bogenvil (*Bougenvillea Sp*), Teh-tehan prune (*Acalypha sp*).



Figure 7. Types of plants in the garden area

RBRA's ranking structure is divided into several levels based on compliance with requirements:

- a. Compliant 45% to 50% - RBA Primary (244 - 275)
- b. Compliant 51% to 60% - RBA Intermediate (276 - 315)
- c. Compliant 61% to 69% - RBA Nindya (316 - 355)
- d. Compliant 70% to 80% - Main RBA (356 - 405) 5. Compliant 81% to 100% - RBRA (406 – 500).

Standards, certification and accreditation in Law Number 20 of 2014 in Article 3 Standardization and Conformity Assessment, namely Standards are technical requirements or something standardized, including procedures and methods that are prepared based on the consensus of all parties/Government/international decisions related to taking into account requirements for safety, security, health, environment, development of science and technology, experience, as well as current and future developments to obtain the maximum benefit.

Conformity Assessment is an activity to assess that goods, services, systems, processes, or personnel have met the reference requirements. Certification is a series of conformity assessment activities related to providing written guarantees that goods, services, systems, processes, or personnel have met standards and/or regulations. Accreditation is a series of formal acknowledgment activities by the National Accreditation Committee (KAN), which states that an institution, or the laboratory has the competence and has the right to carry out a Conformity Assessment.



Figure 8. RBRA standardization and certification process

BORANG PENILAIAN PERSYARATAN (BPP)						
No	KETERANGAN	KEDIRYAJUAN				KETERANGAN
		SKOR 1	SKOR 2	SKOR 3	SKOR 4	
1
2
3

Figure 9. One of the assessment forms from 13 indicators

There are 13 requirements in the development of RBRA that must be met, namely location, utilization, facilities, materials, vegetation, air conditioning, play equipment, safety, security, health/cleanliness, comfort, lighting, and management. In addition to the requirements, there are also 8 principles that must be considered in the development of RBRA, namely free, non-discriminatory, best interests of children, children's participation, safe and secure, comfortable, creative and innovative, and healthy.

NILAI SELF ASSESSMENT DAN AUDIT													
No	Persyaratan	Min. Persyaratan	Nilai								Peningkat Kategori Nilai Persyaratan terpenuhi	Nilai Total	
			1	2	3	4	5	6	7	8			
1	Keamanan	40	40	40	40	40	40	40	40	40	40	1 RBRA Pratama	244 - 275
2	Pertahanan	20	20	20	20	20	20	20	20	20	20		
3	Kemudahan	40	40	40	40	40	40	40	40	40	40	2 RBRA Madya	276 - 316
4	Materai	15	15	15	15	15	15	15	15	15	15		
5	Organisasi	18	18	18	18	18	18	18	18	18	18	3 RBRA Nindya	316 - 356
6	Pengorganisasian	18	18	18	18	18	18	18	18	18	18		
7	Pengelolaan	120	120	120	120	120	120	120	120	120	120	4 RBRA Utama	356 - 406
8	Kemudahan	20	20	20	20	20	20	20	20	20	20		
9	Kemudahan	40	40	40	40	40	40	40	40	40	40	5 RBRA (Friendly Playroom) Child	406 - 500
10	Kemudahan dan Kebersihan	40	40	40	40	40	40	40	40	40	40		
11	Kemudahan	15	15	15	15	15	15	15	15	15	15		
12	Pertahanan	10	10	10	10	10	10	10	10	10	10		
13	Pengelolaan	50	50	50	50	50	50	50	50	50	50		
Total Nilai Persyaratan		300	300	300	300	300	300	300	300	300	300	400	471

Figure 10. Assessment of Taman Cemara Asri with 13 indicators of RBRA development requirements.

This value is sufficient to make the Taman Cemara Asri Playroom a Child-friendly Playroom which is proposed to be certified by the Ministry of PPPA (Women's Empowerment and Child Protection) because the score has gone through an increase from RBRA Pratama, Madya, Nindya, Utama and RBRA (Friendly Playroom). Child.

3.2 Problems faced

“RBRA is one of the indicators for Child Friendly Districts/Cities (KLA) and Child Friendly Provinces (PROVILA). However, sad stories related to violence against children that occurred in the playroom still adorn the news in our media. In fact, the ultimate goal of the playroom is to make them happy and to realize the process of protecting children while they are playing, not to harm our children or experience violence and sexual exploitation. Therefore, all children's playrooms must be standardized and certified.

In providing a children's playground with the RBRA predicate, it is necessary to support all parties because these 13 indicators need to be maintained so that their existence is sustainable towards a child-friendly Batam City. There are several problematic factors in its development including:

- a. Lack of public awareness in maintaining park components, understanding the rules for using parks, vandalism and destruction of the Cemara Asri park.
- b. There are no environmental-based park managers (communities, community groups) RT/RW devices and private parties that manage using an MOU with the Batam City Government.
- c. Maintenance and improvement of park development (fence around the park for safety and ease of supervision, children's stage as a place for children's expression) that is sustainable in maintaining the Cemara Asri park which is a RBRA (Child Friendly Playroom)

IV. Conclusion

The commitment, support, and synergy of the Batam City government, the business world, community institutions, and the community, including the Children's Forum are very important in determining the success of the RBRA certification process. Through the availability of RBRA infrastructure, it is expected to accelerate the realization of KLA and Child-friendly Indonesia 2030 and Indonesia Gold 2045. Thus, it can be concluded:

1. The Batam City Government has committed to building parks in green open spaces as a place for family and children gathering activities as an attractive urban recreation facility as well as building forms and monuments with Malay architectural style.
2. The development of the population and the density of residential buildings and trade services in urban areas requires planning for new sustainable parks (planning, budgeting and maintenance in each sub-district with RBRA standards such as Taman Cemara Asri.
3. The need for stages in preparing digital applications (digitalization towards smart cities) for parks managed by the Batam City Government.

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