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Revealing the Construction Project Management System of City Park in Jakarta: Between Hope and Reality

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***Abstract*— City parks are one of the green open spaces needed by the community for outdoor activities and to improve the quality of life. Currently, residents of Jakarta feel that city parks in Jakarta have not been able to fulfill this function optimally in terms of quality. One reason is the construction project management system which is felt to have not been running as expected. The research aims to reveal the reality that occurs in the management of urban park construction project management in Jakarta, Indonesia, look for weaknesses, and provide recommendations for these weaknesses. This research uses mixed methods. There are qualitative methods with case studies and quantitative descriptive methods. The data instrument uses a questionnaire as a research instrument that assesses the indicators of each variable which is an elaboration of factors from the stages of City-park's construction project management, community involvement, and the quality of city parks. The results showed that the city park's management system was still far from expectations, and weaknesses were found in managing the pre-construction stage and stakeholder involvement, which was not carried out optimally. It causes the construction phase not to be adequately monitored, and the project results are of poor quality. Based on the study results, further research is needed to examine the pre-construction stage and stakeholder involvement more deeply so that quality city parks according to the expectations of Jakarta residents can be achieved.**

***Keywords*— City park; construction projects; project management.**

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I. INTRODUCTION

The increasing population of the city of Jakarta causes the need for outdoor facilities for free public interaction to increase. Public green open space, such as city parks, is one of its forms. The existence of city parks can also improve public health and the quality of the surrounding environment [1]. According to the Regulation of the Minister of Public Works No. 5/PRT/M/2008, city parks function ecologically, socio-culturally, economically, aesthetically, and mitigate. City parks also provide healthy community interactions, the environment, society, and community welfare [1].

The limited area of Jakarta makes it challenging to increase the number of city parks. Meanwhile, the available city parks have not functioned as accessible and inclusive public parks and have not been able to play a role according to the expected functions. City parks in Jakarta have not fully accommodated the people's needs for outdoor activities. Many things cause it, including the number of damaged facilities, such as playing facilities. The misuse of several parks as places of sexual immorality, such as found waste condoms, damaged pedestrian paths, and vandalism, also causes people to be reluctant to visit the park. The damage caused by vandalism and misuse of park functions is caused by the wrong material selection, lack of care, and a sense of belonging from the surrounding community. One of the causes of this is the construction project management system which is felt to have not run as expected. The results of research in developing countries, such as Ecuador, show that the factors related to planning, estimation, communication, bureaucracy, ground investigation, and the chosen project delivery system were found to have the most detrimental impact on the success of the project [2].

This research is part of a more extensive series of studies entitled "Management Models for the Implementation of Sustainable City Park Construction Projects in Jakarta". The success of a sustainable City Park will support the success of

an eco-city. For that, as with eco-city, a sustainable City Park's success also requires good governance with definitions and targets, budget, management, supervision, and regulatory/policy support [3]. A clear purpose and target are essential because they can help understand the framework and a more focused scope for planning and development.

This paper is the first step to revealing the condition of the city park's construction project management system. Currently, the construction project management system (provision and utilization) of city parks refers to the Regulation of the Minister of Public Works No. 5/PRT/M/2008 concerning Guidelines for Provision and Utilization of Urban Green Open Space. The regulation states that the stages of organizing a city park include planning, land acquisition, engineering design, green open space development implementation, utilization, and maintenance. In its performance, it also involves stakeholders, including the community and developers. Stakeholder involvement can be done through collaboration which is an essential aspect of implementing a construction project as a team for the success of a project. Collaboration between stakeholders should be designed together, taking into account the diverse needs of actors, sectors, and levels of decision-making and having state support to avoid problems at the local and city levels [4]. Furthermore, this causes users to care less about the existence of a city park and can threaten its sustainability. The issuance of the 2019 Green Open Space Development and Development Guidelines [5], which contains design criteria for green open spaces, including city parks, should make city parks more quality and functional.

TABLE I
THE RELEVANT RESEARCHES

Years	Name	Research Title	Research Result	Sources
2017	Hui Qian Yoong, Kah Yee Lim, Lai Kuan Lee, Nor Azazi Zakaria, Keng Yuen Foo	Sustainable Design on Urban Landscape	Concept sustainability must be translated into action plans for the availability of urban green spaces and the scope of management practices by considering ecological, economic, socio-cultural, and planning factors. This transition to sustainability must begin in urban areas.	The 1st International Malaysia-Indonesia-Thailand Symposium on Innovation and Creativity (IMIT SIC 2017) [6]
2017	Firmansyah, A. R. Soeriaatmadja, and R. Wulanningsih	A Set of Sustainable Urban Landscape Indicators and Parameters to Evaluate Urban Green Open Space in Bandung City	The Indicators and parameters of the sustainable urban landscape to evaluate green open space are ecological indicators, health indicators, economic indicators, and socio-cultural indicators.	3rd International Symposium for Sustainable Landscape Development (ISSLD 2017). Bogor: IOP Conf. Series: Earth and Environmental Science [1]
2018	Paul Opdam	Exploring the Role of Science in Sustainable Landscape Management, An Introduction to the Special Issue	Landscape sustainability is a shared responsibility among stakeholders to maintain the function of the landscape as a common interest. Management collaboration and interdisciplinary approaches are needed to present innovative approaches to support community-based landscape governance.	*Sustainability, 2*(2) [7]

The discussions that previous research in Table 1 has carried out:

- Measuring the success of green open space performance and does not discuss the management of green open spaces;
- Elaboration of green open space management criteria that combines criteria from previous research (based on literature studies);
- The expectation of the community towards the function of green open spaces.

The visible gap is that no research reveals the management system of urban park construction management. It is necessary because this management system is expected to produce a quality city park, meaning a city park that can function according to the expected functions optimally. Therefore, this study aims to reveal the reality in the city park's construction project management system in Jakarta, look for weaknesses in the management system, and provide recommendations to improve it.

II. MATERIALS AND METHODS

A. Theoretical Review

According to the agreement results, a project is a set of interrelated activities that require allocating specific resources to achieve certain goals within a limited period. City Park construction projects use specific resource allocations to achieve predetermined targets (city parks) and last for a limited period. Management is a series of management functions (planning, implementation, and supervision) to achieve specific goals effectively and efficiently. Project management is applying knowledge, skills, facilities, and techniques in carrying out management functions, namely organizing, planning, directing, and controlling resources, time, and costs in project activities to achieve the goals set. The particular pattern that each project has is the main characteristic of the project and is known as the Project life cycle. This cycle is a grouping of project activities into stages of project development, starting from the initial idea until the project is declared complete, aiming for reasonable control to be carried out [8]. Each stage of development has a specific pattern and must pay attention to management actions, project procedures, stakeholder competencies, project internals, and project externals [9] to achieve project success. Community involvement always results in a higher understanding of the local context, suitability of design, greater project uptake, more effective allocation of resources, and greater support for initiatives integrating economic, political, environmental, and social contextual specificities in their design and implementation [10]. In addition, construction activities also significantly impact the three pillars of sustainability: economic, social, and environmental. It is because urban sustainability requires a balance between the economy, social development, and environmental concerns in urban areas [11].

Therefore, the success of its management also requires the same understanding and vision of the parties involved in the sustainability principles [12] because they have not fully realized and understood the benefits of these principles.

The phase in the project cycle is grouped into four stages: Conception/Initiation Stage, Planning Stage, Project Execution/implementation Stage, and Operation Stage [13]. The Conception/Initiation Stage is the stage to conduct a preliminary analysis for finding alternative solutions in the feasibility study, considering what is needed, when it is carried out, and who is involved in the number of costs that can be considered. The goal is to address stakeholders' expectations and provide an overview of the scope and objectives of a project. This stage produces two essential documents. The first document, Project Charter, contains project requirements, Goal Project, an agreement from stakeholders, Product Description, Risk, Stakeholder Responsibility, Project Budget, and Duration Prediction [8]. The second document, a List of Stakeholders involved in a project, needs to be identified so that coordination can be carried out to provide direction for the design of the City Parks. Stakeholder involvement is beneficial for improving the character of the project (Taman Kota) [14].

The planning stage contains the Project Scope and description of activities to complete a project for producing a Project Management Plan. The actions needed to make a Project Management Plan include the preparation of the Terms of Reference (TOR) required as a direction for the success of a design; detailing work units, determining the sequence of work, estimating resources, estimating duration, and finalizing the project schedule to determine cost estimates for each activity; preparing a quality management plan by preparing tools for checking compliance with agreed quality requirements and standards in the form of General and Technical Specifications [8]; human resource planning; communication planning between stakeholders; and risk management planning.

At this stage, urban park construction projects must pay attention to design and maintenance considerations so that maintenance costs can be reduced [15]. This is because maintenance costs are costs that must be incurred continuously [16]. Therefore, reviewing the selection of landscape material and community involvement from the planning stage is essential [17]. Through in-depth studies, an effort can be carried out to understand user needs, provide ideas and prototypes, and test them in local communities to obtain acceptable solutions and instill a strong sense of ownership in the community. In this case, the government can be a good facilitator for the stakeholders involved in responding to the hopes, desires, aspirations, and demands of the community as users of City Parks so that development outcomes have a positive impact and improve the quality of life of the community [18], [19]. It is because effective public engagement enables stakeholders to express their expectations, specify reasonable and desirable requirements and incorporate stakeholder opinions into project design and planning [20]. Therefore, the various stakeholders need to be considered carefully if the park is to be managed sustainably and according to its objectives [21]. In addition, support from the private sector is also needed to succeed the City Park as an infrastructure project. In this regard, two essential factors out of five must be considered for its success: effective project management and a complete and profitable legal and regulatory framework [22] This requires long-term coordination and communication, continuous development of the commitment process for trust creation, and flexibility to build good interactions between the public and private sectors [23]. It is necessary to ensure equal representation of all stakeholder groups in planning and decision-making, designing centered and based systems community, build strong partnerships between government, communities, and civil society, and take into account the socio-economic, cultural, and political context in designing interventions to anticipate both intended and unintended effects [24].

The project execution/implementation stage is the next stage, with the main task of controlling the schedule, budget, and quality control to complete the project implementation according to the planning document. Quality performance in construction is the degree of compliance between the work discussed and the specifications that refer to the sustainability requirements integrated into the project life cycle [25]. The achievement of the quality of the city park, which is also the achievement of the city park construction project, can be judged by the success of the city park in playing the expected function of a city park. These functions are ecological functions, economic functions, socio-cultural functions, aesthetic functions, and mitigation functions [5]. The operation stage is the last stage, where operational activities are responsible for operating and maintaining the project's products.

Based on the results of a literature review, previous research, and design criteria from the Guidebook for the Development and Development of Green Open Space in DKI Jakarta in 2019, the factors, variables, and indicators that will be used as a reference in the assessment of the condition of the city park's construction project management system are determined. A team of experts validates determining factors, variables, and indicators. The requirements of the expert team are two representatives of expert consultants and contractors with experience in the field of landscape architecture for more than ten years and who have worked on at least three urban park construction projects; and one academic representative with doctoral education and at least ten years of experience in their field. Factors, variables, and indicators as a result of the validation are listed in Table 2.

The relationship between factors, variables, and indicators that affect the City-park′s construction project management system is in Figure 1. It shows that the pre-construction variable has indicators that become the basis for the construction phase in construction project management. Likewise, the variables of coordination, commitment, and collaboration are incorporated in the stakeholder involvement factor that affects the working process of the pre-construction variable. Therefore, the hypothesis in this study is that the inability to achieve the function (quality) of city parks is due to the management system of City-park′s construction projects management, especially the pre-construction phase and community involvement is not carried out optimally.

TABLE II
FACTORS, VARIABLES, AND INDICATORS THAT INFLUENCE CITY PARK'S CONSTRUCTION PROJECT MANAGEMENT SYSTEM

No	Factors (F)	Variables (V)	Indicators (In)	Source
1.	F.1: Stages in Urban Park Construction Project Management	V.1: Pre-construction stage (Initiation and planning stage)	In.I.1: List of stakeholders	[9]
			In.I.2: Division of authority and responsibility	
			In.I.3: Coordination system	
			In I.4: City park issue (Design direction)	
			In.I.5: Terms of Reference	
			In I.6: Determination of city park budget value	
			In.I.7: Design guidelines related to sustainable principles	[9]
			In.I.8: Technical Plans & Technical specifications	
			In.I.9: Scheduling	
			In.I.10: Human Resources	
		V.2: Construction stage (implementation stage)	In.2.1: Control the course of construction projects	[8], [25]
			In.2.2: Quality achievement control	
2.	F.2: Stakeholder Engagement	V.3: Coordination	In.3.1: Coordination to establish relationships (between stakeholders, especially the community)	[7], [26]
			In.3.2: Formulation of needs	
			In.3.3: Effectiveness of the scope of work	[7], [9]
		V.4: Commitment	In.4.1: Stakeholder participation	[7]
		V.5: Collaboration	In.5.1: Collaboration related to the provision of funds	[7]
			In.5.2: Collaboration related to the provision of Human Resources	
3.	F.3: Quality of City Park Construction Project Results	V.6: City Park User Convenience	In.6.1: Compliance with technical specifications	[9]
			In.6.2: Product Safety and Security	
		V.7: City Park Quality Achievement	In.7.1: Achievement of Ecological function (proportion of area)	[1], [5]
			In.7.2: Achievement of Ecological function (Use of local materials)	
			In 7.3: Achievement of Ecological function (Environmentally Friendly)	
			In.7.4: Achievement of Economic function	
			In.7.5: Achievement of Socio-Cultural functions (multifunctional activity facilities)	
			In.7.6: Achievement of Socio-Cultural functions (local identity)	
			In.7.7: Achievement of Socio-Cultural Functions (Educational Facilities)	
			1n.7.8: Achievement of Socio-Cultural functions (User Accessibility)	
			In.7.9: Achievement of Mitigation function (The availability of the mitigation area is supported by the facilities and infrastructure)	[5]
		V.8 Quality Sustainability	In.8.1: Maintenance quality achievement	[9]

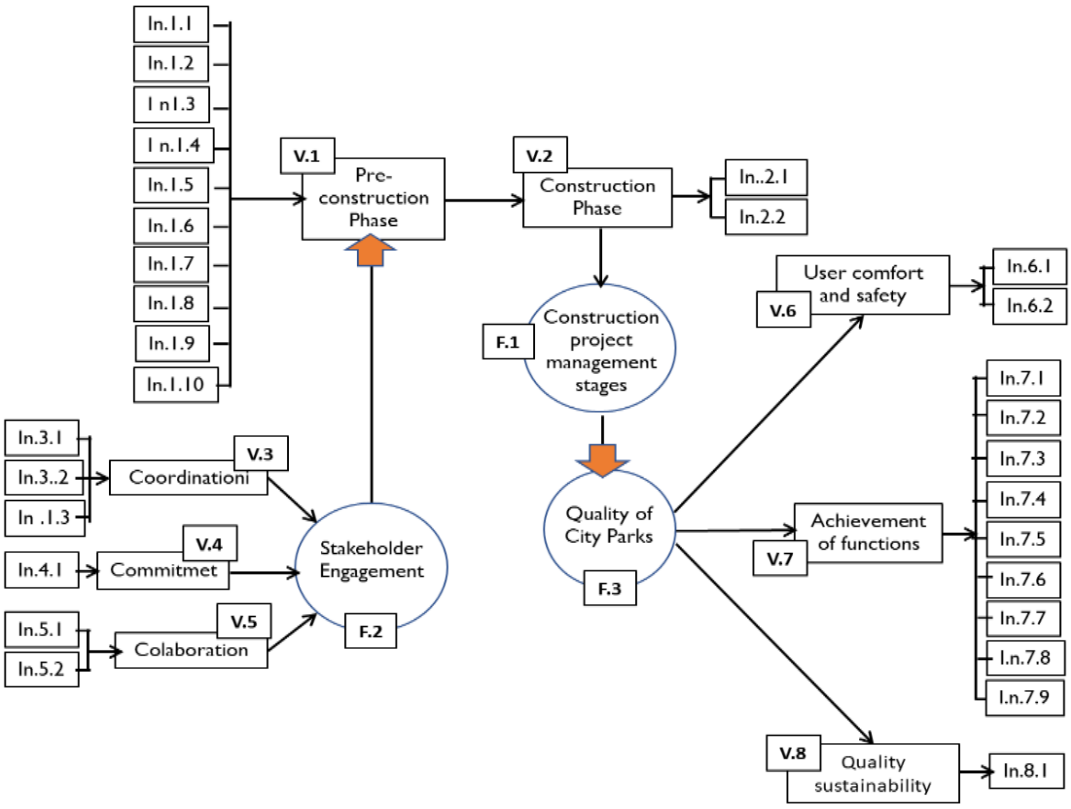

Fig. 1 The Relationship between Factors, Variables, and Indicators

B. Methodology

The research uses mixed research methods (qualitative method with case studies and quantitative descriptive method). At the beginning of the study, qualitative methods were used to holistically understand the phenomena experienced by the research subjects [27]. Case study research is carried out based on events that have occurred. A case study is qualitative research that systematically studies how an event can occur through interactions between variables at a specific time [27]. Then, proceed with quantitative descriptive methods based on positivism, which develops beliefs by collecting evidence from objective observations of relevant phenomena [27]. Descriptive research prioritizes in-depth analysis of data and facts that are found and presented as they are, without engineering. Research on an event, thought condition, object, or status in the future would use descriptively Quantitative.

This study examines the management system of urban park construction project management in Jakarta with a case study in city parks located in five administrative city areas of Jakarta. Factors, variables, and indicators resulting from the literature study used in this research are the stages of construction project management, stakeholder involvement, and the quality of city parks. The construction management and community involvement stages are assessed by filling out the research instrument in a prepared questionnaire. The assessment of the quality factor of urban parks is measured based on observations at the case study locations assisted by filling out a questionnaire. Data from filling out the questionnaire be analyzed using the average or means (the average score of the respondents on each indicator) and accumulated for each factor or all case studies, then categorized into interval classes.

1) Sampling Technique: Purposive sampling is used in this research. It is used based on specific criteria or considerations related to population characteristics, needs, and research objectives. Respondents determined based on purposive sampling amounted to 20-30 people *[27]*, and in this research, there were 30 people. Respondents are experts with the following criteria: a) The landscape architect profession involved in the consultant is 12 people, and the contractor is 12 people, with a minimum of 10 years of work experience, has handled at least three city parks, and has a minimum of intermediate expertise certification; b) There are six government personnel, particularly the City Parks and Forest Service, directly involved in managing the urban park construction project. The assessment questionnaire on urban park construction management factors, with the variables of the pre-construction phase (initiation and planning stage) and the construction phase (implementation stage), was filled out by expert respondents from consultants. An assessment questionnaire on the involved stakeholders with variables of coordination, commitment, and cooperation was filled out by government personnel respondents. Furthermore, the assessment questionnaire on the quality factor of the city park's construction project results, with the variables of comfort for city park users and the achievement of city park quality, be filled by expert respondents from contractors.

2) Likert Scale: Likert scales are a standard methodological tool for data collection used in quantitative or mixed-method approaches in multiple domains *[28]*. This research uses a questionnaire as a research instrument that assesses the indicators of each variable: an elaboration of factors from the stages of City-park's construction project management, community involvement, and the quality of city parks. The Likert scale is used with an interval scale class in this study because it's a size scale with combined questions to form a score representing the condition of the city park's construction project management system. The rating scale ranges from 1 to 3, graded from very negative with the lowest score to very positive with the highest score. Calculation of the total score:

- the total score for each indicator from all case studies is the sum of the mean values of the respondents' scores for each indicator for all case studies*;*
- the total score for all indicators from each case study is the mean value of the respondents' scores for all indicators from each case study.

The class interval scale used in this research was determined by:

- Each indicator for each factor assessed in all case studies was grouped based on value categories by determining the class interval of each indicator for all case studies using the formula:

  Data area = Highest score – Lowest score (1)

  Highest score = Total Sample of city park × Highest score of each indicator (2)

  Lowest score = Total Sample of city parks × Lowest score of each indicator (3)

  Interval = Data area ÷ number of interval classes (4)
- All indicators of each factor from each case study are grouped based on value category by determining the class interval of all indicators for each study objector numbered lists using the formula:

  Data area = Highest score – Lowest score (5)

  Highest score = Total indicators × Highest score of each case study (6)

  Lowest score = Total indicators × Lowest score of each case study (7)

  Interval = Data area ÷ number of interval classes (8)

The range of the scale and category of assessment can be determined after knowing the size of the interval [28].

3) Data Analysis: Data analysis uses means (the average score) and includes categorization according to interval class. There are two steps taken. First, calculate the total statement/indicator item (respondents who answered multiplied by the score). Second, the average is calculated, the average score of each indicator for all case studies and the average assessment of all indicator scores for each case study. The mean score is categorized into interval classes which are categorized as good, moderate, or bad.

- Determination of the class interval of all case studies for each indicator can be seen in Table 3. The highest score is 15, which is the result of multiplying the total number of case studies (5 locations) with the highest score, 3. In contrast, the lowest score is 5, the total number of case studies with the lowest score of 1. The data area is 10. Thus, the interval is 10/3, and the result is 3.33.

TABLE III
INTERVAL CLASS FOR EACH INDICATOR RATING CATEGORY IN ALL CASE STUDIES

No	Category	Class Interval Category Assessment for each Indicator Variable of Factors Affecting the Construction Project Management of City Park for all Case Studies
1.	Good	11,67 – 15,00
2.	Enough	8,34 – 11,66
3.	Bad	5,00 – 8,33

- The determination of class intervals for all indicators and each factor for each case study can be seen in Table 4. Calculating class intervals for construction project management factors and construction product quality factors, which have 12 indicators, scores the highest score is 36, which is the result of multiplying the total number of indicators (12 indicators) with the highest score of 3. In contrast, the lowest score is 12, resulting from multiplying the total number of indicators with the lowest score, 1. The data area is 24. Thus, the interval is 24/3, and the result is 8. As for the stakeholder involvement factor, which has six indicators, the highest score is 18, resulting from multiplying the total number of indicators (6 indicators) with the highest score, which is 3. In contrast, the lowest score is 6, which is the result of multiplying the total number of indicators with the lowest score, 1. The data area is 12. Thus, the interval is 12/3, and the result is 4.

TABLE IV
INTERVAL CLASS FOR ASSESSMENT CATEGORY OF ALL INDICATORS IN EACH CASE STUDY

No	Category	Class Interval Assessment Category for Every case study.		
		All Indicators on F1	All Indicatorson F2	All Indicators of F3
1.	Good	28,1 - 36	14,1 - 18	28,1 – 36
2.	Enough	20,1 - 28	10,1 - 14	20,1 – 28
3.	Bad	12,0 - 20	6,0 - 10	12,0 – 20

4) Case Studies: The sample that will be used as a case study is determined by purposive sampling, based on the criteria that the city park has an area of 0.5 – 10 Ha; have easy accessibility; has complete facilities as a city park, and represents each administrative city area in the city of Jakarta, and government-owned and managed city parks. Based on these criteria, five city parks were determined to represent each administrative city area in Jakarta with the largest or second-largest area (Table 5).

TABLE V
CITY PARK AS CASE STUDY

No	Visualization	Name and Location of City Park	Area (m^2)	Facilities and Condition of City Park
1.		Taman Cempaka, East Jakarta (CP.1)	70.873	• There are recreational facilities, children's play areas, multifunctional fields, green areas, and educational facilities. • The condition of the park is poorly maintained (facilities, facilities, and infrastructure, as well as garden furniture, are damaged)
2.		Taman Lapangan Banteng Central Jakarta (CP.2)	58.893	• Recreation, children's play area, multifunctional field, multifunctional green area, a means of education, regional identity, facilities for the disabled • The park is relatively new (completed renovation in 2018), and the condition of the park is exceptionally well maintained.
3.		Taman Tebet South Jakarta (CP.3)	69.654	• Recreation, children's play area, multifunctional field, multifunctional green area, educational facilities • The park is scheduled to be renovated in 2021, like many facilities, and garden infrastructure and furniture are damaged
4.		Taman Kalijodo North Jakarta (CP.4)	36.878	• Recreation, children's play area, skateboard area • The park, which was just inaugurated in 2017, has facilities and infrastructure conditions, and the garden furniture has been damaged.
5.		Taman Cattleya West Jakarta (CP.5)	31.945	• Recreation, children's play area, multifunctional field, multifunctional green area, educational facilities, flower garden • The condition of the park is quite good, but in some areas, it looks dingy and needs repairs

III. RESULT AND DISCUSSION

A. Factor F.1: City Park Construction Project Management Stages

Based on the recapitulation of the assessment results from the questionnaire (Table 6), it appears that 40% of the indicators of the pre-construction stage variables have a value of 8.1 – 8.3. It is included in the wrong category, namely the study of issues (direction of design) city parks, Term of Reference (In.1.5), and design guidelines for the application of sustainable principles (In.1.7), as well as setting a park budget (In.1.6). This means that the documents and activities/steps related to these indicators are not carried out correctly. Meanwhile, 60% of the pre-construction variable indicators are included in the excellent category with a score of 8.4 – 10.3, such as a list of stakeholders (In.1.1), division of authority and responsibility (In.1.2), coordination (In.1.3); technical plans and specifications (In.1.8); scheduling (In.1.9); quality human resources (In.1.10). There are 100% indicators of construction phase variables included in the good category, namely the availability of quality control documents (In. 2.1) and project progress control documents (In.2.2).

TABLE VI
PROJECT MANAGEMENT STAGES FACTOR (F.1) ASSESSMENT RECAPITULATION

No	Variables	Indicators	City Park Name and Location (CP)					Total Rating of each indicator for all case studies
			CP.1	CP.2	CP.3	CP.4	CP.5	
1.	V.1	In.I.1	1,4 (17/12)	2,1 (25/12)	1,4 (17/12)	1,7 (20/12)	1,8 (22/12)	8,4
		In.I.2	1,7 (20/12)	2,2 (26/12)	2,2 (26/12)	1,8 (22/12)	2,4 (29/12)	10,3
		In.I.3	1,5 (18/12)	2,2 (26/12)	1,8 (22/12)	2 (24/12)	2,2 (26/12)	9,7
		In I.4	1,3 (15/12)	1,9 (23/12)	1,5 (18/12)	1,7 (20/12)	1,9 (23/12)	8,3
		In.I.5	1,6 (19/12)	1,8 (22/12)	1,3 (15/12)	1,7 (20/12)	1,7 (20/12)	8,1
		In I.6	1,4 (17/12)	1,9 (23/12)	1,5 (18/12)	1,7 (20/12)	1,7 (20/12)	8,2
		In.I.7	1,4 (17/12)	1,5 (18/12)	1,4 (17/12)	1,7 (20/12)	2 (24/12)	8
		In.I.8	1,8 (22/12)	1,3 (15/12)	1,5 (18/12)	1,7 (20/12)	2,2 (26/12)	8,5
		In.I.9	1,8 (22/12)	2,1 (25/12)	1,7 (20/12)	2,1 (25/12)	2,2 (26/12)	9,9
		In.I.10	1,7 (20/12)	2,2 (26/12)	1,7 (20/12)	1,3 (15/12)	2,3 (28/12)	9,2
2.	V.2:	In.2.1	1,7 (20/12)	1,9 (23/12)	1,7 (20/12)	1,9 (23/12)	2 (24/12)	9,2
		In.2.2	1,3 (15/12)	2,4 (29/12)	1,6 (19/12)	1,9 (23/12)	2,3 (28/12)	9,5
Total Rating of all indicators for each case study			18,6	23,5	19,3	21,2	24,7	

There are no indicators included in the excellent category at the pre-construction stage. All indicators related to the availability of documents already exist, and indicators related to activities/steps at the pre-construction stage have been carried out. However, all of that has not been done correctly and consistently. The study of city parks' issues (design direction), terms of reference, incomplete design guidelines for applying sustainable principles, the division of authority and responsibility, and coordination could not be carried out correctly. As a result, the determination of the park's budget value cannot be carried out correctly. The preparation of technical plans (designs) and technical specifications, which were not clear [29], resulted in estimating work schedules and determination of human resources, which were not carried out correctly and ultimately resulted in determining the project budget value that could not be carried out correctly.

Furthermore, it causes the next stage in the construction stage to be ineffective because the documents related to project control and quality cannot be adequately prepared. Finally, causing control measures to be less than optimal. This shows that three of the four indicators that received a bad rating, namely the study of issues (direction of design and construction) of city parks, the Term of Reference, and the availability of design guidelines for the application of sustainable principles, are indicators that must be refined so that the following steps/activities, especially cost estimation in construction project management can run well.

Based on the case study, 40% of city parks have a value of 18.6 – 19.5, included in the wrong category for assessing all indicators on the variables of the pre-construction stage and the construction stage. This value is owned by Taman Cempaka (CP.1) and Taman Tebet (CP.3). Meanwhile, other city parks (60%) are included in the moderate category with a score of 21.2 – 24.7, namely Taman Lapangan Banteng (CP.2), Taman Kalijodo (CP.4), and Taman Cattleya (CP.5). The absence of a city park that is included in the excellent category because the management stage of the city park construction project has not been seen as an essential step that must be done.

B. Factor F.2: Stakeholder Engagement

The recapitulation of the results of the questionnaire assessment (Table 7) shows that all indicators of the variables and factors of stakeholder involvement are in the wrong category, which is worth 7.9 – 8.7. The lowest value, which is 7.9, is found in the indicators of the commitment variable related to the participation of stakeholders (In.4.1) in the construction management stage. This indicator is crucial because, without a clear commitment, coordination cannot be built for a good relationship and interaction (In.3.1) at the construction project management stage. Furthermore, it causes the coordination step in the formulation of needs (In.3.2), coordination of the scope of work (In.3.3), and related steps to build collaboration related to the provision of funds (In.5.1) and human resources (In.5.2), which are other indicators that cannot be carried out optimally.

All case studies have a score of 8.9 – 11.5, included in the bad category. It means that all indicators of coordination, commitment, and collaboration variables from stakeholder involvement factors have not gone well. It happened in all case studies, namely Taman Cempaka (CP.1), Taman Lapangan Banteng (CP.2), Taman Tebet (CP.3), Taman Kalijodo (CP.4), and Taman Cattleya (CP.5). The absence of variable indicators of stakeholder involvement factors is categorized as sufficient and reasonable because there is no commitment to stakeholder participation. It causes coordination between stakeholders, especially the community, which cannot be built effectively since the early stages of construction management. As a result, efforts to increase the sense of belonging to city parks and aggressive actions related to intensive and continuous collaboration have also not been carried out optimally.

TABLE VII
STAKEHOLDER ENGAGEMENT FACTOR (F.2) ASSESSMENT RECAPITULATION

No	Variables	Indicators	City Park Name and Location (CP)					Total Rating of each indicator for all case studies
			CP.1	CP.2	CP.3	CP.4	CP.5	
1.	V.3	In.3.1	1,5 (9/6)	2 (12/6)	1,8 (11/6)	1,5 (9/6)	1,3 (8/6)	8,1
		In.3.2	1,7 (10/6)	1,8 (11/6)	1,8 (11/6)	1,2 (7/6)	2,2 (13/6)	8,7
		In.3.3	2 (12/6)	2 (12/6)	1,2 (7/6)	1,2 (7/6)	2 (12/6)	8,4
	V.4	In.4.1	1,3 (8/6)	1,8 (11/6)	1,3 (8/6)	1,8 (11/6)	1,7 (10/6)	7,9
	V.5	In.5.1	1,2 (7/6)	1,8 (11/6)	1,5 (9/6)	1,8 (11/6)	1,7 (10/6)	8
		In.5.2	1,3 (8/6)	2 (12/6)	1,3 (8/6)	1,7 (10/6)	1,7 (10/6)	8
Total Rating of all indicators for each case study			9	11,5	8,9	9,2	10,5	

C. *Factor F.3: Quality of City Park Construction Project Results*

All the recapitulation of the assessment, 50% of the visitor comfort variable indicators from the quality factor of construction project results are categorized as bad with a value of 7.8. These indicators are indicators of user safety and security (In.6.2). Another indicator, namely the suitability of work products with technical specifications (In.6.1), is categorized as sufficient with a score of 8.6. Total 44.4% of indicators of the achievement of the function of city parks (the quality of urban parks) are in the wrong category with a value of 6.8 – 8.2. These indicators are ecological functions related to environmentally friendly facilities (In.7.3); ecological functions related to the use of local materials (In.7.2); socio-cultural functions related to the provision of facilities for multifunctional activities (In.7.5); and socio-cultural functions that reflect local identity (In.7.6).

Meanwhile, 55.6% of indicators are in the excellent category with a value of 8.7 – 10.6. These indicators include ecological functions related to area proportions (In.7.1), economic functions (In.7.4), socio-cultural functions related to educational facilities (In.7.7); social functions related to user accessibility (In.7.8); and mitigation functions related to the availability of the mitigation area is supported by the facilities and infrastructure (In.7.9). Meanwhile, for the indicator of the quality sustainability variable, namely the quality of maintenance (In.8.1), it is worth 8.2 and is in the wrong category.

Based on the assessment of all indicators of the quality factor variables resulting from construction projects in each case study, it can be seen that 60% of all case studies scored 19 -19.5, including poor categories, are Taman Cempaka (CP.1), Taman Tebet (CP.3), and Taman Kalijodo (CP.4). Meanwhile, 40% of all case studies are categorized as moderate with a score of 22.8 - 23.8, namely Taman Lapangan Banteng (CP.2) and Taman Cattleya (CP.5).

TABLE VIII
QUALITY FACTORS FOR CONSTRUCTION PROJECT RESULTS (F.3) ASSESSMENT RECAPITULATION

No	Variables	Indicators	City Park Name and Location (CP)					Total Rating of each indicator for all case studies
			CP.1	CP.2	CP.3	CP.4	CP.5	
1.	V.6	In.6.1	1,6 (19/12)	2 (24/12)	1,6 (19/12)	1,7 (20/12)	1,7 (20/12)	8,6
		In.6.2	1,3 (15/12)	2,1 (25/12)	1,5 (18/12)	1,5 (18/12)	1,4 (17/12)	7,8
2.	V.7	In.7.1	2,3 (28/12)	2,2 (26/12)	2,1 (25/12)	1,7 (20/12)	2,3 (28/12)	10,6
		In.7.2	1,3 (15/12)	1,7 (20/12)	1,5 (18/12)	1,4 (17/12)	2,1 (25/12)	8
		In 7.3	1,3 (15/12)	1,4 (17/12)	1,3 (15/12)	1,3 (15/12)	1,5 (18/12)	6,8
		In.7.4	1,8 (22/12)	2,1 (25/12)	1,4 (17/12)	1,9 (23/12)	2 (24/12)	9,2
		In.7.5	1,4 (17/12)	2,1 (25/12)	1,4 (17/12)	1,5 (18/12)	1,7 (20/12)	8,1
		In.7.6	1,4 (17/12)	2,2 (26/12)	1,4 (17/12)	1,6 (19/12)	1,6 (19/12)	8,2
		In.7.7	1,7 (20/12)	1,7 (20/12)	2,1 (25/12)	1,7 (20/12)	2,1 (25/12)	9,3
		1n.7.8	1,5 (18/12)	2 (24/12)	1,7 (20/12)	1,5 (18/12)	2 (24/12)	8,7
		In.7.9	2,1 (25/12)	2,2 (26/12)	2,2 (26/12)	1,8 (22/12)	2,3 (28/12)	10,6
3.	V.8	In.8.1	1,3 (15/12)	2,1 (25/12)	1,3 (15/12)	1,4 (17/12)	2,1 (25/12)	8,2
Total Rating of all indicators for each case study			19	23,8	19,5	19	22,8	

The questionnaire data shows no variable indicator of the quality factor of the construction project results that are categorized as good. Almost all indicators are available in the field, but their presence is still far from expectations. The quality of the construction projects results is related to the achievement of the city park function and user comfort. That has not been appropriately achieved because the steps/activities that should have been carried out at the pre-construction stage were not appropriately prepared, such as the direction of the city park design being unclear, the framework of reference being too general. Moreover, design guidelines for applying sustainable principles that are not detailed yet cause the scope of work, technical plans (design), technical specifications, scheduling, human resource requirements, and cost estimates cannot be determined precisely [29]. It causes the technical plans (designs) of urban parks challenging to accommodate the community's needs, and technical specifications are also challenging to prepare. Likewise, the control documents required to control the course of the project and the achievement of quality (functions of city parks) are also not well prepared. In addition, the lack of commitment to stakeholder participation, especially the community, causes coordination regarding stakeholder participation not to be carried out effectively. It also makes it challenging to build a sense of love and to belong to city parks and affects the sustainability of the community's use of city parks. In the end, the construction management system for urban parks, which should produce quality urban parks, could not be achieved [30].

Activities and documents that are not prepared and managed properly at the pre-construction stage and the lack of optimal stakeholder involvement, especially related to coordination between stakeholders and commitments related to stakeholder participation, are weaknesses of Jakarta's city park's construction project management system. For this reason, further research is needed to improve the management of city park's construction project management factors, especially the pre-construction stage, and efforts to improve stakeholder involvement factors. This effort is expected to fulfil the residents of Jakarta with quality and functional city parks.

IV. Conclusions

The city park's construction project management system is still far from expectations because there has been no assessment that is in the excellent category. Only assessing the construction project management system at Taman Lapangan Banteng and Taman Cattleya is categorized.

The weakness of the city park's construction project management system lies in the activities and documents that were not appropriately prepared at the pre-construction stage, such as an issue study (design direction) for city parks, terms of reference, and design guidelines for the application of sustainable principles. This can be seen from the inadequate category assessment on indicators related to the implementation of activities and the availability of documents at the pre-construction stage. This causes the construction phase to be poorly monitored and the project results to be of poor quality. This is also exacerbated by the lack of optimal stakeholder involvement, particularly concerning coordination and commitment related to stakeholder participation.

Recommendations that can be given to meet the citizens of Jakarta expect that there is a need for further research to improve the factors of construction project management stages, especially the pre-construction stage and optimizing community involvement. Improvements to the pre-construction stage variables from the construction project management stage factors were carried out, especially for indicators of determining the direction of urban park design, clear Terms of Reference, and a detailed design guideline for applying sustainable principles. While the optimization of community involvement factors is carried out mainly for coordination and commitment related to stakeholder participation, community involvement must be carried out from the beginning of the project phase.

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