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# Implementation of the Public Green Open Space Provision Policy in Supporting Ecological Functions in Padang City

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**Abstract**

Public green open space (*Ruang Terbuka Hijau*; RTH) is essential for maintaining urban ecological functions, particularly rainwater infiltration and shading. Although Padang City has met the minimum RTH provision requirement mandated by Law Number 26 of 2007, compliance with the required area does not necessarily ensure optimal ecological performance. This study aimed to analyze the implementation of the RTH provision policy in supporting ecological functions in Padang City and to identify the constraints affecting its implementation. A qualitative descriptive approach was employed, with data collected through interviews, observations, and documentation and analyzed through data reduction, data display, and conclusion drawing. The analysis was guided by George C. Edward III's policy implementation framework, encompassing communication, resources, disposition, and bureaucratic structure. The findings indicate that the Environmental Agency of Padang City has implemented the policy through park maintenance, rehabilitation, and management activities. Internal communication among implementers has functioned effectively, but public dissemination of information concerning the ecological functions of RTH remains limited. Implementation has also been


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constrained by insufficient human resources, limited budget allocation, inadequate technical competencies, and a lack of supporting facilities, despite strong implementer commitment, clearly defined responsibilities, and established standard operating procedures. These constraints have weakened the rainwater infiltration function, as reflected in clogged drainage systems, the absence of infiltration wells and retention ponds in all parks, and the prevalence of paved surfaces in several locations. By contrast, the shading function has performed relatively well, although vegetation in some parks has not yet reached optimal maturity. The study concludes that RTH policy implementation should be evaluated not only according to compliance with statutory area requirements but also according to the effectiveness of urban parks in performing their ecological functions. These findings contribute to urban environmental policy implementation by emphasizing the need to strengthen institutional resources, expand public environmental education, and improve sustainable park management in Padang City.

**Keywords:** Ecological Functions; Local Government; Policy Implementation; Public Green Open Space; Urban Park Management

## INTRODUCTION

The availability of Public Green Open Space (*Ruang Terbuka Hijau*/RTH) is one of the essential elements of sustainable urban development. According to Regulation of the Minister of Public Works Number 05/PRT/M/2008, Green Open Space (RTH) is defined as an open area utilized as a growing medium for various types of vegetation, whether naturally occurring or deliberately planted, which provides ecological benefits for urban environments, including oxygen production, air pollution filtration, temperature reduction, and functioning as a rainwater infiltration area (BPK, 2008). In the context of spatial planning, Law Number 26 of 2007 concerning Spatial Planning requires every city to allocate at least 30% of its total area as Green Open Space (RTH), consisting of 20% Public Green Open Space (RTH) and 10% Private Green Open Space (RTH) (BPK, 2007). This provision reflects the recognition that green open space is not merely an aesthetic component of urban areas but also a vital ecological infrastructure for maintaining urban environmental quality.

Padang City, the capital of West Sumatra Province, possesses unique geographical characteristics, consisting of coastal areas, lowlands, hills, and river basins, making it one of the cities with the highest rainfall in Indonesia (Harahap et al., 2026). Based on data from the

Environmental Agency of Padang City (*Dinas Lingkungan Hidup/DLH Kota Padang*), the average monthly rainfall reached 453.05 mm in 2025, with an increasing trend over the past five years. In addition, the maximum air temperature in Padang City reached 36.7°C in 2024 (Prasetiyani et al., 2025). These conditions make the ecological functions of Public Green Open Space (RTH) as rainwater infiltration areas and urban microclimate regulators highly relevant and increasingly urgent to fulfill.

Quantitatively, the area of Public Green Open Space (RTH) in Padang City has reached approximately 54,029.55 hectares, representing around 77.78% of the city's total area, far exceeding the minimum requirement of 20% Public Green Open Space (RTH). However, most of this area consists of natural landscapes, including nature reserve forests (36.33%), protected forests (18.08%), and green belts (17.17%), while urban parks account for only 0.01% of the city's total area. In terms of distribution, urban parks are also unevenly distributed: Padang Timur District has 13 parks, whereas Lubuk Kilangan District has no urban parks at all. These conditions indicate that achieving the minimum quantitative requirement for Public Green Open Space (RTH) does not necessarily guarantee the optimal realization of its ecological functions, particularly in the context of public green spaces that are directly accessible and utilized by the community.

Numerous studies have previously examined the implementation of Green Open Space (RTH) policies in various cities. Research (Arifin et al., 2025) investigated the implementation of the Regional Regulation on Green Open Space (RTH) in Bandung City and found that successful implementation was strongly influenced by resource readiness and institutional coordination. Research (Arifiah & Suhartoyo, 2022) examined the implementation of Green Open Space (RTH) planning in achieving a sustainable eco-city and emphasized the importance of synergy between spatial planning policies and on-site management practices. Similarly, (Handayani et al., 2021) found that the implementation of Public Green Open Space (RTH) in Bireuen Regency continued to face challenges in aligning regulatory provisions with field conditions. Meanwhile, (Djuarsa et al., 2025) concluded through a literature review that optimizing urban Green Open Space (RTH) requires a holistic approach that considers not only quantitative aspects but also ecological quality. However, these previous studies have not specifically examined the implementation of Public Green Open Space (RTH) provision using George C. Edward III's policy implementation theory in relation to ecological function indicators, particularly rainwater infiltration and shading functions, in Padang City.

Nevertheless, these previous studies have not specifically explored how the implementation of Public Green Open Space (RTH) provision influences the achievement of ecological functions based on empirical field conditions, particularly the functions of rainwater infiltration and shading in public parks. Furthermore, earlier studies have rarely employed (George Edwards III, 1980) policy implementation theory to explain the relationship between communication, resources, disposition, and bureaucratic structure in achieving the ecological functions of Public Green Open Space (RTH). Therefore, this study seeks to fill this research gap by analyzing the implementation of Public Green Open Space (RTH) provision in the form of urban parks in Padang City using George C. Edward III's policy implementation framework, while simultaneously relating it to the ecological conditions of Public Green Open Space (RTH) based on field observations.

Based on the foregoing discussion, there is a gap between the quantitative achievement of Public Green Open Space (RTH) in Padang City, which has exceeded the regulatory threshold, and the ecological quality of Public Green Open Space (RTH), which has not yet been fully optimized in practice. Therefore, this study focuses on examining how the implementation of Public Green Open Space (RTH) provision supports its ecological functions in Padang City and identifying the constraints encountered during its implementation. Specifically, the study aims to analyze the implementation of Public Green Open Space (RTH) provision based on the four variables of George C. Edward III's policy implementation theory communication, resources, disposition, and bureaucratic structure and to identify the constraints affecting the optimization of the ecological functions of Public Green Open Space (RTH) as rainwater infiltration areas and shade providers.

## METHODS

This study employed a qualitative approach using a descriptive method to analyze the implementation of Public Green Open Space (RTH) provision in supporting ecological functions in Padang City. A qualitative approach was selected because the study aimed to obtain an in-depth understanding of the policy implementation process, field conditions, and the perspectives of both policy implementers and Public Green Open Space (RTH) users (Sugiyono, 2022). The research was conducted from January to June 2026, with the primary research site located at the Environmental Agency of Padang City (DLH Kota Padang) and three Public Green Open Space (RTH) locations selected as observation sites, namely Digital

Park in Padang Utara District, Rimbo Kaluang Park in Padang Barat District, and Imam Bonjol Park in Padang Selatan District. Research informants were selected using a purposive sampling technique and consisted of staff from the Parks and Environmental Maintenance Division of the Environmental Agency of Padang City (DLH Kota Padang) as well as community members who utilized the Public Green Open Space (RTH) at the three research locations.

The research data consisted of primary data obtained through in-depth interviews and field observations, as well as secondary data derived from the Regional Environmental Protection and Management Information Document (*Dokumen Informasi Kinerja Pengelolaan Lingkungan Hidup*/DIKPLHD), Public Green Open Space (RTH) data from the Environmental Agency of Padang City (DLH Kota Padang), and various relevant literature sources. To ensure the trustworthiness of the data, source triangulation was employed (Ratnaningtyas et al., 2023). Data analysis involved data reduction, data display, and conclusion drawing. The analysis was conducted based on George C. Edward III's policy implementation theory, which consists of four main variables: communication, resources, disposition, and bureaucratic structure. These variables were subsequently related to the ecological function indicators of Public Green Open Space (RTH) as rainwater infiltration areas and shade providers, as stipulated in Padang City Regional Regulation Number 3 of 2017 concerning Green Open Space (RTH) (JDIH, 2017).

## RESULTS

The findings indicate that the implementation of Public Green Open Space (RTH) provision in Padang City has been carried out through four implementation dimensions, namely communication, resources, disposition, and bureaucratic structure. In addition, this study identifies the ecological functions of Public Green Open Space (RTH) as the implementation outcomes, as well as the constraints affecting their implementation. A summary of the findings for each dimension is presented as follows.

### 1. Communication

The findings show that communication in the implementation of Public Green Open Space (RTH) provision in Padang City has been conducted through hierarchical internal coordination within the Environmental Agency of Padang City (DLH Kota Padang).

External communication with the community has also been carried out through the installation of park information boards and direct communication by field personnel. However, the dissemination of information regarding the ecological functions of Public Green Open Space (RTH) to the public has not yet been conducted in a structured manner.

**2. Resources**

The findings indicate that the implementation of Public Green Open Space (RTH) provision is supported by human resources, budget allocation, facilities and infrastructure, and supporting documents. The Environmental Agency of Padang City (DLH Kota Padang) employs approximately 120 field personnel, supported by operational equipment and funding from the Regional Revenue and Expenditure Budget (APBD). Nevertheless, the number of personnel, their technical competencies, the available budget, and supporting facilities have not yet fully met the requirements for effective Public Green Open Space (RTH) management.

**3. Disposition**

The findings reveal that the implementers demonstrate a strong commitment to carrying out the provision of Public Green Open Space (RTH) through park rehabilitation, vegetation maintenance, and periodic evaluation. Implementation activities have generally been performed in accordance with the respective responsibilities of each officer, although several personnel remain insufficiently responsive to field conditions.

**4. Bureaucratic Structure**

The findings indicate that the implementation of Public Green Open Space (RTH) provision has been supported by a clear division of responsibilities, Standard Operating Procedures (SOPs), and inter-agency coordination whenever required. Park management activities have also been implemented in accordance with the established operational mechanisms of the Environmental Agency of Padang City (DLH Kota Padang).

Field observations revealed that the three parks selected as research sites have performed ecological functions as rainwater infiltration areas and shade providers. However, the level of achievement of these ecological functions varies across the parks, particularly in terms of water infiltration capacity, the availability of infiltration-supporting facilities, and the condition of shading vegetation. These differences are influenced by the physical

characteristics of each park, the availability of supporting infrastructure, and the maintenance practices implemented by park managers.

At Digital Park, the ecological function as a rainwater infiltration area is supported by the presence of vegetation, open soil surfaces, and drainage channels. However, drainage systems in several sections of the park are clogged by accumulated waste, soil, and fallen leaves, preventing them from functioning optimally. Furthermore, no supporting facilities such as infiltration wells or retention ponds were found. Regarding its shading function, the vegetation condition is relatively good. The trees have comparatively tall canopies, are in healthy condition, and their branches do not interfere with visitor activities. Nevertheless, canopy density remains uneven, resulting in shading that still requires improvement.

At Rimbo Kaluang Park, the ecological function as a rainwater infiltration area still exhibits several limitations. Infiltration areas are available but relatively limited because most of the park surface is dominated by paved areas. Drainage channels are present and generally in good condition; however, the park is not equipped with infiltration wells or retention ponds. In terms of its shading function, vegetation has not yet developed optimally because most of the trees are relatively young, resulting in canopies and crown densities that are still insufficient to provide maximum shade. This condition is also reflected in visitors' perceptions, who reported that the park remains relatively hot during the daytime due to the limited number of mature trees.

In contrast to the previous two locations, Imam Bonjol Park demonstrates relatively better ecological performance. The park contains open spaces, vegetation, and a drainage system that support the rainwater infiltration process, although it is likewise not equipped with infiltration wells or retention ponds. In terms of its shading function, the vegetation at Imam Bonjol Park is the most optimal among the three research sites. The trees possess tall canopies, dense crowns, and healthy conditions, enabling them to provide effective shade and improve visitor comfort while engaging in activities within the park.

**Table 1. Research Findings**

| Public Green Open Space (RTH) Location | Rainwater Infiltration Function | Shading Function | General Condition |
|---|---|---|---|
| Digital Park (Taman Digital) | Moderate; drainage system not yet optimal | Fairly good | Drainage system and vegetation require improvement |
| Rimbo Kaluang Park (Taman Rimbo Kaluang) | Less than optimal | Less than optimal | Limited infiltration area and immature vegetation |

| Public Green Open Space (RTH) Location | Rainwater Infiltration Function | Shading Function | General Condition |
|---|---|---|---|
| Imam Bonjol Park (Taman Imam Bonjol) | Good | Very good | The most optimal ecological condition |

*Source: Research Findings*

Based on Table 1, Overall, the observational findings indicate that all three parks have fulfilled ecological functions as rainwater infiltration areas and shade providers, although their levels of achievement differ across locations. The shading function generally performs better than the rainwater infiltration function. All parks are equipped with vegetation and drainage systems; however, none of them has infiltration wells or retention ponds as supporting infiltration facilities. In addition, vegetation quality varies among the parks, with Imam Bonjol Park demonstrating the most optimal condition, Digital Park categorized as relatively good, and Rimbo Kaluang Park requiring further improvement, particularly in terms of vegetation development and infiltration areas.

Regarding implementation constraints, the study found that limitations in the Regional Revenue and Expenditure Budget (APBD) have resulted in the availability of only three tree maintenance teams for the entire Padang City, whereas ideally at least one team is required in each district. In addition, field personnel have not yet obtained professional competency certification in landscape and park management. From the community perspective, the study also identified limited public awareness regarding the cleanliness and maintenance of Public Green Open Space (RTH), as evidenced by the presence of litter scattered across all three research sites.

## DISCUSSION

### Implementation of Public Green Open Space Provision in Supporting Ecological Functions in Padang City

Based on the research findings, the discussion is conducted using George C. Edward III's policy implementation theory. The theory consists of four indicators that serve as the analytical framework of this study, namely communication, resources, disposition, and bureaucratic structure. These four indicators are used to analyze the implementation of Public Green Open Space (RTH) provision in supporting ecological functions in Padang City.

First, Communication. Based on the research findings, communication in the implementation of Public Green Open Space (RTH) provision in Padang City occurs through two primary channels: internal communication among implementers and external communication with the community. Internally, information is communicated hierarchically from the Head of the Agency, Division Heads, coordinators, to field personnel, and is supported by routine monthly evaluation meetings. Externally, communication regarding the ecological functions of Public Green Open Space (RTH) remains situational, taking place only when community members submit requests or complaints, such as requests for tree removal, which are then used as opportunities to provide environmental education. However, no structured or systematic public outreach program regarding the ecological functions of Public Green Open Space (RTH) has yet been implemented.

These findings are consistent with Edward III's concept, which states that effective communication must fulfill three elements: transmission, clarity, and consistency (Anggara, 2014); (Sitorus, 2019). In this case, the transmission and consistency of internal communication have been implemented effectively; however, the clarity of information delivered through external communication still requires improvement. Van Meter and Van Horn also emphasize that communication among implementing organizations and with target groups is a critical variable influencing successful policy implementation. When the community lacks an understanding of the ecological functions of Public Green Open Space (RTH) as rainwater infiltration areas and shade providers, their potential participation in maintaining these green spaces becomes considerably limited. This finding differs from that of (Arifin et al., 2025) in Bandung City, where stakeholder communication had already been institutionalized through regular coordination forums, a mechanism that has not yet been established in Padang City.

This situation is likely attributable to the fact that communication conducted by the Environmental Agency (DLH) has been primarily directed toward resolving operational issues in the field and remains more focused on internal coordination than on educating the public about the ecological functions of Public Green Open Space (RTH). Furthermore, the absence of information media and regular public awareness programs has resulted in the community perceiving parks primarily as recreational spaces rather than as areas with essential ecological functions. These conditions indicate that communication in implementing Public Green Open Space (RTH) provision has not yet fully succeeded in fostering public understanding of the importance of parks as rainwater infiltration areas and

shade providers. Consequently, implementation has remained more oriented toward internal administrative responsibilities than toward encouraging community participation as part of achieving policy objectives. These findings demonstrate that communication effectiveness depends not only on smooth coordination among implementers but also on the government's ability to disseminate information that enhances public understanding and participation in sustaining the ecological functions of Public Green Open Space (RTH).

Second, Resources. The resources supporting the implementation of Public Green Open Space (RTH) provision in Padang City include approximately 120 field personnel, funding from the Regional Revenue and Expenditure Budget (APBD), operational equipment such as lawn mowers and chainsaws, and supporting policy documents. Although all these resource components are available, both their quantity and quality remain insufficient. With only three tree maintenance teams responsible for 11 districts, the ratio of personnel to service area remains far below the ideal level. The budget condition, described by one informant as being similar to "pulling a sarong" ("*menarik sarung*"), illustrates that the available APBD allocation has not been sufficient to accommodate all maintenance needs, including the impact of fuel price fluctuations that affect field operations. Technical competence also represents a significant issue, as field personnel have not yet obtained professional certification in landscape and park management.

These findings are consistent with Edward III's view that the availability of adequate resources, both in quantity and quality, is a prerequisite for effective policy implementation (Anggara, 2014). Seidman, Seidman, and Abeysekere (1999), through the concept of capacity within the ROCCIPI framework, likewise argue that successful implementation depends on the capabilities of both organizations and individual implementers (Yang et al., 2024). Resource limitations directly affect the ecological conditions of Public Green Open Space (RTH). The suboptimal rainwater infiltration function, reflected in clogged drainage systems at Digital Park (Taman Digital) and the limited infiltration areas at Rimbo Kaluang Park , largely results from maintenance constraints caused by shortages of personnel and funding. These findings support those of (Arifiah & Suhartoyo, 2022; Christensen & Gazley, 2018), who identified limited resources as one of the principal barriers to Green Open Space (RTH) policy implementation.

These conditions indicate that resource limitations in Padang City are attributable not only to the limited number of personnel and budget but also to the extensive service area

that must be managed simultaneously. As a result, maintenance activities cannot always be conducted optimally across all parks, leaving ecological-supporting components such as drainage systems, infiltration areas, and vegetation unevenly maintained. This study demonstrates that the adequacy of resources in implementing Public Green Open Space (RTH) provision depends not only on the availability of personnel, budget, and facilities but also on their proportionality to the service area and maintenance requirements. Accordingly, resource limitations emerge as the most dominant factor affecting the optimal implementation of Public Green Open Space (RTH) provision in supporting ecological functions in Padang City.

Third, Disposition. The disposition, or attitudes and commitment of implementers, in the implementation of Public Green Open Space (RTH) provision in Padang City is generally positive. The Environmental Agency of Padang City (DLH Kota Padang) demonstrates a strong commitment to maintaining Public Green Open Space (RTH) through park rehabilitation, vegetation maintenance, and periodic evaluations. The local government also recognizes that the provision of Public Green Open Space (RTH) must balance ecological and social functions simultaneously. Statements from DLH personnel indicating that the government's current commitment is relatively high and focused on improving existing parks reflect a realistic policy orientation under conditions of limited land availability and budget. Nevertheless, this commitment has not yet been accompanied by adequate technical capacity among all personnel. Some field staff continue to exhibit limited responsiveness to field conditions, preferring to wait for instructions from coordinators rather than taking independent initiatives. These findings support Edward III's argument that disposition is as important as communication and resources in determining policy implementation success (Anggara, 2014). Implementers with a high level of commitment but limited technical capacity will continue to face challenges in optimizing policy implementation (Howlett & Ramesh, 2015; Delima et al., 2024). Seidman, Seidman, and Abeysekere (1999), through the concept of ideology in the ROCCIPI framework, also explain that the values and attitudes of implementers influence how they execute public policies.

These conditions indicate that implementers' commitment has not yet been fully supported by adequate technical capabilities. This is largely because many field personnel have not received specialized certification or training in landscape and park management, causing their work to rely primarily on practical experience and instructions from field

coordinators. Consequently, responses to problems arising in the field cannot always be carried out independently and promptly. Therefore, positive disposition alone cannot produce optimal implementation unless it is supported by other enabling factors. This implies that strengthening commitment alone is insufficient without simultaneously improving technical capacity and resource support. As a consequence, park maintenance activities have not yet been implemented optimally, and the policy objective of strengthening ecological functions has not been fully achieved. Regarding shading vegetation, the implementers' commitment is reflected in the well-maintained tree conditions at Imam Bonjol Park, and Digital Park, both of which already satisfy the indicators of shade provision, although Rimbo Kaluang Park still requires considerable improvement because most of its vegetation is relatively young. These findings indicate that implementers' disposition is determined not only by their willingness to implement policy but also by their technical capacity to perform field responsibilities effectively. Consequently, implementer commitment must be accompanied by sufficient technical capability to ensure the optimal implementation of Public Green Open Space (RTH) provision.

Fourth, Bureaucratic Structure. The bureaucratic structure supporting the implementation of Public Green Open Space (RTH) provision in Padang City is generally well organized. The Environmental Agency of Padang City (DLH Kota Padang) has established a clear hierarchical division of responsibilities, operational Standard Operating Procedures (SOPs) for field personnel, and routine evaluation mechanisms. Regulations such as Law Number 26 of 2007 and Padang City Regional Regulation Number 3 of 2017 concerning Green Open Space (RTH) have been translated into technical SOPs that can be directly implemented by field personnel, covering activities ranging from watering schedules and fertilization to tree pruning procedures. Coordination with other government agencies is also conducted as required, including collaboration with the Public Works Agency (*Dinas PU*) regarding land status, the Transportation Agency (*Dinas Perhubungan/DISHUB*) concerning street lighting, and the Civil Service Police Unit (*Satuan Polisi Pamong Praja/Satpol PP*) in addressing social disturbances within Public Green Open Space (RTH).

These findings are consistent with Edward III's view that clearly defined Standard Operating Procedures (SOPs) and a well-established distribution of authority among implementing agencies constitute two essential components of an effective bureaucratic structure (Anggara, 2014). Seidman, Seidman, and Abeysekere (1999), through the concept of process within the ROCCIPI framework, argue that systematic organizational processes

enhance implementation effectiveness and facilitate institutional improvements when problems arise. Nevertheless, the study also identified limited responsiveness among several supervisory personnel, indicating that the existence of an effective bureaucratic structure has not yet been fully accompanied by the internalization of responsibility at every implementation level. This finding is consistent with (Handayani et al., 2021; Mahipal et al., 2024), who concluded that the existence of a bureaucratic structure alone does not guarantee optimal policy implementation without sufficient implementer capacity.

These conditions demonstrate that a clearly structured bureaucracy, supported by well-defined responsibilities, Standard Operating Procedures (SOPs), and coordination mechanisms, has provided a systematic framework for implementing Public Green Open Space (RTH) provision in Padang City. However, implementation effectiveness remains suboptimal because the execution of procedures in the field continues to depend on the responsiveness of individual implementers, resulting in supervision and maintenance activities that are not always carried out consistently in accordance with established procedures. This suggests that a well-designed bureaucratic structure alone is insufficient to ensure successful policy implementation unless organizational procedures are consistently implemented at every administrative level. These findings reinforce that bureaucratic structure functions not merely as an administrative framework but also as a determining factor in ensuring consistent policy implementation to support the ecological functions of Public Green Open Space (RTH).

**Ecological Functions of Public Green Open Space in Padang City**

Based on field observations conducted at the three research sites, namely Imam Bonjol Park, Digital Park, and Rimbo Kaluang Park, the ecological functions of Public Green Open Space (RTH) in Padang City have generally begun to develop, although the level of achievement varies across locations. These differences are influenced by the physical condition of each park, the availability of supporting facilities, vegetation characteristics, and the maintenance activities carried out by park managers. Consequently, the ecological functions of Public Green Open Space (RTH) as rainwater infiltration areas and shade providers have not yet been fully optimized at all research sites.

In terms of its function as a rainwater infiltration area, the observations indicate that all three parks contain open spaces that allow rainwater to infiltrate into the soil. Drainage systems are also available at each location; however, their performance has not been fully

optimal because several drainage channels remain inadequately maintained. Furthermore, supporting facilities such as infiltration wells and retention ponds are not available in any of the observed parks. These conditions indicate that the capacity of Public Green Open Space (RTH) to support rainwater infiltration has been established but still requires improvement through the provision of infiltration-supporting infrastructure and continuous park maintenance to ensure that its ecological function can operate more effectively.

Regarding its function as a shade provider, the observations demonstrate that most of the vegetation in the three parks is capable of providing shade for visitors. In general, the trees have canopy heights exceeding two meters, branches that do not interfere with visitor activities, and vegetation that is in relatively good condition. Nevertheless, canopy density and vegetation distribution remain uneven in several sections of the parks, resulting in varying levels of shade among the research locations. These findings indicate that the shading function of Public Green Open Space (RTH) has been implemented relatively well but still requires continuous maintenance and additional vegetation planting in open areas so that its ecological benefits can be realized more optimally.

These findings demonstrate that the physical condition of Public Green Open Space (RTH) in Padang City has supported its ecological functions; however, further optimization is still required through improved vegetation maintenance and the provision of supporting rainwater infiltration infrastructure. Overall, the results indicate that the implementation of Public Green Open Space (RTH) provision in Padang City has contributed to the realization of the ecological functions of urban parks, both as rainwater infiltration areas and shade providers. Nevertheless, the achievement of these ecological functions has not yet been fully optimized because it continues to be influenced by the physical condition of the parks, the availability of supporting facilities, vegetation quality, and the sustainability of maintenance activities. These findings suggest that the success of Public Green Open Space (RTH) provision should not be measured solely by the availability of parks as public spaces but also by the extent to which these parks are capable of fulfilling their intended ecological functions (Onasis et al., 2025; Priyanto, 2018).

**Constraints Encountered in the Implementation of Public Green Open Space Provision in Padang City**

Based on the research findings, three major constraints affect the implementation of Public Green Open Space (RTH) provision in Padang City. First, limitations in budget

allocation and supporting infrastructure. The available funding from the Regional Revenue and Expenditure Budget (APBD) has not been sufficient to accommodate all Public Green Open Space (RTH) management requirements, directly affecting the limited number of maintenance teams and the quality of facility maintenance. This situation is clearly reflected in the clogged drainage system at Digital Park (Taman Digital), which could not be addressed immediately, indicating the existence of a maintenance backlog that cannot be resolved in the short term.

Second, limitations in human resources. The number of available personnel is not proportional to the extensive Public Green Open Space (RTH) area that must be managed, while the lack of certified technical competencies among field personnel has become an obstacle to optimizing vegetation management and ecological infrastructure maintenance (Setyawati et al., 2025). Third, low public awareness. The presence of litter scattered across all three research sites indicates that the success of Public Green Open Space (RTH) depends not only on the government as the provider but also on the behavior of the community as its users. This finding is consistent with (Djuarsa et al., 2025; Mahipal et al., 2024), who emphasized that optimizing urban Public Green Open Space (RTH) requires the active involvement of all stakeholders, including the community, rather than relying solely on the government as the policy implementer.

## CONCLUSION

This study demonstrates that the implementation of Public Green Open Space (RTH) provision in supporting ecological functions in Padang City has been carried out; however, it has not yet achieved optimal effectiveness. Policy implementation has been supported by the four dimensions of George C. Edward III's policy implementation theory, namely communication, resources, disposition, and bureaucratic structure. Nevertheless, its effectiveness continues to be constrained by several limitations, particularly in the resources dimension, which emerged as the most dominant factor influencing implementation success. The principal findings indicate that limitations in human resources, the technical competencies of field personnel, budget support, and the lack of structured external communication have prevented the implementation of Public Green Open Space (RTH) provision from fully supporting ecological functions. Consequently, the shading function has been implemented relatively more successfully than the rainwater infiltration function. In

contrast, the rainwater infiltration function remains suboptimal because supporting infiltration facilities have not yet been adequately provided and several supporting infrastructures have not been maintained optimally.

This study contributes to the field of environmental policy implementation by demonstrating that the quality of Public Green Open Space (RTH) policy implementation is closely associated with the achievement of ecological functions in practice. The novelty of this research lies in integrating George C. Edward III's policy implementation model with an empirical evaluation of the ecological functions of Public Green Open Space (RTH) as the implementation outcome, thereby providing a more comprehensive explanation of the relationship between policy implementation quality and the achievement of ecological functions in urban areas. Nevertheless, this study has several limitations, as it focuses exclusively on Public Green Open Space (RTH) in the form of urban parks and is limited to observations conducted at three parks in Padang City. Therefore, the findings cannot yet represent the conditions of all types of Public Green Open Space (RTH) or all areas within Padang City.

Future research is recommended to broaden the scope of investigation by including various types of Public Green Open Space (RTH), such as urban forests, green corridors, river buffer zones, and cemetery areas, as well as expanding the geographical coverage of observation sites to provide a more comprehensive understanding of policy implementation. In addition, future studies are encouraged to employ a mixed methods approach or incorporate quantitative analyses of ecological indicators, including rainwater infiltration capacity, land surface temperature, vegetation cover, and environmental quality, thereby enabling a more objective and in-depth assessment of the relationship between policy implementation and the achievement of ecological functions.

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