LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : PROSIDING

Judul karya ilmiah	:	The Effectiveness of Inclusive Playground Usage for Children Through Behavior-Setting Approch in Tembalang, Semarang City		
Jumlah Penulis	:	2 penulis (**Novia Sari Ristianti**, Retno W)		
Status Pengusul	:	penulis pertama dan penulis korespondensi		
Identitas Prosiding	:	a. Judul Prosiding	:	IOP Conference Series: Earth and Environmental Science, Volume 592, The 5th PlanoCosmo International Conference, "Infrastructure for all: Smart, Innovative, and Inclusive
		b. ISBN/ISSN	:	17551307, 17551315
		c. Thn Terbit, Tempat Pelaks.	:	2020, Bandung (Virtual)
		d. Penerbit/ Organiser	:	Institut Teknologi Bandung (ITB)
		e. Alamat repository/ web	:	https://iopscience.iop.org/issue/1755-1315/592/1
		Alamat artikel	:	https://iopscience.iop.org/article/10.1088/1755-1315/592/1/012027/meta
		f. Terindeks di (Jika ada)	:	Scimago Jr dan Scopus

Kategori Publikasi Makalah (beri pada kategori yang tepat) : ☐ Prosiding Forum Ilmiah Internasional ☐ Prosiding Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah		Nilai Akhir Yang Diperoleh
	Internasional 15	Nasional	
a. Kelengkapan unsur isi artikel (10%)	1,5		1
b. Ruang lingkup dan kedalaman pembahasan (30%)	4,5		4
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	4,5		4
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	4,5		4
Total = (100%)	15		13
Nilai Pengusul : (60% x 13) = 7,8			

Catatan Penilaian artikel oleh Reviewer :

a. Artikel cukup lengkap. Tidak ada *acknowledgement.*

b. Artikel tentang *Playground Usage* cukup menarik. Namun beberapa gambar dan tabel kurang didiskripsikan dengan lengkap dan komperhensif.

c. Jumlah sitasi masih dapat ditingkatkan, hanya terdapat 14 referensi (79% terbitan 10 tahun terakhir). Penggunaan metode Gutman kurang diexplore dalam analisis. Sitasi kurang dibahas didalam analisis. Ada referensi yang belum disitasi didalam artikel.

d. Prosiding terindex Scopus: IOP Conference Series: Earth and Environmental Science, dilengkapi dengan ISSN dan DOI.

Semarang, 21 Juli 2022
Reviewer 1,

Prof. Dr.Ir. Nany Yuliastuti, MSP
NIP.195407171982032001
Unit Kerja: Departemen PWK FT UNDIP

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		f. Terindeks di (Jika ada)	:	Scimago Jr dan Scopus

Kategori Publikasi Makalah (beri pada kategori yang tepat) :
[ ] Prosiding Forum Ilmiah Internasional
[ ] Prosiding Forum Ilmiah Nasional
[ ]

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah		Nilai Akhir Yang Diperoleh
	Internasional [15]	Nasional [ ]	
a. Kelengkapan unsur isi artikel (10%)	1,5		1
b. Ruang lingkup dan kedalaman pembahasan (30%)	4,5		3,5
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	4,5		4
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	4,5		4
Total = (100%)	15		12,5
Nilai Pengusul : (60% x 12,5) = 7,5			

Catatan Penilaian paper oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi prosiding:**
   Unsur isi artikel cukup lengkap sesuai dengan *"guide of author"* (abstract, introduction, method, results, and discussion, conclusion, and references). Terdapat acknowledgement. Isi artikel sesuai dengan bidang ilmu penulis.

2. **Ruang lingkup dan kedalaman pembahasan:**
   Substansi artikel sesuai dengan ruang lingkup *The Effectiveness of Inclusive Playground Usage for Children Through Behavior-Setting Approch in Tembalang, Semarang City*yang dibahas dengan cukup lengkap. Bagian metode sudah dijelaskan secara lengkap. Introduction didukung dengan daftar pustaka yang memadai, namun belum dijelaskan terkait novelty penelitian. Pada bagian *result and discussion* belum terdapat diskusi literatur. Kedalaman pembahasan artikel secara keseluruhan kurang karen hanya didukung 14 referensi.

3. **Kecukupan dan kemuktahiran data/ informasi dan metodeologi:**
   Meteode penelitian menggunakan kuantitatif dengan teknik pengumpulan data melalui kuesioner. Data dan metode yang digunakan cukup mutakhir. Turnitin similiarity index 0%.

4. **Kelengkapan unsur dan kualitas terbitan:**
   Artikel ini tergolong prosiding seminar internasional bereputasi (IOP proceeding series earth and environmental science, terindeks di scopus/ SJR = 0,18 (2020). Semua gambar belum dirujuk dengan baik di dalam text. Refernsi yang digunakan dari 14 referensi dan 11 diantaranya bersumber dari artikel jurnal yang merupakan terbitan kurang dari atau sama dengan 10 tahun terakhir.

Semarang, 21 Juli 2022
Reviewer 2,

Prof. Dr. Sunarti, S.T., M.T.
NIP.196704291994032002
Unit Kerja: Departemen PWK FT UNDIP

LEMBAR
HASIL PENILAIAN LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER*
REVIEW
KARYA ILMIAH : *PROSIDING*

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		e. Alamat repository/ web	:	https://iopscience.iop.org/issue/1755-1315/592/1
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		f. Terindeks di (Jika ada)	:	Scimago Jr dan Scopus

Kategori Publikasi Makalah (beri pada kategori yang tepat) : [V] Prosiding Forum Ilmiah Internasional
[ ] Prosiding Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi paper (10%)	1	1	1
b. Ruang lingkup dan kedalaman pembahasan (30%)	4	3,5	3,75
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	4	4	4
d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	4	4	4
Total = (100%)	13	12,5	12,75
Nilai Pengusul : (60% x 12,75) = 7,65			

Semarang, 21 Juli 2022

Reviewer 1,

Prof. Dr.Ir. Nany Yuliastuti, MSP
NIP.195407171982032001
Unit Kerja: Departemen PWK FT UNDIP

Reviewer 2,

Prof. Dr. Sunarti, S.T., M.T.
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URBAN AND REGIONAL PLANNING PROGRAM
SCHOOL OF ARCHITECTURE, PLANNING, AND POLICY DEVELOPMENT
INSTITUT TEKNOLOGI BANDUNG

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100 YEARS OF ITB & Higher Education in Engineering in Indonesia

CERTIFICATE OF APPRECIATION

THIS CERTIFICATE IS AWARED TO:

NOVIA SARI RISTIANTI

AS

PRESENTER

FOR GIVING AN INSIGHTFUL PRESENTATION ENTITLED

THE EFFECTIVENESS OF INCLUSIVE PLAYGROUND USAGE FOR CHILDREN THROUGH BEHAVIOR-SETTING APPROACH IN TEMBALANG, SEMARANG CITY

AT THE 5TH PLANOCOSMO INTERNATIONAL CONFERENCE
ON INFRASTRUCTURE FOR ALL (SMART, INNOVATIVE AND INCLUSIVE)
HELD AT INSTITUT TEKNOLOGI BANDUNG ON OCTOBER 20-21, 2020

Dean of SAPPD
Institut Teknologi Bandung

Dr. Sri Maryati, S.T., MIP

Chair of
The 5th Planocosmo
Organizing Committee

Dr. I. G. Ayu Andani

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The effectiveness of inclusive playground usage for children through behavior-setting approach in Tembalang, Semarang city

Ristianti N.S. ; Widjajanti R.

Save all to author list

[a] Department of Urban and Regional Planning, Diponegoro University, Semarang, Indonesia

Abstract

Playgrounds as urban public spaces are intended to explore cognitive, motoric, and social interaction abilities. Playgrounds must be inclusive as a justice space for children to create effective usage of playgrounds through a behavior-setting approach. In 2018, Semarang City received an award as an Intermediate Child-Friendly City. Tembalang is one of the areas in Semarang City with children growth of about 44% of the total population of Tembalang in 2018. In Tembalang, there are nine playground locations as the focus of this research. This research aims to examine the effectiveness of inclusive playground usage for children through the behavior-setting approach in Tembalang. The research method is quantitative descriptive. It is conducted by interviewing children as users to assess playground effectiveness usage based on the connection with nature, physical activities, and

social interaction aspects. Based on the analysis, it shows that the playgrounds are not effective based on the connection with natural aspect; 40% children cannot see animal activities (such as flying birds, swimming fish, and jumping frogs) and they cannot play with natural responsive material (such as playing sands, fishing, making tree music, and throwing stones into the water). On the other hand, the playgrounds have already been used effectively based on the physical activities aspect; 51% of children can run around, jump around, and play in the playground zone. Likewise, based on the social interaction aspect, it is indicated that the playgrounds have already been used effectively; 53% of children can create meeting ground and space for children's learning to greet each other. As a result, the effectiveness of inclusive playground usage in Tembalang still needs to improve to be sustainable to accommodate children's activities in urban public spaces. © Published under licence by IOP Publishing Ltd.

Indexed keywords

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Ristianti, N.S.; Department of Urban and Regional Planning, Diponegoro University, Semarang, Indonesia; email:novia.sari@live.undip.ac.id

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Earth and Planetary Sciences General Earth and Planetary Sciences	#157/186	15th

Preface

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Preface

With cities embracing the dawn of digital revolution, rapidly changing urban settings triggered by digital technology which has pushed urban planning to adapt dramatically and involving processes of making decisions on resource allocations. Planning interventions are now strongly related to internet connectivity, big data exchange, and management, Artificial Intelligent (AI), Internet of Things (IoT), digital advertising, video surveillance, and analytics. As technologies advance, so does the city's demand for digital infrastructure or commonly labelled as "smart infrastructure". Digital infrastructure has changed the configuration of urban infrastructure, altering planning space from heavily relies on physical functions to the world that highly depending on digital systems. It improves the efficiency of decision- making processes in most cities. However, the utility of such new approaches remains the question when it comes to their benefits for urban poor and disadvantaged.

Current conditions of hitting the COVID-19 pandemic have paralyzed economic and social joints in nearly every country in the world and have worsened the situations in informal settlements as the most vulnerable areas. In their respective capabilities, the government and many elements of society make every effort to overcome the impacts that have occurred that have become known as an adaptation to the "New Normal" situation, including building resilience for urban poor as the most impacted urban populations. All sectors of the economy, banking, telecommunications, transport, public services, and social services are encouraged to undertake major reforms in the types of activities, budget allocations, and work procedures that are shifting from face-to-face (offline) systems of online (online) systems.

Numerous questions have followed the great opportunities and challenges faced during the New Normal. How adaptive and anticipative will it be and which new approaches to adopt? How classic infrastructure issues are addressed in this unprecedented COVID-19 situation given restricted funding and scarce resources? How to promote inclusive and sustainable development by connecting people with different socioeconomic backgrounds and geographic locations in the current global pandemic situations? How residents of informal settlements have responded to the situations, given limited access and capacity to connect with the main formal recovery plans? What should be the focus of policymakers, business actors, and society, in general, is responding to climate change and other environmental issues in the new normal era?

The aims of the 5th PlanoCosmo International Conference are: to discuss the opportunities and challenges of infrastructure related-technologies; to connect various stakeholders interested in infrastructure and urban planning, development, and innovations; as well as to market ITB strengths in infrastructure technological and policy innovations. We invite academicians, researchers, and practitioners to participate in this conference. The event is organized by the Urban and Regional Program under the School of Architecture, Planning and Policy Development, Institut Teknologi Bandung.

The uncertainty with the COVID-19 pandemic, travel restrictions, and economic consequences makes planning a healthy, safe and well-attended conference difficult. After much deliberation, we have decided that the 5th PlanoCosmo Conference will take place entirely virtually. It is difficult to predict what the world will look like in October 2020 or next year, and our priority is this conference participants' safety, health and well-being.

Running a virtual conference poses many challenges, but we are excited to be able to offer a useful, meaningful, and intellectually stimulating conference experience using a Zoom platform. Talks might be pre-recorded videos, with live Q&A sessions. Participants still could interact with chat box and exchange contacts.

In addition, along with the challenges, hosting a virtual conference also offers opportunities. Registration fees will be substantially reduced, and we hope this, along with least travel requirement, will allow more participants, who may not have been able to otherwise.

Apart from the opening and closing remarks, this two-days conference is divided into three sessions: (1) five keynote sessions; (2) three plenary sessions, each comprised of four invited speakers; and (3) two parallel sessions, which each divided into eight tracks and each tracks consists of three to four speakers. During plenary and parallel sessions, each speaker has 20 minutes of presentation.

To ensure the success of delivery of the conference, the speakers must be ready 10 minutes before the session starts at the virtual conference. They have to submit their presentation files or pre-recorded videos to the organisers at least one day before the conference. The presentation files or videos will be presented by the organiser during the live session. Then, a moderated Q&A session will follow. Moreover, a rehearsal involving not only organisers, but also speakers and participants will be held a few days before the conference to ensure that any technical failures can be mitigated.

Up to now, there are 180 registered participants. We expect the number of participants will rise significantly prior to the conference date. This conference will be attended digitally by participants from various countries, such as Indonesia, India, Japan, Malaysia, the Netherlands, and the United Kingdom. Moreover, other than those countries, the invited speakers from Australia and Portugal will also participate in this conference.

With regards to publications, several papers were invited for publication in Journal of Regional and City Planning, these proceedings were prepared as the main publication outlet for most papers presented at the conference. The proceedings consist of 36 selected papers, which are distributed to several interrelated parts resembling the tracks organized during the conference.

Although several papers were invited to be published in the Journal of Regional and City Planning, these proceedings were arranged for most papers presented at the conference as the main publishing outlet. The proceedings are made up of 36 papers chosen, which are divided into several interrelated sections resembling the tracks arranged during the seminar.

The first part, Data-Driven Urban Planning consists of two articles focusing on the issues of tourism carrying capacity and wind damage to residential construction. The second part, Infrastructure for Smart City and Region, presents eight papers in the topics of built environment and parking pricing, housing, smart city, and public transportation.

Furthermore, three papers in Infrastructure Financial Innovation concentrate the discussion on the topics related to public private partnership project, and innovative finance scheme for infrastructure. As another part of the proceedings, Collaborative Planning brings together five accepted papers that pay attention to spatial transformation, and urban renewal concept.

Inclusive Development is the next part of these proceedings containing three papers, which concerns with child friendly infrastructure, capital implication of capital relocation, and impact on tourism development. Innovative and Creative Community becomes the part of the proceedings comprising six papers focused on building the resilience of rural creative entrepreneurship, exploration of creative industry, city branding, and sustainable transportation. The next part, Mega Infrastructure Project, brings the issue of toll road development. The last special part is the part responding to the Covid-19 pandemic, which is dedicated to those who has a high concern to solve current issue of the new normal and the vulnerability of urban area in facing the COVID-19 pandemic.

These proceedings were not possible to be completed without the restless effort of our technical team. Therefore, our sincere thanks go to our colleagues Fikri Zul Fahmi, Lisna Rahayu, Novi Puspitasari, Arini Murwindarti, Fika Novitasari, Lanthika Atianta, Naya Cinantya Drestalita, Ulfah Aliifah Rahmah, and Meifita Kamilia Intishar Manggau. Other colleagues in the conference's organizing committee should also be mentioned here, including Ninik Suhartini, Adiwan Fahlan Aritenang, Niken Prilandita, Alhilal Furqan, Bagas Dwipantara Putra, Nurrohman Wijaya, Farida Khuril Maula, Afrizal Ramadhan, Uly Faoziyah, Muhammad Dzaki Naufal, Yovita Tisarda Febriani, Renny Desiana, Muhammad Rizki Rayani, Zahara Sitta Iskandar, Tri Rahayu Wulansari, Diary Nurwidya Choerunnisa, Aditya Purnomoaji, and Fadila Septiandiani, and Dewi Widaningsih. We are also grateful to our colleagues in the Scientific Committee, whose inputs and ideas are remarkable: Tommy Firman, Haryo Winarso, Pradono, B. Kombaitan, Arief Rosyidie, Djoko Santoso Abi Soeroso, Delik Hudalah, Paul Jones, Paulo Silva, Saswat Bandyopadhyay, and Narimah Samat. Finally, we are thankful to our Steering Committee for their kind supports and encouragement: Widjaja Martokusumo, Sri Maryati, Denny Zulkaidi, Ridwan Sutriadi, Heru Purboyo Hidayat Putro, Miming Miharja, Tubagus Furqon Sofhani, and Ibnu Syabri.

Dr. I Gusti Ayu Andani

Chair of the Organizing Committee
The 5th PlanoCosmo International Conference

INFRASTRUCTURE FOR ALL
Smart, Innovative, and Inclusive
The 5TH PlanoCosmo
International Conference

Keynote Speakers

Erick Thohir, BA.,M.B.A (Minister of State Owned Enterprises)

Erick Thohir is an indonesian businessman. He received his bachelor degree from Glendale Community College (California) and master degree from National University (California), United States. He is the founder and chairman of Mahaka Group, a holding company which focuses on media and entertainment. He is also the former owner of Inter Milan. Currently, Erick Thohir serves as a Minister of State Owned Enterprises of Indonesia under Jokowi's Cabinet Era.

HC. Ir. H. Suharso Monoarfa (Minister of National Development Planning)

Suharso Monoarfa is an Indonesian entrepreneur and politician. He served as Minister of Public Housing in the Second United Indonesia Cabinet. He was also a member of the House of Representatives between 2004 and 2009 and was re-elected again in 2009. In 2015, he was elected by President Joko Widodo as one of the members of the Presidential Advisory Council. Currently, he serves as the Minister of National Development Planning of Indonesia under Jokowi's Cabinet Era .

Karst Geurs (University of Twente)

Prof. Karst Geurs is a professor of transport planning at the Centre for Transport Studies. His research focuses on interactions between land use and transport, accessibility modelling and evaluation and the dynamics in travel behaviour. He is chair of the Network on European Communications and Transport Activities Research (NECTAR), Editor-in-Chief of the European Transport Research Review (ETRR) and member of the Editorial Advisory Board of the Journal of Transport and Land Use (JTLU).

INFRASTRUCTURE FOR ALL
Smart, Innovative, and Inclusive
The 5TH PlanoCosmo
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INVITED SPEAKERS

Prof. Haryo Winarso, M.Eng., Ph.D (Institut Teknologi Bandung)

Haryo Winarso is a Professor at the School of Architecture, Planning and Policy Development, Institut Teknologi Bandung (SAPPD-ITB). He is also Head of Urban Planning and Design Research Group. Prof. Haryo Winarso has more than 30 years experiences in undertaking research, consultancy, teaching, and training assignment national as well as international, Prof. Haryo Winarso has conducted several join research funded by the World Bank, DFID and Government Agencies of Indonesia, Asian Development Bank, as well as contributing papers in International and national seminars. He is a former Attache of Education and Culture in the USA, a former president of ASPI (Indonesian Planning School Association); and also a member of the Indonesian Association of Planners.

Paul Jones (University of Sidney)

Dr. Paul Jones is a Director of the Master of Urban and Regional program in the School of Architecture, Design, and Planning. Dr. Paul Jones is an urban development and management practitioner with 30 years of professional experience in developing sustainable urban management, urban development, and planning solutions in Australia and overseas. In 2014, Paul was made a Fellow of the Planning Institute of Australia (PIA) for his outstanding contribution to planning education and practice.

Paulo Silva (University of Aveiro, Portugal)

Dr. Paulo Silva is an assistant professor of Regional and Urban Planning at the Department of Social, Political and Territorial Sciences, University of Aveiro, Portugal. His research field is focused on relations between individuals and planning institutions and their influence in policymaking.

Saswat Bandyopadhyay, CEPT University, India

Prof Saswat Bandyopadhyay is a Professor at the Faculty of Planning, and HOD. Saswat is presently co-ordinating the accelerated capacity building and handholding support for the implementation of MOHUA sub-scheme on TPS and LAP in 25 cities which include training and handholding, drafting TOR for engagement of consultants, amendments in state regulatory frameworks, etc.

Narimah Samat (Universiti Sains Malaysia)

Prof. Narimah Samat is a professor and dean at Pusat Pengajian Ilmu Kemanusiaan, School of Humanities, Universiti Sains Malaysia. Her research is focused on Geographic Information System (GIS), Urban and Landuse Planning, and GIS Socio-Economic Application (Health and Poverty).

Norliza Hashim (Managing Director AJM Planning and Urban Design Group Sdn Bhd)

Norliza Hashim is the Managing Director of AJM Planning and Urban Design Group Sdn Bhd, a multi-disciplinary firm that focuses on providing creative and innovative solutions for a sustainable built environment. With more than 25 years of experience, it covers a wide spectrum of the planning discipline and has undertaken projects all across the globe and where she has also served as a consultant to UN-Habitat in its Human Settlement Programmes.

Johan Woltjer (University of Wesminster)

Johan Woltjer is a Professor of Urban Infrastructures at the University of Westminster, UK. He also is an Honorary Professor in urban and regional development at the University of Groningen and a Visiting Professor at the University of Reading. He was previously at the University of Groningen, the University of Amsterdam, and the University of Twente, Netherlands. Professor Woltjer focuses his substantive work on understanding international urban and regional development (particularly Europe and Asia), resilient cities, urban geographies, and capacities for water and infrastructure management.

Lawrence Vale

Associate Dean Lawrence Vale is Ford Professor of Urban Design and Planning at Massachusetts Institute of Technology (MIT). He is the author or editor of eleven books examining urban design, housing and planning. Professor Vale's most recent published work has examined the history, politics, and design of American public housing. His research and teaching interests cover climate change, history and theory of planning, housing, housing development, social equity, theory of urbanism, urban design.

Dr. Julie Tian Miao (University of Melbourne)

Dr. Julie Tian Miao is a Senior Lecturer in Property and Economic Development in the Melbourne School of Design, Faculty of Architecture, Building and Planning, University of Melbourne. She is the lead editor of Making 21st Century Knowledge Complexes: Technopoles of the world revisited (Routledge), which is a Routledge Best Book Award Nominee (2016) and being translated into Chinese. Her research and teaching interests cover the economics, planning and the built environment of the knowledge economy, knowledge workers, housing market dynamics and affordability, as well as innovative, informal and entrepreneurial urbanism.

Committees

Steering Committee

1. Prof. Widjaja Martokusumo (Institut Teknologi Bandung, Indonesia)
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Deconstructing water sensitivity: experiences from global cities

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Abstract. Cities around the world today are facing common issues of rapid urbanization, varying climatic conditions, and challenging economies, which are known to impact the environment and quality of life. In response, multiple concepts have emerged related to water management practices over the past few decades. One such recently discussed concept is of Water Sensitive Cities, which envisions a place that judiciously uses its existing resources, building resilience for tomorrow by simultaneously ensuring community participation for sustainability. Synonymous with this notion, there exist other overlapping concepts such as Water Sensitive Urban Design, Low Impact Development, Best Management Practices, Green Infrastructure, and the like. This research intends to deconstruct these concepts and their practices through a review of 120 case studies located across different agro-climatic and water-stressed regions globally. These cases were analyzed for their inclination to three thematic components: society, water sensitive urbanism, and technologies. The evidence suggests that there is not a single water sensitive city in the world today. This paper discusses the utopian nature of this notion and identifies relevant pathways to explore to reach the destined vision of Water Sensitive Cities.

1. Introduction

The term "Water Sensitive Cities" was first coined by Cooperative Research Centre for Water Sensitive Cities (CRCWSC), established in July 2012. It was a consequence of water crisis in the region where bulk of the water supply came from various desalination plants installed. While most Australian cities have witnessed drought in the past, a major contributing factor in their water crisis was surplus supply of water, which was a result of lifestyle pattern. The Australians have mere preference for suburban detached dwellings, which they were willing to pay higher prices, with its own set of hydrological constraints. Along with this, the increased dependency on desalination caused tremendous amount of cost and carbon emissions. These cultural water issues were posed upon with more threshold due to – (a) rapidly growing population with changing lifestyles; (b) changing and highly variable climate and; (c) a challenging economic environment [1, 2]. However, it is revealed that rather than advanced technology that highly depends on elevated energy consumptions, simple solutions like water pricing and education campaigns are more effective. Water Sensitive Cities envisions cities which are sustainable, resilient, productive, and livable. Interestingly, these issues stand true for all fast-growing urban areas in the world and therefore, the concept cannot be restricted to Australian cities alone [1, 2]

2. Conceptualizing Water Sensitive Cities

Review of community renewable energy projects: the driving factors and their continuation in the upscaling process

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Abstract. Community energy has recently drawn many interests as a project that pursues a more localized, sustainable energy approach. Many locations across nations have implemented the approach and achieved a degree of success. The project success is established by a combination of driving factors, which created a favourable environment for projects to proceed well in the deployment phase. The success is expected to continue towards upscaling phase. This article aims to summarise the driving factors both during the initial stage and upscaling among small-scale community energy in different contexts. Drawing on content analysis from published materials, we categorize information, classify patterns and label the types from nine case studies from seven countries; Japan, Denmark, Italy, Germany, Thailand, India, and Indonesia. The result shows that, first, there are five driving factors commonly found in the projects, which serve as the background reason for project development, people's motivation and social capital from community side, support from external factors, and the project outcomes experienced by the locals. Each factor comprises types and descriptions reflected in the case study. Second, challenges, dilemmas, and tensions exist along with project development. Third, the success factor shows continuity up until the upscaling projects. We argue that the extension of networks, supports, and the partnership has enabled the projects in upscaling and running in the longer term.

1. Introduction

The local low-carbon initiative has been promoted as an action to tackle many issues, such as carbon emission reduction, energy security, and regional revitalization. The locals who share the same problems initiate the action to achieve their desired goals. One approach of this initiative is through a community-driven renewable energy (RE) project. A rural area has an abundant amount of untapped natural resources that can generate RE. The bottom-up initiatives reveal many benefits, among others, are supporting sustainable energy programs, decreasing energy expenses, enhancing networking, increasing local employment, and reducing carbon emission [1]. These movements often referred to as local low-carbon energy initiatives [2], grassroots innovation [3], local RE organizations [4], and low-carbon communities [5]. The definitions are similar around the idea that actors from civil society, citizen, or community carry out the action, rather than a centralized, private-oriented company. The actions are diverse, such as locally owned RE generation, green building practices, district heat networks, combining a biogas power plant to a solar houseboat, solar home system installations, and so on.

Community RE, or later mentioned as community energy, according to Walker and Devine-Wright [6] stresses two points: process; referring to who takes part in the development, and outcome; referring

The need and rise of secondary smart cities: a case of Bhuj

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Abstract. With the Fourth Industrial Revolution, cities are being acknowledged by various city leaders, urbanists, and urban enthusiasts as the employing giants of the world. Urbanization has led to people migrating to urban nodes, not only from rural to urban but from urban to urban areas as well, thereby, leading to a significant influx of migrants. This is more evident in the fast-growing secondary cities that are becoming the new job centres. However, while incorporating a Master Planning and Development Planning approach, there is a consequential crisis of resource and infrastructure while accommodating the new residents. Coupled with the rise of health emergencies such as cholera and now, recently, COVID-19, the cities are calling for better management and administration of resources, especially water resources in the cities of the global south. As envisioned in various debates, 2/3rd of the world's population shall reside in urban areas. Self-sufficiency and resource management are going to be prime concerns soon. In Bhuj, the district headquarters of Kutch in Gujarat, India, a water crisis is already evident, and the city will need to cope up with this increasing demand for the better. This provides a potential for the development of a framework that can lay out a more efficient system for resource provision and administration. The Smart Cities initiative can act as a tool for bridging the gaps between technology and sociology. This study, therefore, acknowledges the potential by understanding the concept of smart cities, the application, and nuances of the concept in India, where the concept has started to hold ground as a notion in the form of Government-led Smart City Competitions. This research aims to study the various frameworks and mechanisms related to smart cities and Smart Cities Mission, and how the different verticals of the framework, i.e. physical, social, economic, and governance points of view, are co-dependent on each other. The study also acknowledges the existing arguments surrounding the potential of secondary cities like Bhuj, and how the efficiency in terms of water sensitivity can be improved optimally by bringing all stakeholders to the table and trigger discussions to provide a better quality of life to the citizens. The paper aims at urban enthusiasts, academicians, citizen groups, and decision-makers to dive into the potentials of the water-sensitive aspects of the Smart Cities Mission and how secondary fast-growing cities can gain some headway with this.

Corrigendum

Corrigendum: Is Jakarta a child-friendly city? (2020 *IOP Conf. Ser.: Earth Environ. Sci. 592 012026*)

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Page 3:

In figure 1, the figure is not yet equipped with its source or reference number that should be written next to the figure title. The figure title was previously written:
Figure 1. *Jakarta Population According to Age and Gender in 2019.*

It should written :
Figure 1. *Jakarta Population According to Age and Gender in 2019 [9].*

Page 5:

- In figure 2, the figure is not yet equipped with its source that should be written next to the figure title. The figure title was previously written:
  Figure 2. *The various functions of RPTRA.*

  It should written :
  Figure 2. *The various functions of RPTRA (Source: Adopted from the document [13]).*

  ** The source of figure 2 was not yet listed in the reference list, so it is certainly changing the sequence of reference numbering.*

- In the first sentence of paragraph under figure 2, the reference number was previously written:
  Approximately 290 RPTRA have been built by 2018 [13], and the government plans to add some more shortly.

  The addition of the source in figure 2, that was not yet listed in the reference list, is certainly changing the sequence of reference numbering. So, it should be written :
  Approximately 290 RPTRA have been built by 2018 [14], and the government plans to add some more shortly.

The effectiveness of inclusive playground usage for children through behavior-setting approach in Tembalang, Semarang city

by Novia Sari Ristanti

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The effectiveness of inclusive playground usage for children through behavior-setting approach in Tembalang, Semarang city

The effectiveness of inclusive playground usage for children through behavior-setting approach in Tembalang, Semarang city

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Abstract. Playgrounds as urban public spaces are intended to explore cognitive, motoric, and social interaction abilities. Playgrounds must be inclusive as a justice space for children to create effective usage of playgrounds through a behavior-setting approach. In 2018, Semarang City received an award as an Intermediate Child-Friendly City. Tembalang is one of the areas in Semarang City with children growth of about 44% of the total population of Tembalang in 2018. In Tembalang, there are nine playground locations as the focus of this research. This research aims to examine the effectiveness of inclusive playground usage for children through the behavior-setting approach in Tembalang. The research method is quantitative descriptive. It is conducted by interviewing children as users to assess playground effectiveness usage based on the connection with nature, physical activities, and social interaction aspects. Based on the analysis, it shows that the playgrounds are not effective based on the connection with natural aspect; 40% children cannot see animal activities (such as flying birds, swimming fish, and jumping frogs) and they cannot play with natural responsive material (such as playing sands, fishing, making tree music, and throwing stones into the water). On the other hand, the playgrounds have already been used effectively based on the physical activities aspect; 51% of children can run around, jump around, and play in the playground zone. Likewise, based on the social interaction aspect, it is indicated that the playgrounds have already been used effectively; 53% of children can create meeting ground and space for children's learning to greet each other. As a result, the effectiveness of inclusive playground usage in Tembalang still needs to improve to be sustainable to accommodate children's activities in urban public spaces.

1. Introduction

The urban public space is expected to improve citizen's quality of life through physical and social activities to socialize [1]. The park's existence as an urban public space requires inclusive design for all users because citizens with all conditions have the same right to access the park as a principle of justice [2]. Therefore, an inclusive park design must have given users an easy way to move inside the park, especially specific needs such as children [2]. Children using parks have a notion as their way to interact with nature since they lack space in their house [3]. Children need space to play informally and freely to move and make noise as a form of their expression in exploring the world [4]. Playing for children is as social interaction ways with other communities; it can do at playground [5]. In urban areas, children need natural playgrounds not found in their residential environments [6]. In the public space context, children can learn some essential abilities such as how to socialize, make decisions, overcome with

problems, and sense of belonging [7]. Therefore, the effectiveness of playgrounds for children must be able to accommodate physical activities, social interactions, and play in nature. One way to assess the use of the effectiveness of playgrounds for children is through a behavior-setting approach. Behavior-setting is a behavioral theory for designing an urban public space by encouraging users' positive behavior through social approaches and functions [1]. Children as urban public space actors are the key players in increasing the effectiveness of playgrounds. Through a playground design, the behavior-settings context is intended to encourage physical activity and environmental quality for children in urban public spaces. In 2018, Semarang City received an award as an Intermediate Child-Friendly City. Tembalang is one of the sub-district in Semarang City, which has increased children's number under 44% or 49.733 children of the total population by age group in 2018. This amount must be balanced with the provision of playgrounds for children. Several locations of playgrounds in Tembalang have been built both by the government and housing developers as a form of children's accommodation in urban spaces. There are nine playgrounds in Tembalang as the focus of this research. Hence, the research question is “How is the effectiveness of inclusive playground usage for children through the behavioral-setting approach in Tembalang?”. This research aims to examine the effectiveness of inclusive playground usage for children through the behavior-setting approach in Tembalang.

2. Playground As an Inclusive Public Space for Children

The playground is defined as a place for children to play, run around, and play football. Therefore, a playground must able to provide facilities such as cycling trails, wide fields, comfortable lanes, or outdoor activities for children so that they are attracted to visit it [8]. Outdoor playgrounds must be creative and a free environment to improve children's understanding and physical exploration [9]. Playgrounds as outdoor recreation help children grow to improve their sports skills, study the outside world, maintain physical and mental health, and build interactions with the environment intellectually (physically and mentally) and socially [9]. The main principle in designing a playground is inclusive for children to improve children's social and emotional abilities [10]. Hong Kong is one of the cities that strives to develop inclusive playgrounds for children. Supply and management of playgrounds done by the Leisure and Cultural Services Department (LCSD), Housing Authority and Housing Department, or private sectors. From 105 playgrounds in Hong Kong, most playgrounds still consist of composite materials such as slides, climbing facilities, swings, rocking chairs, seesaws, climbing facilities, and merry-go-arounds. Some playgrounds also include cognitive games such as tic-tac-toe. This facility is still considered not fulfilling an inclusive playground criteria context. There are also still difficult to reach by children with disabilities [10].

Figure 1. Inclusive Entrance in Hong Kong’s Playgrounds.

Figure 2. Composite Play Structure as Inclusive Facilities in Hong Kong’s Playgrounds

Figure 3. Seesaw as Inclusive Facilities in Hong Kong's Playgrounds

Figure 4. Pathways as Inclusive Facilities in Hong Kong's Playgrounds

3. The Effectiveness of Playground Usage Through Behavior-Setting Approach

The utilization and placement process of park forms is a tendency of user behavior where urban designers very much need the psychological aspects in creating a park that suits the needs of users [1]. The integrating process of psychology and user behavior in contemporary design creates a diverse and thriving public space by the physical environment, functions, and activities in it [11]. The playground is accommodation for children's behavior in urban public spaces. It affects the provision of physical space characteristics that are configured into complex and challenging playground equipment, outdoor area, and the interrelationships between playground equipment [5]. Behavior-setting is an understanding of effective park site use and the relationship between the size of the setting and the investigated behavior. Behavior settings tried to connect between user behavior with time and space uses [12]. Behavior settings also connect between the built environment and the user's physical activity. The effectiveness of playgrounds usage must able to increase awareness, interest, and motivation for children's sustainability to explore their homes where there are three crucial things. First, connecting with nature can contribute to children's cognitive development. Second, physical activities can improve gross motor development. Third, sharing games with a group of children can improve children's social development [7].

Table 1. Component of Effectiveness Assessment for Playground Usage Through the Behavior-Setting Approach

Component	Sub-Component
A. Connection with Natural (Wildlife) (8,12,13)	**A1. Engagement with natural**
	A.1.1. seeing butterflies and birds flying
	A.1.2. seeing animal activity
	A.1.3. hearing the chirping of birds, blowing the wind, shaking the air
	A.1.4. seeing fish and frog in water or wetlands
	A.1.5. seeing the sky and clouds freely
	A2. Playing outdoor with responsive material
	A.2.1. playing freely in nature
	A.2.2. throwing stones at water
	A.2.3. playing sands
	A.2.4. fishing in the pond
	A.2.5. making music with tree media
	A.2.6. availability of natural games for children to play

Component	Sub-Component
B. Physical Activities (8,9,12,13)	B1.children can run around B2.children can jump around B3.children can climb B4.children can climb stairs B5.children can play soccer B6.children can ride bicycles B7.children can play scooters/ skateboard B8.children can use playground area
C. Social Interaction (3,5–7,14)	C1.creating meeting ground C2.availability place to gather and relax C3.creating space for children's learning C4.plaza availability C5.creating spaces for greeting each other

4. Research Methodology

This research uses a quantitative approach with quantitative descriptive analysis technique. It is because this research uses perceptions of children to assess the effectiveness of inclusive playground usage in Tembalang. Research locations are nine playgrounds at Tembalang. They are Citra Grand Park,USM Park, Graha Wanamukti Park, Meteseh Park, Waduk Park, Tembalang Regency Park, Graha Candi Park, Rusa Park, and Villa Tembalang Park. The sampling technique used is accidental sampling that involves children as the target as a user of the playground at Tembalang. Data collection is done by distributing questionnaires to respondents. The analysis is carried out with three variables to assess the effectiveness of inclusive playground usage based on the connection with nature, physical activities, and social interaction. This assessment produces the effectiveness of inclusive playground usage based on the Guttman scale. The effectiveness level of the inclusive park of each aspect is as follows:

- Effective level: 0%-49,9%
- Ineffective level: 50-100%

Table 2. Nine Playgrounds in Tembalang as Research Area

Location	Area (m^2)	Location	Area (m^2)	Location	Area (m^2)
A. Citra Grand Park	12.250	B. Waduk Park	5.650	C. Villa Tembalang Park	75
					
D. USM Park	2.450	E. Tembalang Regency Park	75	F. Graha Wanamukti Park	230
					

Location	Area (m^2)	Location	Area (m^2)	Location	Area (m^2)
G. Graha Candi Park	5.150	H. Meteseh Park	5.000	I. Rusa Park	2.300
					

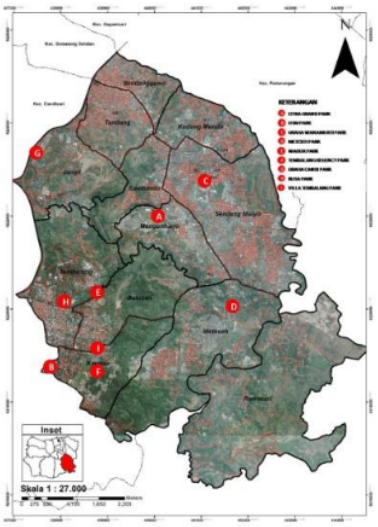

Figure 5. Map of nine playground

5. The Effectiveness of Inclusive Playgrounds Usage for Children through Behavior-Setting Approach in Tembalang

5.1. Effectiveness of Playground Usage Based on Connection with Natural Aspect

The effectiveness of inclusive playgrounds in Tembalang based on the connection with the natural aspects contains eleven aspects. Based on the data, that is as follows:

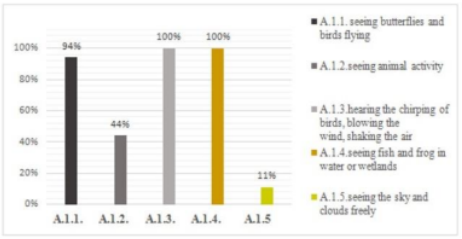

Figure 6. Diagram of Effectiveness Playground Usage in Tembalang Based on Engagement with Nature

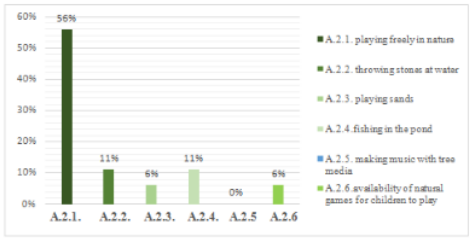

Figure 7. Diagram of Effectiveness Playground Usage in Tembalang Based on Playing outdoor with Responsive Material

Table 3. Condition of Playground in Tembalang Based on Connection With Natural Aspect

Aspects		Effectiveness Level		Effectiveness Description
A1. Engagement with natural				
A.1.1	seeing butterflies and birds flying	94%	effective	Almost playground in Tembalang is still very shady and located far from the crowds, so there are much new vegetation for animals to come to, such as at Graha Candi Park. 
A.1.2	seeing animal activity	44%	ineffective	Only in Rusa Park, children can interact with deer animals such as feeding and seeing deer activity. 
A.1.3	hearing the chirping of birds, blowing the wind, shaking the air	100%	effective	All over playgrounds in Tembalang are still very shady so children can hear the sound of birds, wind gusts and shaking water like in the USM Park. 
A.1.4	seeing fish and frog in water or wetlands	11%	ineffective	Only in Waduk Park, children can see swimming fish and jumping frogs because there are artificial lakes.
A.1.5	seeing the sky and clouds freely	100%	effective	All over the playgrounds in Tembalang are an outdoor area without any obstacles so that children can enjoy the sky view freely as in Graha Candi Park. 
A2. Playing outdoor with responsive material				

	Aspects	Effectiveness Level		Effectiveness Description
A.2.1	playing freely in nature	56%	effective	Most of the playgrounds in Tembalang have provided a wide field for children to play in nature, like in Citra Grand Park. 
A.2.2	throwing stones at water	11%	ineffective	Only in Waduk Park children can play water like throwing stones in water.
A.2.3	playing sands	6%	ineffective	Almost playgrounds in Tembalang do not have facilities for children to play with the sand.
A.2.4	fishing in the pond	11%	ineffective	Only in Waduk Park, children can fish with their parents. 
A.2.5	making music with tree media	0%	ineffective	All over playgrounds in Tembalang still lack trees and shady vegetation so children cannot play tree music.
A.2.6	availability of natural games for children to play	6%	ineffective	Almost all playgrounds in Tembalang cannot facilitate children to play and interact with the whole nature.
		40% (INEFFECTIVE)		

Based on the results, the effectiveness of inclusive playground usage in Tembalang based on the natural connection with eleven sub-aspects is still not effective (40%). It seems that children have not been educated about the connection with nature. It shows that children can not see animal activity in an ecosystem. Apart from that, there are no nature-based activities such as throwing stones into the water, climbing trees, playing with sand, and fishing.

5.2. Effectiveness of Playground Usage Based on Physical Activities Aspect

The effectiveness of inclusive playgrounds in Tembalang based on the physical activities aspects contains eight aspects. Based on the data, that is as follows:

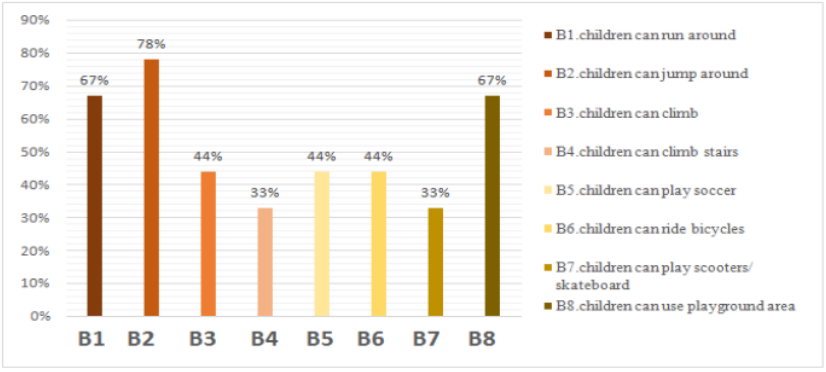

Figure 8. Diagram of Effectiveness Playground Usage in Tembalang Based on Physical Activities Aspect

Table 4. Condition of Playground in Tembalang Based on Physical Activities Aspect

	Aspects	Effectiveness Level		Effectiveness Description
B1	children can run around	67%	effective	Almost all playgrounds in Tembalang already have facilities for children to run both paving pavements and green grass. One of them is at Grand Citra Park and Graha Candi Park, a vast green field.  
B2	children can jump around	78%	effective	Almost all playgrounds in Tembalang already have facilities for children able to jump both paving pavements and green grass. One of them at Meteseh Park has the facility to play a numeric board played by jumping. 
B3	children can climb	44%	ineffective	Most playgrounds in Tembalang have no facilities for climbing children except those that already have playgrounds such as in USM Park. 
B4	children can climb stairs	33%	ineffective	Only a few playgrounds in Tembalang have provided stair facilities for children, such as Graha Wanamukti Park. 
B5	children can play soccer	44%	ineffective	A few playgrounds in Tembalang, such as Meteseh Park and Citra Grand Park, have provided a field for football. 
B6	children can ride bicycles	44%	ineffective	A few playgrounds in Tembalang, such as Meteseh Park and Waduk Park, have provided special lanes for cycling. 
B7	children can play scooters/ skateboard	33%	ineffective	Only in Citra Grand Park has provided rental and space for children to skateboard.

	Aspects	Effectiveness Level		Effectiveness Description	
B8	children can use playground area	67%	effective	Most of the playgrounds in Tembalang have provided play areas for children such as sliders, Ferris wheel, swing, and others.	
51% (EFFECTIVE)					

Based on the results, the assessment effectiveness of playground usage in Tembalang in terms of physical activities is still effective (51%) based on eight sub-aspects of assessment. It shows that children can do some physical activities freely, such as running around, jumping around, climbing, playing soccer, riding bicycles, playing scooters, and/or skateboarding.

5.3. Effectiveness of Playground Usage Based on Social Interaction Aspect

The effectiveness of inclusive playgrounds in Tembalang based on the social interaction aspects contains eight aspects. Based on the data, that is as follows:

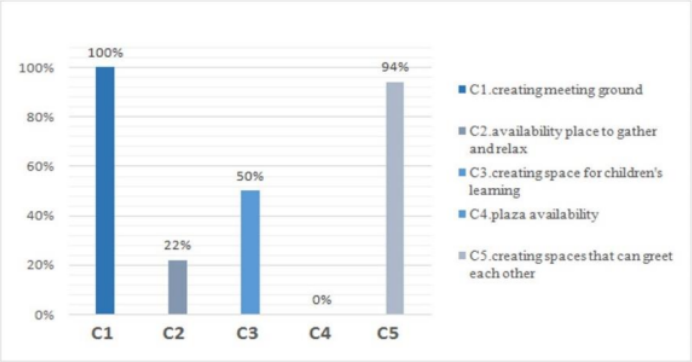

Figure 9. Diagram of Effectiveness Playground Usage in Tembalang Based on Social Interaction Aspect

Table 5. Condition od Playground in Tembalang Based on Social Interaction Aspect

	Aspects	Effectiveness Level		Effectiveness Description	
C1	creating meeting ground	100%	effective	Almost all of the playgrounds in Tembalang have created a space for social interaction such as a gazebo, sitting group area, and green grass.	

	Aspects	Effectiveness Level		Effectiveness Description
C2	availability place to gather and relax	22%	ineffective	Even though there has been room for social interaction, it is not functioned optimally, especially at night.
C3	creating space for children's learning	50%	effective	Most playgrounds in Tembalang can provide a space for social interaction that accommodates children's learning, such as in Meteseh Park, which provides space for learning to count. In Rusa Park and Graha Candi Park, there are cow statues and giraffe statues to learn about animals. 
C4	plaza availability	0%	ineffective	All playgrounds in Tembalang have not yet had plazas as one of the effective spaces for children to interact with each other.
C5	creating spaces that can greet each other	94%	effective	All playgrounds in Tembalang are designed with a wide range of visions. It will create a space for social interaction, such as greeting each other. 
				53% (EFFECTIVE)

Based on the results, the assessment of the effectiveness of playground usage in Tembalang in terms of social interaction is still effective (53%) based on five sub-aspects. It shows that children can do social interaction activities, such as meeting new friends, talking, discussing, and getting to know each other. These social interactions can be seen from the presence of a meeting ground and wide space to greet each other.

6. Conclusion

Assessing the effectiveness of inclusive playground usage in Tembalang through a behavioral-setting approach, based on three aspects; connection with nature, physical activities and social Interaction with the following results:

- ***Connection with nature***, the result is still not effective (40%). Aspects that have not been effective are seeing animal activities (44%), seeing fish and frog in water (11%), throwing stones at the water (11%), playing sands (6%), fishing in the pond (11%), making music with tree media (0%), and availability of natural games for children to play (6%). Meanwhile, the effective aspects are seeing butterflies and flying birds (94%), hearing the chirping of birds, blowing the wind, shaking the air (100%), seeing the sky and clouds freely (100%), and playing freely in nature (56%).
- ***Physical activities***, the result is still effective (51%). Effective aspects are children can run around (67%),children can jump around (78%), and children can use the playground area (67%).

Meanwhile, the not effective aspects are children can climb (44%), children can climb stairs (33%), children can play soccer (44%), children can ride bicycles (44%), and children can play scooters/ skateboard (33%).

- ***Social Interaction***, the result is still effective (53%). Effective aspects are creating meeting ground (100%), creating space for children's learning (50%), and creating spaces that can greet each other (94%) while the aspects that have been not effective are availability place to gather and relax (22%) and plaza availability (0%).

Based on the results, the effectiveness of inclusive playgrounds usage in Tembalang shows that the aspects which have not been effective can be improved, so that they can become a public space. It means that it can accommodate children's activities inclusively and sustainably.

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GRADEMARK REPORT

FINAL GRADE

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GENERAL COMMENTS

Instructor

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