



[Home \(https://scope-journal.com/home\)](https://scope-journal.com/home)

[About the journal \(https://scope-journal.com/about_the_journal\)](https://scope-journal.com/about_the_journal)

[Editors \(https://scope-journal.com/editors\)](https://scope-journal.com/editors)

[Authors Guidelines \(https://scope-journal.com/authors_guidelines\)](https://scope-journal.com/authors_guidelines)

[Journal Indexed \(https://scope-journal.com/journal_indexed\)](https://scope-journal.com/journal_indexed)

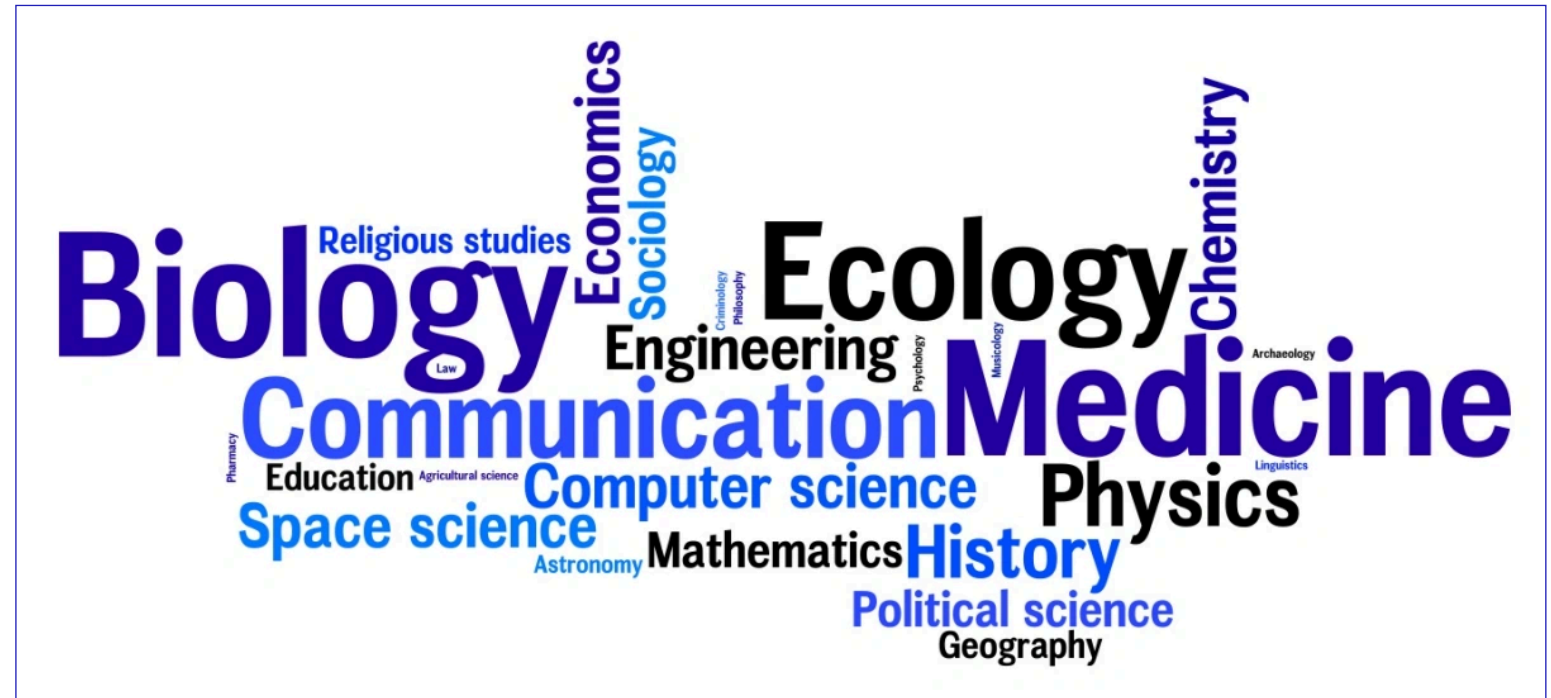
[Archive \(https://scope-journal.com/archive\)](https://scope-journal.com/archive)

[Paper Publication Charges \(https://scope-journal.com/paper_publication_charges\)](https://scope-journal.com/paper_publication_charges)

[Current Issue \(https://scope-journal.com/current-issue\)](https://scope-journal.com/current-issue)

[Call For Paper \(https://scope-journal.com/call-for-paper\)](https://scope-journal.com/call-for-paper)

Indexed



The journal aspires to achieve to the world of researchers exploring their talents and leasing them to expose their acumen to exhibit their research pursuits. It would stress creativity and innovation as the specialty, to forge ahead with new ideas in the emerging new world. Today we traversed across countries and cultures, making the world borderless, and collapsing the barriers between countries. With the click of a mouse we have the potential to access the platforms, from one pole to the other; this gospel idea encourages us to publish a journal. The online version shall allow the researchers to easily relate to each other ideas around the world. Welcome to all viewers to be a part of our journey and enrich the journal forever.

Scope Journal is **peer reviewed and referred** to an online journal published in English free to access, and with **minimum publication fees**. The journals have worldwide recognition and fast publication. We provide an intellectual platform for researchers and scholars to set free their unexploited potential. The journal shall assist supervision from prominent and widely read intellects across the globe. We believe in the veracity of people with an apparent organizational process. The journals provide for academic, scholars to publish current and significant research as well as publication activities. This is a non-profit, non-stock refereed scientific journal in the world. Scope is **quarterly publication** with non-commercial purpose and has been indexed in the well-known world databases such as **Scopus**. We appreciate systematic reviews, original papers, and peer-reviewed research on all aspects of **social science and science**.



Home (<https://scope-journal.com/home>)

About the journal
(https://scope-journal.com/about_the_journal)

Editors (<https://scope-journal.com/editors>)

Authors Guidelines
(https://scope-journal.com/authors_guidelines)

Journal Indexed
(https://scope-journal.com/journal_indexed)

Archive (<https://scope-journal.com/archive>)

About the journal

Scope Journal is **peer reviewed and refereed** to online journal published in English **FREE to access and minimum publication fees**. The journals have worldwide recognition and fast publication. We provide an intellectual platform for researcher and scholars to set free their unexploited potential. The journal shall assist supervision from prominent and widely read intellects across the globe. We believe in the veracity of people with an apparent organizational process. The journals provide for academic, scholars to publish current and significant research as well as publication activities. This is non-profit, non-stock refereed scientific journal in the world. Scope is **quarterly publication** with non-commercial purpose and has been indexed in the well-known world databases. We appreciate systematic reviews, original papers, and peer-reviewed research on all aspects of **social science and science**.

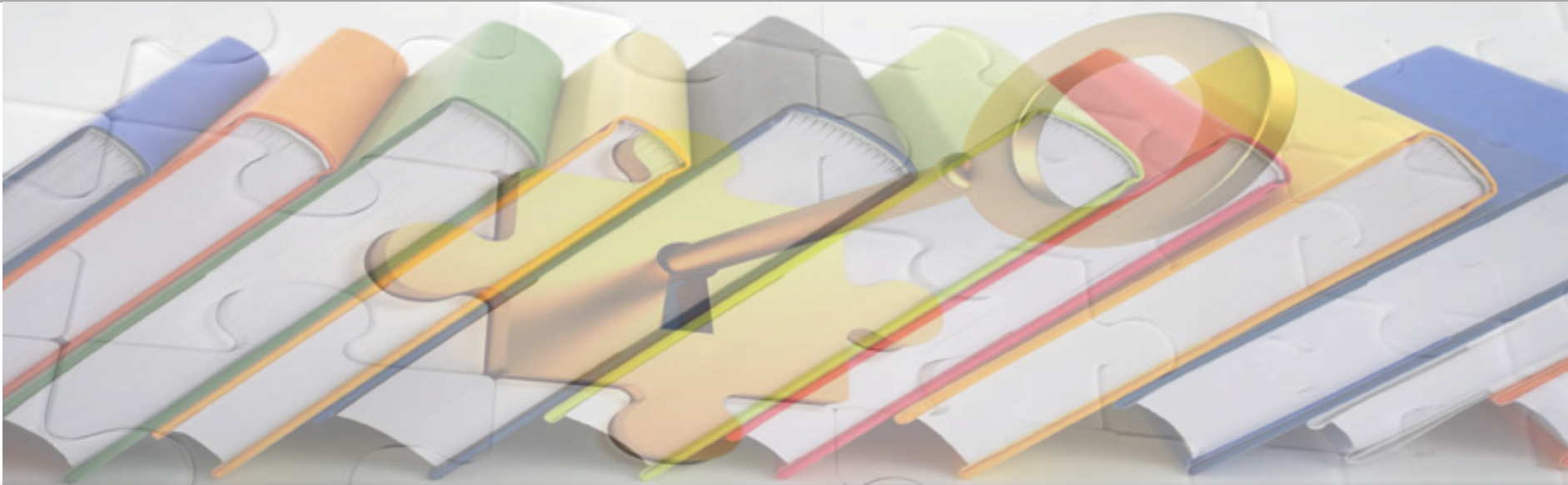
- **Journal Name:** Scope
- **Website:** www.scope-journal.com (<http://www.scope-journal.com/>)
- **Country:** New Zealand
- **Month of Publication:** March, June, September, December
- **Field:** Social Sciences and Sciences
- **Contact Emails:** editor@scope-journal.com (<mailto:editor@scope-journal.com>)
- **Mode of Publication:** Online
- **Publication Fees:** 80/100/120 USD

Indexed Partner:

Zenodo, Dimensions, Google Scholar, Scimago, Scopus, Semantic Scholar, Science Open, Cosmos, Cop



HOME INDEXED JOURNAL SUGGEST JOURNAL **REQUEST IF** DOWNLOAD LOGO REVIEWER PANEL



Categories

Indexed Journal

Suggest Journal

Journal IF

Request For IF

Journal Detail

Journal Name	Scope
ISSN (P)	1177-5653
ISSN (O)	1177-5661
Country	New Zealand

Download Logo

Contact us

Frequency	Quarterly
Journal Discipline	Social Sciences
Area of specialization	Science and Social Science
Organization	OP
Journal Language	English
Year of First Publication	2009
Web Site	www.scope-journal.com
Editor	Dr.Liam Morrison
Indexed	Yes
Email	editor@scope-journal.com
Phone No.	NA
Cosmos Impact Factor	2024 : 8.268 2025 : 8.950
Journal Description	Scope ISSN: 11775653 (P), 11775661 (O) Journal is peer reviewed and refereed to online journal published in English FREE to access and minimum publication fees. The journals have worldwide recognition and fast publication. We provide an intellectual platform for researcher and scholars to set free their unexploited potential. The journal shall assist supervision from prominent and widely read intellects across the globe. We believe in the veracity of people with an apparent organizational process. The journals provide for academic, scholars to publish current and significant research as well as publication activities. This is non-profit, non-stock refereed scientific

journal in the world. Journal of Educational and Social Research quarterly publication with non-commercial purpose and has been indexed in the well-known world databases such as Scopus. We appreciate systematic reviews, original papers, and peer-reviewed research on all aspects of social science.

0 8 5 2 9 0 4

Counter Error: Do not change the code. [Click here to show the correct code!](#)



Home (<https://scope-journal.com/home>)

Journal Indexed

About the journal
(https://scope-journal.com/about_the_journal)

Editors (<https://scope-journal.com/editors>)

Authors Guidelines
(https://scope-journal.com/authors_guidelines)

Journal Indexed
(https://scope-journal.com/journal_indexed)

Archive (<https://scope-journal.com/archive>)

Scope journal is indexed in world wide database, here are some important wellknown index portal:

- **Zenodo**
- **Dimensions**
- **Google Scholar**
- **Science Open**
- **Scopus**
- **Semantic Scholar**
- **Cope**
- **Cosmos**
- **Scimago**



Home (<https://scope-journal.com/home>)

Editors

About the journal
(https://scope-journal.com/about_the_journal)

Executive Editor

Dr. Van Heerde

Editors (<https://scope-journal.com/editors>)

Professor

University of South Africa

Authors Guidelines
(https://scope-journal.com/authors_guidelines)

Dr. Noor Mohammad Alam

Professor

Journal Indexed
(https://scope-journal.com/journal_indexed)

Aligarh Muslim University

Archive (<https://scope-journal.com/archive>)

journal.com/archive)

Paper Publication Charges
(https://scope-journal.com/paper_publication_charges)

Current Issue (<https://scope-journal.com/current-issue>)

Call For Paper (<https://scope-journal.com/call-for-paper>)

Indexed

Semantic Scholar

News

Editors

Dr. Mainul Islam Associate Professor University of Dhaka	Dr. S.J. Moja Professor University of South Africa	Dr. Joaquin Vespignani Assistant Professor The University of western Australia
Dr.Kaivan Munshi Professor Brown University	Dr. Lorne k. Kriwoken Associate Professor The University of western australia	Dr.Tony Crawford Professor The University of western Australia
Dr. Michael Brown Associate Professor The University of Aberdeen	Dr. Ben Davies Assistant Professor The University of Aberdeen	Dr. Marcelo Neves Professor The University of Brasília
Dr. Richard Eccleston Associate Professor The University of western Australia	Dr.Jean-Bernard Caron Associate Professor University of Torento	Dr. Mahbuba Nasreen Professor University of Dhaka
Dr.Martin Krkosek Assistant Professor University of Torento	Dr.Liu Hongyan Professor Peking University	Dr. Andreas Dittmann Professor University of Giessen
Dr.James Okot-Okumu Assistant Professor Makerere University	Dr. Fredrick Tumwiine Associate Professor Makerere University	Dr.M.Asad Ghufuran Assistant Professor International Islamic University

IS 0.000 (2023)

Publish your paper in Scopus indexed journal.

Papers are invite for publication in Volume 16 Number 02 (June 2026)

Submit paper through call for paper soon and get review within 15 Days and publish



(<https://www.scopus.com/sourceid/5800161874>)



(<https://cosmosimpactfactor.com/>)



(<https://publicationethics.org/>)

Dr. Islam-Uddin Assistant Professor International Islamic University	Dr.Miyoshi Emako Associate Professor University of Tokyo	Dr. Rejwan Hossain Bhuiyan Professor University of Dhaka
Dr.Paul Augustinus Associate Professor Auckland University	Dr. Fredrick Tumwiine Associate Professor Makerere University	Dr. Lorne K. Kriwoken Associate Professor University of Western Australia
Dr. Joaquin Vespignani Assistant professor University of western australia	Dr.N.B.Jumani Professor International Islamic University	Dr. Jillian Anable Associate Professor The University of Aberdeen
Mr. David W Hedding Associate Professor University of South Africa	Dr.Joseph R. Desloges Professor University of Toronto	Dr. Basalirwa Charles P.K. Associate Professor Makerere University
Dr.Revocatus Twinomuhangi Assistant Professor Makerere University	Dr.Vergara Araya Assistant professor University of chile	Dr. Jessica Pape Research Fellow National University of Ireland



[Home \(https://scope-journal.com/home\)](https://scope-journal.com/home)

[About the journal \(https://scope-journal.com/about_the_journal\)](https://scope-journal.com/about_the_journal)

[Editors \(https://scope-journal.com/editors\)](https://scope-journal.com/editors)

[Authors Guidelines \(https://scope-journal.com/authors_guidelines\)](https://scope-journal.com/authors_guidelines)

[Journal Indexed \(https://scope-journal.com/journal_indexed\)](https://scope-journal.com/journal_indexed)

[Archive \(https://scope-journal.com/archive\)](https://scope-journal.com/archive)

[Paper Publication Charges \(https://scope-journal.com/paper_publication_charges\)](https://scope-journal.com/paper_publication_charges)

[Current Issue \(https://scope-journal.com/current-issue\)](https://scope-journal.com/current-issue)

[Call For Paper \(https://scope-journal.com/call-for-paper\)](https://scope-journal.com/call-for-paper)

Publication

Comparative Analysis of Effect of Assessment for Learning and Assessment of Learning on Learning Outcome in Mathematics
(https://scope-journal.com/published_paper/1821/Comparative+Analysis+of+Effect+of+Assessment+for+Learning+and+Assessment+of+Learning+o)
1Kehinde-Dada,Oluwabunmi Veronica; 2Omoya, Olawale; 3Famoroti, Adeola Ayodeji; 4 Dickson-Omogoye Blessing Temitope

Abstract

This study compares the impact of Assessment of Learning (AoL) and Assessment for Learning (AfL) on students' mathematics achievement. The quasi-experimental study, which was carried out in the Ekiti Central Local Government Area of Ekiti State, Nigeria, featured 140 seniors in secondary education out of the total population of 500 senior secondary school students, including 200 male and 300 female students from ten public secondary schools in the area. A multi-stage sampling procedure was employed; simple random sampling was also used to select four intact classes from these schools (two from each). One intact class was randomly assigned to the experimental group and the other to the control group. Well-structured items named Mathematics Achievement Test (MAT)was developed and used for data collection. The instrument's face validity was confirmed.The respondents were split into two groups: the experimental group received training in AfL practices, while the control group received training in AoL techniques. Math proficiency was assessed by pre-test and post-tests. Significant post-intervention gains were seen in the experimental group's scores, according to analysis with t-tests and ANCOVA; no significant gender differences were noted. The findings support previous research emphasizingAfL's beneficial effects at all educational levels and highlight how well it can improve mathematical understanding. These results emphasize the significance of using AfL techniques in instructionto enhance mathematics learning outcomes.

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/980ae-4-13.280694.pdf)			

Indexed

Administration of School-Based Management Committee and Quality Assurance in Public Secondary Schools in Ekiti State, Nigeria (https://scope-journal.com/published_paper/1822/Administration+of+School-Based+Management+Committee+and+Quality+Assurance+in+Public+Secondary+Schools+in+Ekiti+State%2C+Nigeria)
1 Bolarinwa Dapo Alonge; 2 Olaseinde Felicia Olufemi; 3 Oloruntoba Ige Bamikole; 4 Ayodele Omowumi Victoria

Baidu Scholar
Dimensions
Google Scholar
Publons

News

Cosmos Impact Factor of Scope is 8.950 (2025)

Publish your paper in Scopus indexed journal.

Papers are invite for publication in Volume 16
Number 02 (June 2026)

Submit paper through call for paper and get



(<https://www.scopus.com/sourceid/5800161874>)



(<https://cosmosimpactfactor.com/>)

Abstract

This study investigated the administration of School-Based Management Committee and quality assurance in public secondary schools in Ekiti State, Nigeria. The purpose of the study is to examine the relationship between the administration of school-based management committee and quality assurance in public secondary schools in Ekiti State, Nigeria. Correlational research design was used for the study. The population consisted of 8,167 teachers and 90,370 students in 208 public secondary schools. Twenty-five schools were selected through simple random sampling technique. Ten teachers and 10 students were selected from each school through simple random sampling technique making 500 respondents. Administration of School-Based Management Committee Questionnaire (ASBMCQ) and Quality Assurance Questionnaire (QAQ) were designed for the study. Pearson product moment correlation statistics was used to test the research hypothesis at 0.05 level of significant. The study revealed that there is no significant relationship between the administration of school-based management committee and quality assurance in public secondary schools in Ekiti State, Nigeria.

Volume

Number

Page Number

Paper Number

PDF (<https://scope-journal.com/assets/uploads/doc/7826b-14-29.280700.pdf>)

Facilities Management Practices and Teaching-Learning Effectiveness in Colleges of Education Niger State, Nigeria
(https://scope-journal.com/published_paper/1823/Facilities+Management+Practices+and+Teaching-Learning+Effectiveness+in+Colleges+of+Education+Niger+State%2C+Nigeria)

1Adekunle, Samuel Adekunle, 2Dr Abdulkareem, Rasaq Lanre

Abstract

This study examined the relationship between facilities management practices and teaching-learning effectiveness in Colleges of Education in Niger State, Nigeria. A descriptive correlational research design was adopted. The population comprised 950 lecturers, from which 247 were selected using multistage sampling techniques. Data were collected using two validated instruments: the Facilities Management Practices Questionnaire (FMPQ) and the Teaching-Learning Effectiveness Questionnaire (TLEQ), with Cronbach's Alpha reliability coefficients of 0.78 and 0.85 respectively. Descriptive statistics of mean and standard deviation were used to answer the research questions, while Spearman's rank-order correlation was employed to test the hypothesis at 0.05 level of significance due to non-normal data distribution. The findings revealed that facilities management practices were at a high level and had a significant positive relationship with teaching-learning effectiveness. The study recommends sustaining quality through innovative maintenance systems and regular needs assessment.

Volume

Number

Page Number

Paper Number

PDF (<https://scope-journal.com/assets/uploads/doc/5101f-30-40.280701.pdf>)

Youths in Modern Music Industry and the Disruptive Impact on Yoruba Cultural Sustainability (https://scope-journal.com/published_paper/1824/Youths+in+Modern+Music+Industry+and+the+Disruptive+Impact+on+Yoruba+Cultural+Sustain)

1Olatomide Emmanuel Babalola; 2Olubunmi Christianah Ajayi



(<https://publicationethics.org/>)



(<https://scholar.google.com/citations?user=hjSBLyWAAAAJ&hl=en&authuser=1>)

Abstract

Yoruba people of southwest Nigeria have a rich culture that served as a means of identifying themselves amidst the comity of ethnic groups in Nigeria. From the time immemorial, this cultural value had been preserved and sustained from generation to generation despite the infiltration of the European imperialists who came to introduced new ways of life into Yoruba communities. One of the viable and veritable tools that Yoruba people employed for transmission of this rich cultural heritage is music. But today, with the in-coming of the Youths into music industry, the traditional music has been termed “old school” and obsolete, hence music has sadly enough, played disruptive role rather than constructive role in sustaining the Yoruba cultural values. It is against this background that this paper examines the traditional music vis-à-vis the modern trend of music among the Yoruba youths and its consequences on the Yoruba cultural values. The paper concludes that the in-coming of the youths in music industry should be exploited to detach Yoruba culture from the apron of the former colonial overlord. This could be achieved by appreciating our own cultural values, rather than injecting and transmitting immoralities and other vices which negate our cultural values through the so called modern music.

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/0df37-41-50.280702.pdf)			

Reward Systems and Employee Performance in Selected Private Tertiary Institutions in Ekiti State, Nigeria (https://scope-journal.com/published_paper/1825/Reward+Systems+and+Employee+Performance+in+Selected+Private+Tertiary+Institutions+in+E)

1 Faleye Olubunmi Christianah (PhD); 2 Oluwasegun Precious Folashade; 3 Olayemi, Adedayo Ezekiel (PhD); 4 Kolawole Olalekan Adebola (PhD)

Abstract

The research work examined the effect of reward systems on employee performance in selected private tertiary institutions in Ekiti State, focusing on Afe Babalola University, Crown Polytechnic, and Fabotas College of Health Sciences and Technology. The research work was driven by inadequate reward structures, worker displeasure, and their institutional performance. Specifically, the research investigated the effect of monetary rewards, non-monetary rewards, and employees’ perceptions of reward fairness on performance outcomes. A descriptive survey research design was adopted. The population comprised 264 academic staff members; while a sample size of 159 respondents was determined using Yamane’s formula and selected through proportional sampling techniques. Data were gathered through structured questionnaire. Descriptive statistics were used such as frequencies and percentages were used for data analysis, while Chi-square statistics tested the hypotheses at 0.05 significance level. Findings shown that both monetary and non-monetary rewards significantly influence employee performance, motivation, and job satisfaction. Salary increments, bonuses, recognition, promotion opportunities, job security, and professional development were found to positively affect employee commitment and productivity. The Chi-square results showed significant relationships between monetary rewards and employee performance ($\chi^2 = 129.71$, $p < 0.05$), non-monetary rewards and employee motivation ($\chi^2 = 151.03$, $p < 0.05$), as well as reward fairness perceptions and employee performance ($\chi^2 = 100.84$, $p < 0.05$). However, budget limit, poor communication, and weak performance evaluation systems were identified as challenges affecting effective reward implementation. This was concluded that a well-adjusted, nondiscriminatory, and translucent reward system is to improving employee performance and organizational effectiveness in private tertiary institutions. The study recommends solidification reward policies, cultivating communication, and supporting performance evaluation structures with recognized reward structures.

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/02a71-51-80.280703.pdf)			

Counselling Needs of Undergraduate Students of Nigerian Tertiary Institutions (https://scope-journal.com/published_paper/1826/Counselling+Needs+of+Undergraduate+Students+of+Nigerian+Tertiary+Institutions)

1 Adeyemi Olaitan; 2 Jude Thaddeus Awe; 3 Moses Ogunmuditi

Abstract

This quantitative cross-sectional descriptive study examined the counseling needs of undergraduate students in Nigerian tertiary institutions across four domains: academic, vocational, personal and emotional, and social and adjustment. The target population comprised all full-time undergraduate students enrolled in accredited public and private tertiary institutions across Nigeria's six geopolitical zones during the 2025 to 2026 academic session. Using Krejcie and Morgan's (1970) table, a sample of 652 undergraduates was drawn through multi-stage sampling. The instrument was a structured questionnaire titled the Undergraduate Counseling Needs Questionnaire (UCN–Q), which included the standardized Depression, Anxiety, and Stress Scale (DASS-21). Data were analyzed using descriptive statistics and independent-samples t-tests. The findings revealed that the most prevalent academic counseling needs were examination anxiety management (Mean = 3.42), time management skills (Mean = 3.31), and fear of academic failure (Mean = 3.28). The highest vocational counseling needs were job search strategies (Mean = 3.51), employability skills (Mean = 3.44), and career decision-making (Mean = 3.38). Regarding personal and emotional needs, 78.2% of students reported clinical anxiety, 71.5% reported clinical stress, and 66.6% reported clinical depression. Social and adjustment needs were most acute among newly admitted students, particularly homesickness (Mean = 3.42) and loneliness (Mean = 3.38). The hypotheses tested revealed that newly admitted students reported significantly higher academic counseling needs than advanced-year students ($p = 0.0001$). In comparison, female students reported significantly higher personal and emotional counseling needs ($p = 0.00001$) and social and adjustment counseling needs ($p = 0.005$) than male students. Based on the findings, the study concluded that Nigerian undergraduates experience substantial counseling needs across all domains and recommended mandatory academic counseling for first-year students, career guidance across all year levels, gender-sensitive mental health interventions, and government funding for counseling services.

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/f3724-81-107.280706.pdf)			

Levels of Innovative Decolonization Process of Secondary School Mathematics Curriculum in Nigeria and South Africa (https://scope-journal.com/published_paper/1827/Levels+of+Innovative+Decolonization+Process+of+Secondary+School+Mathematics+Curriculum+in+Nigeria+and+South+Africa)

Jekayinfa, Olatunji James ;Durojaiye, David Sunday; Ojo, Solomon Gboyega; Abdulganiy Sulyman;Gamage, Tubona;Jekayinfa, Oyeyemi Jumoke;Owonuwa Seun;Omole, Omolara Olufunmilayo;Adeeko, Adesegun Peters; Yomi, Sunday;Egbuniwe, Obiageli Nancy

Abstract

This study examines the extent of innovative decolonization process in secondary school mathematics curricula in Nigeria and South Africa. Using a comparative cross-national mixed-methods design, data were collected from 111 respondents, including mathematics teachers and curriculum policymakers, through stratified random and purposive sampling. A structured questionnaire on curriculum content, goals, materials, development processes, and teaching strategies was administered, with reliability established at 0.89. Descriptive and inferential analyses, including independent samples t-tests, were conducted at the 0.05 significance level. Findings reveal that both Nigeria ($M = 2.62$) and South Africa ($M = 2.52$) exhibit only moderate levels of curriculum decolonization, with limited integration of indigenous knowledge systems and culturally relevant pedagogy. While South Africa demonstrates more systemic policy efforts toward decolonization, implementation remains inconsistent due to resource and training gaps. Nigeria's curriculum continues to

reflect Eurocentric orientations, with minimal evidence of indigenous mathematical practices. Overall, results highlight that both countries face challenges in embedding decolonial perspectives, particularly in teaching strategies and curriculum review processes. The study underscores the need for inclusive, culturally grounded curriculum reforms, enhanced teacher preparation, and participatory development processes to foster epistemic justice and learner engagement in mathematics education. Recommendations include strengthening policy frameworks, integrating ethnomathematics, and prioritizing teacher training to advance decolonial goals in African mathematics curricula.

16	2	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/492de-108-125.280707.pdf)			

Religion: The Fundamental Motivations, Predispositions and Relevance to Man in the Modern World (https://scope-journal.com/published_paper/1828/Religion%3A+The+Fundamental+Motivations%2C+Predispositions+and+Relevance+to+Man+in+the+Modern+World)

Charles Kenechukwu Okoro

Abstract

NA

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/a7091-126-153.280714.pdf)			

A Cognitive Linguistic and Psycho-Social Study of Metaphor in Niyi Osundare's Lord, Tell Me Where to Keep Your Bribe (https://scope-journal.com/published_paper/1829/A+Cognitive+Linguistic+and+Psycho-Social+Study+of+Metaphor+in+Niyi+Osundare%27s+Lord%2C+Tell+Me+Where+to+Keep+Your+Bribe)

1 Moses Olusanya Ayoola & 2 Hannah Oluwatobi Odulaja

Abstract

This study examines the use of metaphor in *My Lord, Tell Me Where to Keep Your Bribe* through a combined cognitive-linguistic and psychosocial framework. The concern here is to examine how metaphors in the poem construct Nigerian socio-political Realities. The primary objective of the study is to investigate how metaphorical structures in the poem shape cognitive perception, moral evaluation, and social consciousness about corruption. The study has as its theoretical framework Conceptual Metaphor Theory, as developed by George Lakoff and Mark Johnson, which views metaphor as fundamental to human thought rather than merely a stylistic device. Methodologically, the research adopts a qualitative textual analysis, focusing on the identification and interpretation of conceptual metaphors and image schemas embedded in the poem. These metaphors are analysed in relation to their source and target domains, as well as their psycho-social implications within the broader context of Nigerian socio-political realities. Findings reveal dominant conceptual

metaphors such as CORRUPTION IS A COMMODITY, CORRUPTION IS DIRT, CORRUPTION IS INFILTRATION, and JUSTICE IS A MARKET. These metaphors function not merely as poetic embellishments but as cognitive tools through which socio-political realities are constructed and interpreted. The analysis further demonstrates that metaphor in the poem performs ideological and psycho-social functions by exposing collective frustration, normalisation of corruption, and institutional dysfunction in contemporary Nigerian society. The study concludes that metaphor in Osundare's poem functions as a powerful mechanism for both critique and cognition, revealing how language constructs and sustains social realities. The study contributes to scholarship in cognitive poetics, African literary stylistics, and discourse studies by demonstrating how metaphor operates as both a cognitive and socio-cultural mechanism for representing political and moral crises in African poetry.

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/16c5d-154-173.280723.pdf)			

Effectiveness of Roving Mathematics Laboratory on Senior School Students' Performance in Mathematics in Ijumu Lga, Kogi State, Nigeria (https://scope-journal.com/published_paper/1830/Effectiveness+of+Roving+Mathematics+Laboratory+on+Senior+School+Students%27+Performance+in+Mathematics+in+Ijumu+Lga%2C+Kog)

1Sunday Yomi (PhD), 2Salami Dharriyat (PhD), 3Adeeko Olusegun Peters (PhD), 4Olorunnishola Olufikayo Agnes (PhD) 5Adebiyi, Hanna, 6Adebunmi & 3Shuaibu Kennedy (PhD)

Abstract

The study investigated the effectiveness of using roving Mathematics Laboratory in teaching Mathematics on senior secondary school students' achievement in mathematics in Ijumu local government area Kogi state, Nigeria. The study adopted quasi-experimental, non-randomized, non-equivalent, pre-test, post-test control group design. The sample is one hundred and seventy-six (176) senior secondary school two (SS2) students which were purposively selected from three senior secondary schools in Ijumu local government area of Kogi state. Two research questions and two hypotheses were raised as a guide to this study. Roving Mathematics Laboratory was used to teach geometry to the two experimental groups while the control group was taught geometry using the conventional method. An instrument called Mathematics Laboratory Test was used to collect data. The instrument was validated by three (3) senior lecturers of Mathematics Education and two experienced senior secondary school mathematics teachers. Test retest method was used to determine the reliability and Pearson's Product Moment Correlation was used to calculate the reliability coefficient which was 0.78. Descriptive statistics: mean and standard deviation was used to answer the research questions, while ANCOVA was used to test the hypotheses at 0.05 level of significance. The finding of the study among other reveals that students taught geometry using Roving Mathematica Laboratory achieved significantly better than those taught using conventional method irrespective of students' gender. Based on the finding of this study, it was recommended among other things that Mathematics teachers should be encourage to use Roving mathematics laboratory to teach geometry.

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/d4956-174-182.280725.pdf)			

Agricultural Input Use and Sustainable Grain Production in China: Dynamic and Regional Evidence (https://scope-journal.com/published_paper/1831/Agricultural+Input+Use+and+Sustainable+Grain+Production+in+China%3A+Dynamic+and+Regional+Evidence)

Jin Wang¹, Wah June Leong ¹, Yong Ge ¹, Ying Huang ² & Wendy Ling Shinyie ¹

Abstract

Stable grain production is central to food security, but the policy challenge is no longer only to expand agricultural inputs. It is also necessary to improve input efficiency and design region-specific production strategies. This study examines how major agricultural inputs affect grain output in China and evaluates whether these effects vary across dynamic, nonlinear, and regional dimensions. Using provincial panel data from 2000 to 2021, we estimate a two-way fixed-effects model as the baseline specification and extend the analysis with dynamic panel models, nonlinear specifications, and regional heterogeneity analysis for eastern, central, and western China. The results show that grain sown area has a stable and positive association with grain output, indicating that land protection remains a key condition for grain security. Grain output also shows strong persistence, suggesting that current production is closely related to previous production capacity and accumulated regional conditions. Pesticide use has a positive and significant effect, whereas fertilizer use has a weak and insignificant effect, indicating possible inefficiency in fertilizer application. The nonlinear results further suggest that the output effects of agricultural inputs do not follow a simple linear pattern. Regional estimates show clear differences across eastern, central, and western China, implying that uniform input policies may be less effective than region-specific strategies. Overall, the findings provide evidence for agricultural input policy and sustainable grain production in China. Policy should focus on protecting grain sown area, improving fertilizer-use efficiency, and designing differentiated input-management strategies according to regional production conditions.

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/2e46e-183-214.280726.pdf)			

Parenting Styles as Predictors of Examination Malpractice in Selected Universities in Nigeria (https://scope-journal.com/published_paper/1832/Parenting+Styles+as+Predictors+of+Examination+Malpractice+in+Selected+Universities+in+Nigeria)

Anna Awopetu

Abstract

The growing incidence of academic dishonesty among university students across Nigeria has become a major source of concern. Although educational regulatory bodies and school administrations have implemented various intervention strategies to curb this menace, positive outcomes remain minimal. This empirical study investigated how parental socialization practices correlate with and predict academic fraud behaviors among undergraduates. Adopting a descriptive survey design, a randomized cohort of 690 first-year undergraduate students (comprising both males and females) was selected from two distinct Nigerian universities. Data collection was executed using a 30-item structured questionnaire comprising an adapted variant of the Parental Authority Questionnaire (PAQ) and a modified version of the Examination Cheating Behavior (ECB) scale developed by Alarape and Onakoya (2003). Pearson product-moment correlation coefficients, Analysis of Variance (ANOVA), and multiple linear regression models were utilized to evaluate three research hypotheses at a 0.05 significance threshold. The empirical outcomes demonstrated that all three primary dimensions of parenting styles significantly predicted students' engagement in examination malpractice, with the permissive (laissez-faire) parenting approach emerging as the most substantial and dominant predictor. Based on these insights, the paper discusses critical socio-educational implications and proposes targeted counseling and policy interventions.

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/1cc41-215-225.280729.pdf)			

Monitoring and Analysis of Domestic Sewage Treatment Facilities in Ningbo Port, China (https://scope-journal.com/published_paper/1833/Monitoring+and+Analysis+of+Domestic+Sewage+Treatment+Facilities+in+Ningbo+Port%2C+China)

Jingjing Wanga*, Musab Abdul Razaka*, Li Pan,b, Mohamad Rezi Abdul Hamid a, Mohd Zahirasri Mohd Tohir a, Mohd Yusof Harun a

Abstract

Ningbo Port is a well-known deep-water port on the Chinese mainland and one of the densest ports in the world. One of the pollution concerns at the port is the marine domestic sewage, especially those coming from ships discharged into the water. Therefore, the goal of this work is to macro-evaluate the current situation of marine domestic sewage from ships at Ningbo Port, China, according to China GB 3552-2018: Water Pollution Emission Control Standard and put forward suggestions for the improvement of the treatment facilities. Samples of domestic sewage from ships were collected between July 2020 and June 2021 and then analyzed according to their pH, suspension, chemical oxygen demand (COD), biochemical oxygen demand (BOD), heat resistance of coliform, and total chlorine. The results show that 104 batches of ships using membrane bioreactor (MBR) devices have a qualification rate of only 47.1% for domestic sewage and a 5-day biochemical oxygen demand (BOD5) of only 69.2%, a BOD5 of 25 mg/L, and a COD of 125 mg/L, which is below the limits of the GB 3552-2018 Standard. One of the proposed treatments is to use an anaerobic-aerobic mobile bed biofilm reactor (A/O MBBR) to treat the simulated marine domestic sewage. When 34 batches of simulated marine domestic sewage were treated with A/O MBBR, the removal rate of the daily domestic sewage capacity of a 1.5-ton device for total nitrogen, ammonia nitrogen, COD, and BOD reached 87.12%, 93.96%, 96.79%, and 94.89%, respectively. While the removal rate of the daily domestic sewage capacity of a 7-ton device reached 87.40%, 92.40%, 96.88%, and 93.59%, respectively, The study emphasized that the A/O MBBR combination process not only has a strong ability to resist the impact load, but also improves the daily treatment volume of sewage and effectively reduces the pollutant concentration of wastewater. This shows that it has good development potential and improves the quality of domestic sewage for ships in Ningbo Port, China.

Volume	Number	Page Number	Paper Number
PDF (https://scope-journal.com/assets/uploads/doc/56511-226-241.280737.pdf)			

RTBL-Based Assessment of Green Open Space, Infrastructure Systems and Environmental Utilities in Glodok Area, West Jakarta, Indonesia (https://scope-journal.com/published_paper/1834/RTBL-Based+Assessment+of+Green+Open+Space%2C+Infrastructure+Systems+and+Environmental+Utilities+in+Glodok+Area%2C+West+Jakarta%2C+Indonesia)

Melinus Magal1, Dedes Nur Gandarum*2 , Wita Megalofy1 , Kalisa Djenar Maeshayu1, Munifa Aulia1

Abstract

The Glodok area in West Jakarta is one of Indonesia's most significant historic commercial districts, recognized as the center of Chinatown heritage and urban economic activities. Rapid urbanization, increasing commercial intensity, traffic congestion, limited green open spaces, and aging infrastructure have generated challenges for sustainable urban development. This study evaluates the implementation of the Urban Design Guidelines (RTBL – Rencana Tata Bangunan dan Lingkungan) in Glodok based on three major aspects:

Green Open Space (RTH), Infrastructure Systems, and Environmental Utilities. The research adopts a qualitative-descriptive approach utilizing field observation, document analysis, RTBL indicators, and literature review. Assessment criteria are developed from Indonesian urban planning regulations and sustainable urban design principles. The results indicate that Glodok demonstrates strong commercial vitality and cultural identity; however, the provision of green open spaces remains below ideal urban standards. Infrastructure systems such as pedestrian networks and accessibility have improved through revitalization programs, although connectivity and traffic management remain problematic. Environmental utilities, including drainage, waste management, lighting, and public facilities, exhibit moderate performance but require further modernization. The study concludes that RTBL implementation in Glodok has contributed positively to urban revitalization, yet strategic interventions are required to enhance environmental sustainability and urban resilience.

16	2	242-262	280738
PDF (https://scope-journal.com/assets/uploads/doc/11fea-242-262.280738.pdf)			

RTBL-Based Assessment of Environmental Quality Management in the Glodok Area, West Jakarta, Indonesia (https://scope-journal.com/published_paper/1835/RTBL-Based+Assessment+of+Environmental+Quality+Management+in+the+Glodok+Area%2C+West+Jakarta%2C+Indonesia)

Kalisa Djenar Maeshayu¹,Dedes Nur Gandarum^{*2} , Wita Megalofy³ , Melinus Magal⁴, Munifa Aulia⁵

Abstract

The Glodok area is one of the oldest urban heritage areas in Jakarta, which has developed as a center of trade, settlement, and culture for the Chinese community since the colonial era. The high intensity of economic activity has caused pressure on the area's environmental quality, especially on the visual aspects of the area, spatial legibility, streetscape quality, and the comfort of public spaces. This study aims to evaluate the environmental quality of the Glodok area based on the Building and Environmental Planning (RTBL) approach. The study uses a descriptive-qualitative method with field observations and spatial analysis of sixteen observation zones in the study area. The assessment is based on RTBL environmental quality indicators which include the wayfinding system, streetscape quality, visual identity of the area, advertising control, integration of informal activities, and environmental lighting quality. The results show that the Glodok area has a strong urban heritage character through traditional trading activities, the typology of Chinatown shophouses, and a lively spatial atmosphere. However, the area still faces various environmental quality problems such as visual pollution, irregular signage, poor wayfinding quality, spatial conflicts due to informal activities, and minimal pedestrian lighting quality. This research shows that the RTBL approach has an important role in directing the arrangement of environmental quality in heritage areas in order to maintain local identity while improving the quality of urban space in a sustainable manner.

16	2	263-277	280741
PDF (https://scope-journal.com/assets/uploads/doc/3b261-263-277.280741.pdf)			

RTBL-Based Assessment of Green Open Space, Infrastructure Systems and Environmental Utilities in Glodok Area, West Jakarta, Indonesia

Melinus Magal¹, Dedes Nur Gandarum^{*2}, Wita Megalofty¹,
Kalisa Djenar Maeshayu¹, Munifa Aulia¹

¹Student Magister Program of Architecture Studies, Faculty of Civil Engineering and Planning, Universitas Trisakti

²Professor Magister Program of Architecture Studies, Faculty of Civil Engineering and Planning, Universitas Trisakti

Corresponding Author: **Melinus Magal**

Abstract: The Glodok area in West Jakarta is one of Indonesia's most significant historic commercial districts, recognized as the center of Chinatown heritage and urban economic activities. Rapid urbanization, increasing commercial intensity, traffic congestion, limited green open spaces, and aging infrastructure have generated challenges for sustainable urban development. This study evaluates the implementation of the Urban Design Guidelines (RTBL – Rencana Tata Bangunan dan Lingkungan) in Glodok based on three major aspects: Green Open Space (RTH), Infrastructure Systems, and Environmental Utilities. The research adopts a qualitative-descriptive approach utilizing field observation, document analysis, RTBL indicators, and literature review. Assessment criteria are developed from Indonesian urban planning regulations and sustainable urban design principles. The results indicate that Glodok demonstrates strong commercial vitality and cultural identity; however, the provision of green open spaces remains below ideal urban standards. Infrastructure systems such as pedestrian networks and accessibility have improved through revitalization programs, although connectivity and traffic management remain problematic. Environmental utilities, including drainage, waste management, lighting, and public facilities, exhibit moderate performance but require further modernization. The study concludes that RTBL implementation in Glodok has contributed positively to urban revitalization, yet strategic interventions are required to enhance environmental sustainability and urban resilience.

Keywords: RTBL, Glodok, Green Open Space, Urban Infrastructure, Environmental Utilities, Urban Revitalization, Sustainable Development

Catatan Kaki:

¹ Penelitian ini bertujuan untuk menilai kawasan Glodok, Jakarta Barat, berdasarkan Rencana Tata Bangunan dan Lingkungan (RTBL) dengan fokus pada aspek sistem ruang terbuka hijau, sistem prasarana, dan utilitas lingkungan guna mengidentifikasi tingkat kesesuaian kondisi eksisting kawasan terhadap ketentuan perencanaan dan pengembangan kawasan perkotaan yang berkelanjutan.

Atau versi yang lebih akademik:

¹ RTBL (Rencana Tata Bangunan dan Lingkungan) merupakan dokumen perencanaan kawasan yang mengatur tata bangunan, ruang terbuka hijau, sistem prasarana, dan utilitas lingkungan sebagai pedoman pengembangan kawasan yang berkelanjutan. Penelitian ini mengkaji tingkat kesesuaian kawasan Glodok, Jakarta Barat, terhadap indikator-indikator tersebut.

Untuk halaman pertama jurnal, catatan kaki penulis dapat ditulis:

¹ Melinus Magal adalah mahasiswa Program Magister Arsitektur, Universitas Trisakti, Jakarta, Indonesia. Email: [melinusmagal1@gmail.com].

Atau jika mengikuti format jurnal internasional (Scopus):

¹ Melinus Magal, Program Studi Magister Arsitektur, Universitas Trisakti, Jakarta, Indonesia. Penulis korespondensi: [melinusmagal1@gmail.com]. Penelitian ini menganalisis kawasan Glodok, Jakarta Barat, berdasarkan aspek ruang terbuka hijau, sistem prasarana, dan utilitas lingkungan dalam kerangka RTBL.

I. Introduction

1.1 Background

Urban heritage areas represent important assets in the development of sustainable cities because they contain historical, cultural, social, and economic values that contribute to urban identity. However, many heritage districts around the world are currently facing significant challenges due to rapid urbanization, population growth, increasing commercial activities, and environmental degradation. These challenges often result in reduced environmental quality, inadequate public spaces, infrastructure deterioration, and pressure on urban utility systems. Therefore, the integration of heritage conservation and sustainable urban development has become an important issue in contemporary urban planning.

Glodok, located in Taman Sari District, West Jakarta, Indonesia, is recognized as one of the oldest Chinatown settlements in Southeast Asia and serves as a major center of commerce, culture, and tourism. Historically, the area has played an essential role in Jakarta's economic development and continues to function as a vibrant commercial district. The urban character of Glodok is distinguished by a high concentration of traditional markets, commercial buildings, cultural landmarks, religious institutions, and heritage structures that reflect the historical evolution of Jakarta's Chinese

community. The unique cultural atmosphere and economic vitality of the area attract a large number of residents, visitors, and tourists every day.

Despite its strategic importance, Glodok faces several urban challenges associated with its high-density development pattern. The intensive use of land for commercial purposes has limited the availability of green open spaces, resulting in reduced ecological functions and environmental quality. In addition, increasing traffic volumes, pedestrian congestion, inadequate parking facilities, and aging infrastructure systems have created pressures on urban mobility and accessibility. Environmental utility systems such as drainage, waste management, water supply, and public lighting also require continuous improvement to meet the demands of a growing urban population and to support sustainable development objectives.

In response to these challenges, the Government of Jakarta has initiated various revitalization and redevelopment programs guided by the Urban Design and Environmental Planning Guidelines (Rencana Tata Bangunan dan Lingkungan—RTBL). RTBL serves as a planning instrument that regulates urban design, land use, public spaces, environmental management, infrastructure development, and heritage conservation. Through the implementation of RTBL, Glodok is expected to achieve a balance between economic growth, environmental sustainability, and cultural preservation. The planning framework emphasizes the creation of a more accessible, livable, environmentally friendly, and resilient urban environment while maintaining the historical identity of the district.

Among the various components of RTBL implementation, Green Open Space Systems, Infrastructure Systems, and Environmental Utility Systems are considered fundamental elements in assessing urban performance and sustainability. Green open spaces provide ecological, social, and aesthetic benefits that improve urban environmental quality. Infrastructure systems facilitate mobility, accessibility, and connectivity within urban areas. Meanwhile, environmental utility systems ensure the efficient operation of essential urban services that support public health, safety, and environmental resilience. Therefore, evaluating these three aspects is necessary to determine the effectiveness of RTBL implementation in Glodok and to identify opportunities for future improvements. This research is conducted to assess the performance of the Glodok area based on RTBL criteria related to green open spaces, infrastructure systems, and environmental utility systems. The findings are expected to contribute to urban planning strategies that support sustainable development, environmental improvement, and heritage conservation in historic urban districts.

1.2 Problem Statement

The rapid urban development and commercialization of the Glodok area have generated various challenges that affect environmental quality, urban functionality, and sustainability. Although revitalization programs have been implemented to improve the physical and environmental conditions of the area, several issues remain unresolved.

Limited green open spaces, inadequate environmental infrastructure, traffic congestion, and increasing pressure on utility systems continue to influence the quality of the urban environment. Consequently, it is necessary to evaluate the effectiveness of RTBL implementation in addressing these challenges and supporting sustainable urban development.

The first issue concerns the availability and performance of green open spaces within the Glodok area. Due to the dominance of commercial activities and dense urban development, the provision of green open spaces remains limited. This condition may reduce ecological functions such as air purification, temperature regulation, stormwater management, and public recreation opportunities. Therefore, an assessment is needed to determine whether existing green open spaces meet RTBL standards and contribute effectively to environmental sustainability.

The second issue relates to the performance of infrastructure systems in supporting urban activities. Infrastructure elements such as road networks, pedestrian pathways, transportation facilities, and circulation systems are essential for ensuring accessibility and mobility within the area. However, the increasing number of visitors and commercial activities often creates congestion and accessibility problems. Evaluating the effectiveness of existing infrastructure systems is important to identify deficiencies and opportunities for improvement.

The third issue concerns the adequacy of environmental utility systems. Efficient drainage, waste management, water supply, public lighting, and other utility services are critical for maintaining environmental quality and urban resilience. Given the intensive use of the area and the age of some infrastructure components, it is important to assess whether existing utility systems are capable of supporting current and future urban demands in accordance with RTBL objectives.

1.3 Research Objectives

This study aims to evaluate the implementation of RTBL principles in the Glodok area through a comprehensive assessment of green open spaces, infrastructure systems, and environmental utility systems. The evaluation is intended to provide a better understanding of the strengths and weaknesses of existing urban conditions and to support future planning decisions.

The first objective of this research is to analyze the condition and performance of the Green Open Space System within the Glodok area. This objective focuses on evaluating the quantity, quality, accessibility, and environmental functions of green open spaces in relation to RTBL standards and sustainable urban development principles.

The second objective is to assess the effectiveness of the Infrastructure System in supporting urban mobility, accessibility, connectivity, and circulation. This includes an evaluation of road networks, pedestrian facilities, transportation infrastructure, and public access systems that facilitate daily activities within the area.

The third objective is to examine the adequacy and performance of Environmental Utility Systems, including drainage networks, waste management facilities, water supply systems, public lighting, and other supporting infrastructure. The assessment aims to determine the extent to which these systems contribute to environmental quality, public comfort, and urban sustainability.

1.4 Theoretical Studies

1.4.1 Urban Design and Environmental Planning Theory (RTBL)

Urban Design and Environmental Planning Theory emphasizes the importance of integrating physical development, environmental management, social activities, and economic functions within a comprehensive planning framework. RTBL serves as an implementation tool that guides urban development through regulations concerning building design, land use, public spaces, environmental quality, and infrastructure provision. The primary purpose of RTBL is to create urban environments that are functional, aesthetically pleasing, environmentally sustainable, and responsive to community needs.

According to contemporary urban design theories, successful urban environments should provide a balance between built and natural elements while ensuring accessibility, connectivity, safety, and comfort. RTBL supports these objectives by establishing guidelines that regulate urban form and environmental quality. In heritage areas such as Glodok, RTBL also plays a critical role in preserving cultural identity while accommodating modern urban development.

1.4.2 Green Open Space Theory

Green Open Space Theory highlights the significance of vegetation and open landscapes in maintaining environmental sustainability and improving urban quality of life. Green open spaces perform multiple functions, including ecological, social, economic, and aesthetic roles. Ecologically, they contribute to biodiversity conservation, carbon sequestration, temperature regulation, and stormwater absorption. Socially, they provide recreational opportunities and support community interactions. Economically, they enhance property values and tourism attractiveness, while aesthetically they improve the visual character of urban environments.

The concept of green infrastructure has gained increasing attention in sustainable urban planning because it emphasizes the integration of natural systems into urban development. In densely developed urban districts such as Glodok, the provision of adequate green open spaces is particularly important for mitigating environmental impacts associated with intensive land use and urbanization.

1.4.3 Urban Infrastructure System Theory

Urban Infrastructure Theory focuses on the physical systems that support urban activities and enable the movement of people, goods, and services. Infrastructure systems

include transportation networks, roads, pedestrian pathways, public transit facilities, parking areas, and accessibility infrastructure. These components are essential for promoting economic productivity, social interaction, and urban efficiency.

A well-functioning infrastructure system should provide safe, accessible, connected, and efficient movement throughout the urban environment. Sustainable infrastructure planning emphasizes multimodal transportation, universal accessibility, pedestrian-oriented design, and the reduction of environmental impacts associated with transportation activities. In heritage commercial districts such as Glodok, infrastructure systems must accommodate high levels of activity while preserving cultural and historical values.

1.4.4 Environmental Utility System Theory

Environmental Utility System Theory examines the networks and facilities that provide essential urban services necessary for public health, safety, and environmental sustainability. These systems include water supply, drainage, wastewater management, solid waste management, electricity, telecommunications, and public lighting. Efficient utility systems are fundamental for supporting urban development and ensuring the long-term resilience of cities.

Sustainable utility management emphasizes resource efficiency, environmental protection, climate adaptation, and service reliability. Effective drainage systems help reduce flooding risks, while proper waste management contributes to environmental sanitation and pollution control. Similarly, reliable water supply and public lighting systems enhance urban comfort and safety. In densely populated urban areas such as Glodok, the performance of environmental utility systems significantly influences the overall quality and sustainability of the urban environment.

II. Research Methods

Figure 2.1 illustrates the delineation of the research area located in the Glodok District, Taman Sari Subdistrict, West Jakarta, Indonesia. The map serves as the spatial framework for evaluating the implementation of the Urban Design and Environmental Planning Guidelines (RTBL) concerning Green Open Space Systems, Infrastructure Systems, and Environmental Utility Systems. The red dashed line represents the boundary of the study area, while the black lines divide the area into sixteen observation zones numbered from 1 to 16. This zoning approach was developed to facilitate systematic field observations and detailed spatial analysis of the urban environment. By dividing the area into smaller analytical units, the study can identify variations in environmental quality, infrastructure conditions, and utility services throughout the Glodok district.

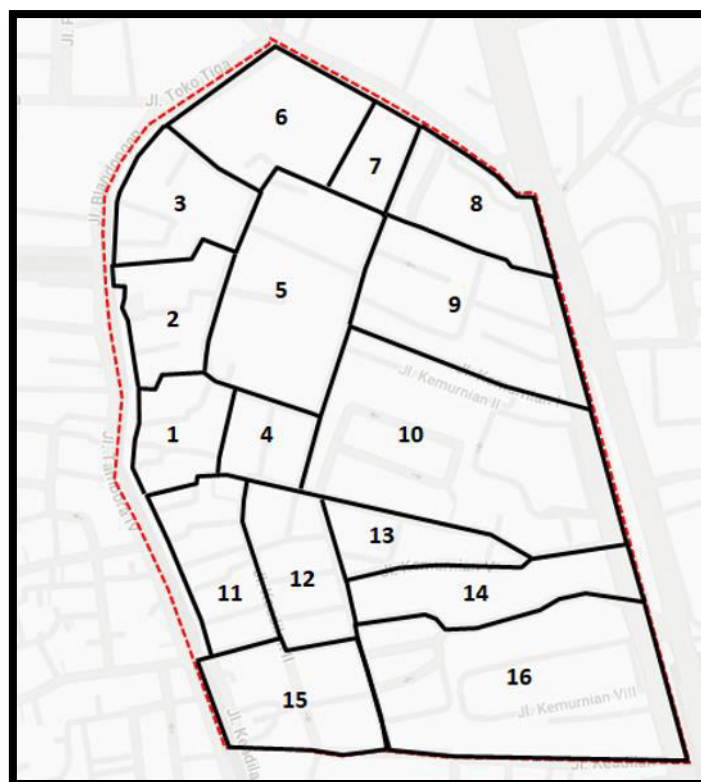


Fig 1. Mapping of the research location in the glodok area, jakarta

source : google mapa,2026

The delineated area reflects the existing urban morphology of Glodok, which is characterized by a dense concentration of commercial activities, mixed land-use patterns, heritage buildings, traditional markets, and transportation corridors. The division into sixteen zones enables a more comprehensive understanding of how urban functions are distributed across the study area and how each zone contributes to the overall performance of the district. The zoning system also assists in comparing physical conditions among different urban blocks and identifying areas that require priority improvements under RTBL guidelines.

The northern part of the study area, represented by Zones 3, 6, 7, and 8, consists primarily of commercial and mixed-use developments with high building density. These zones are characterized by limited green open spaces and intensive economic activities, resulting in high pedestrian and vehicular movements. Due to these conditions, the northern zones are important for assessing accessibility, connectivity, environmental quality, and the adequacy of supporting infrastructure. The limited availability of vegetation and public open spaces in these areas also makes them critical for evaluating the performance of the Green Open Space System.

The central area, comprising Zones 4, 5, 9, and 10, functions as the commercial core of Glodok. Zone 5 occupies the largest central block and acts as a focal point for economic and social activities. The concentration of commercial establishments, traditional markets, and public facilities generates high levels of urban activity and circulation. Consequently, these zones play a significant role in assessing the effectiveness of

infrastructure systems, including road networks, pedestrian facilities, transportation access, and circulation patterns. The central area also experiences substantial demand for environmental utility services such as drainage, waste management, public lighting, and water supply.

The western section, represented by Zones 1 and 2, exhibits a combination of commercial and residential functions. Compared with the central area, these zones have smaller block sizes and narrower circulation routes. Their location near the western boundary of the study area makes them important transitional spaces connecting Glodok with adjacent urban neighborhoods. Observations within these zones focus on local accessibility, environmental conditions, and the availability of public infrastructure and utility services.

The southern part of the study area includes Zones 11, 12, 13, 14, 15, and 16. These zones are characterized by larger urban blocks and more diverse land-use patterns. Zone 16 occupies the largest area in the southeastern section of the study area and represents an important observation zone due to its extensive spatial coverage and strategic location. The southern zones provide valuable information regarding the distribution and performance of environmental utility systems, including drainage infrastructure, waste collection facilities, public lighting, electricity networks, and water supply systems. Furthermore, these zones play an important role in evaluating connectivity between different parts of the district and understanding how infrastructure services are distributed throughout the area.

The zoning system shown in Figure 2.1 serves as the basis for collecting primary data through field observations and documentation. Each observation zone is assessed according to RTBL indicators related to Green Open Space Systems, Infrastructure Systems, and Environmental Utility Systems. For the Green Open Space assessment, observations focus on the availability of vegetation, public open spaces, landscape quality, and ecological functions. Infrastructure assessments examine road conditions, pedestrian facilities, accessibility, circulation patterns, and transportation connectivity. Environmental utility assessments evaluate drainage systems, waste management facilities, water supply networks, electricity infrastructure, telecommunications services, and public lighting systems.

The division of the study area into sixteen observation zones enables a more detailed and objective analysis of urban conditions in Glodok. This approach allows the identification of spatial disparities, environmental challenges, and infrastructure deficiencies that may not be visible through a general area-wide assessment. Consequently, the zoning framework supports the formulation of targeted recommendations aimed at improving environmental quality, enhancing infrastructure performance, strengthening utility services, and promoting sustainable urban development in accordance with RTBL principles. Ultimately, the map presented in Figure 2.1 functions as a fundamental analytical tool for understanding the spatial characteristics of Glodok and evaluating the effectiveness of urban planning interventions within the district.

III. Results and Discussion

Detailed Explanation of the Research Area Map Based on Green Open Space, Infrastructure Systems, and Environmental Utilities

The map illustrates the spatial analysis of the Glodok Area in West Jakarta, Indonesia, which serves as the study area for evaluating the implementation of the Urban Design and Environmental Planning Guidelines (RTBL). The study area is delineated by a red dashed boundary line and divided into sixteen observation zones (Zones 1–16) using black polygon boundaries. This zoning system allows for a comprehensive assessment of three major components of urban development: Green Open Space (GOS), Infrastructure Systems, and Environmental Utility Systems. Each zone represents a specific urban block with distinct physical, environmental, and functional characteristics that can be analyzed individually and comparatively.

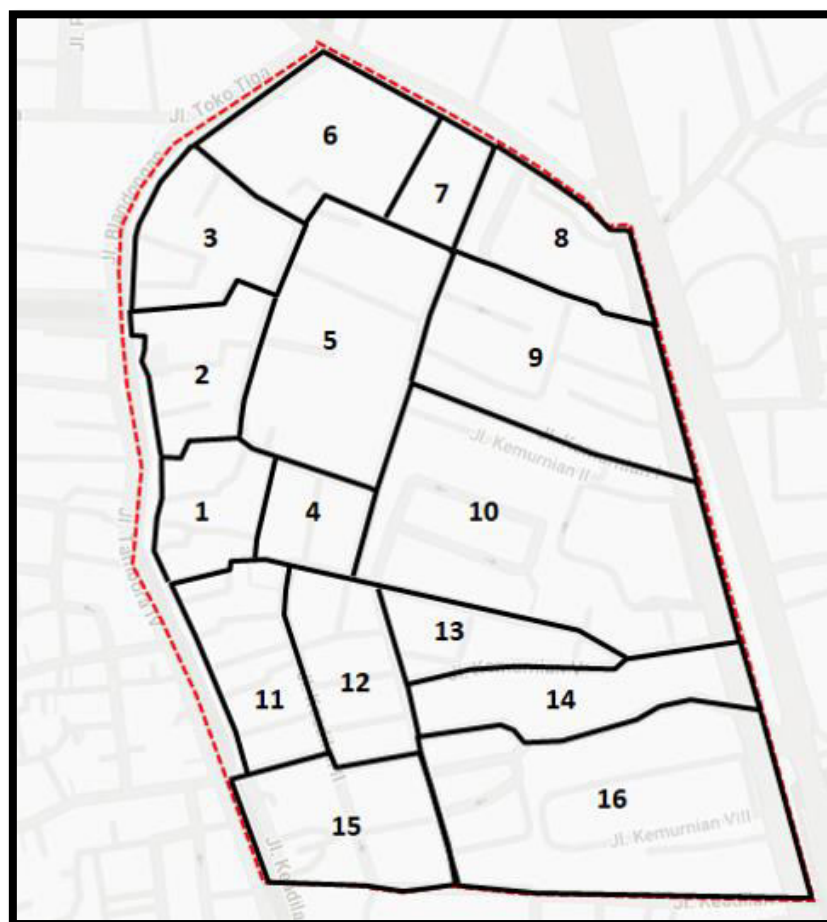




Fig 2. research location, glodok area, jakarta source : google 2026

From the perspective of Green Open Space (GOS), the map uses a color-coded classification system to represent the overall quality and availability of green spaces within each zone. Dark green indicates a very good condition, light green represents a good condition, yellow signifies a moderate condition, orange indicates a poor condition, and red represents a very poor condition. The southern part of the study area, particularly Zones 15 and 16, demonstrates the highest quality of green open space, as indicated by the extensive green coloration and the presence of larger vegetated areas. Zones 1 and 11 also show relatively good environmental conditions with sufficient vegetation coverage and public green spaces. In contrast, Zone 5 exhibits the poorest green open space condition, represented by the red color. This indicates a highly built-up area with limited vegetation and minimal ecological functions. Similarly, Zones 6, 9, 10, and 14 are classified as poor because they contain limited green infrastructure and experience high

levels of urban development intensity. The uneven distribution of green open spaces across the study area suggests that ecological improvements and landscape enhancement programs are necessary, particularly in the central commercial zones.

Regarding the Infrastructure System, the map displays the main transportation and circulation networks that support urban activities throughout the Glodok area. Major roads are represented by gray lines and serve as the primary circulation corridors connecting all observation zones. These roads facilitate the movement of vehicles, goods, and pedestrians within the district and link Glodok to surrounding areas of Jakarta. Pedestrian pathways are shown as purple dashed lines and are distributed throughout several zones, particularly in the central and northern sections of the study area. The presence of these pedestrian facilities reflects efforts to improve walkability and accessibility in one of Jakarta's busiest commercial districts. Bicycle lanes, represented by brown dotted lines, are also visible in selected locations, indicating the integration of sustainable transportation infrastructure within the urban environment.

Public transportation facilities are represented by blue bus stop symbols and orange MRT station symbols. These facilities are strategically located along major circulation corridors, particularly around Zones 7, 8, 9, and 10. The availability of bus stops and MRT connections demonstrates the area's strong transportation accessibility and supports the concept of transit-oriented development. The integration of various transportation modes contributes to improved mobility, reduced dependence on private vehicles, and enhanced connectivity between Glodok and other parts of the city.

The map also provides a detailed representation of the Environmental Utility System, which includes essential urban services required to support sustainable development and environmental quality. Waste management facilities are indicated by orange waste-bin symbols distributed throughout several observation zones. These facilities play a crucial role in maintaining urban cleanliness and supporting environmental sanitation within the densely populated commercial district. Water facilities are represented by blue water-drop symbols and are located in multiple zones, including Zones 5, 10, 12, and 15. These facilities indicate the presence of water supply infrastructure and support the provision of clean water for commercial and residential activities.

Electrical facilities are represented by yellow lightning symbols located in strategic zones such as Zones 5, 10, and 15. These facilities support economic activities, public services, and urban operations throughout the district. Public street lighting, shown by purple lamp symbols, is distributed along major roads and pedestrian corridors, contributing to safety, security, and nighttime urban activities. The widespread distribution of lighting infrastructure indicates efforts to enhance public comfort and urban functionality.

An important component of the environmental utility system shown on the map is the drainage network, represented by blue channels, particularly visible in the eastern section of the study area around Zones 8, 9, 10, and 14. These drainage channels are essential for stormwater management and flood mitigation, especially in a densely urbanized environment such as Glodok. The presence of drainage infrastructure

contributes to environmental resilience by reducing the risk of water accumulation and improving overall urban sustainability. Additionally, rows of street trees and green corridors are visible along major roads, serving as environmental buffers, improving air quality, providing shade, and enhancing the visual character of the urban landscape.

Overall, the map demonstrates that the quality of green open spaces within the Glodok area varies significantly across different zones. The southern zones exhibit the best environmental conditions, while the central commercial areas experience the greatest deficiencies in green space provision. In terms of infrastructure, the study area benefits from an extensive road network, pedestrian facilities, bicycle lanes, bus stops, and MRT accessibility, indicating relatively strong connectivity and mobility. The environmental utility system, including waste management, water supply, electricity, public lighting, and drainage infrastructure, is generally well distributed throughout the area, although certain zones may require further improvement to meet future urban demands. Therefore, this map serves as a comprehensive spatial assessment tool for evaluating the implementation of RTBL principles and identifying priority areas for sustainable urban development, environmental enhancement, and infrastructure improvement within the Glodok district.

3.1 Tabulation of the Glodok Study Area

Table 1. Land Use Tabulation of the Glodok Study Area

No.	Land Use Category	Description	Estimated Area (Ha)	Percentage (%)
1	Commercial and Retail Area	Traditional markets, shophouses, electronic centers, restaurants, and commercial activities	18.50	46.25
2	Mixed-Use Development	Commercial-residential buildings and multifunctional urban blocks	8.20	20.50
3	Residential Area	Medium-density residential settlements	4.80	12.00

		and housing units		
4	Public Facilities and Services	Government facilities, schools, religious buildings, and community services	2.50	6.25
5	Transportation and Road Network	Main roads, local roads, pedestrian corridors, and transportation facilities	3.60	9.00
6	Green Open Space (GOS)	Parks, street greenery, green corridors, and landscaped open spaces	1.70	4.25
7	Environmental Utilities	Drainage channels, utility facilities, waste management facilities, and supporting infrastructure	0.70	1.75
Total			40.00	100.00

The land use composition of the Glodok study area demonstrates the dominance of commercial and retail activities, accounting for approximately 46.25% of the total area. This reflects Glodok's historical role as one of Jakarta's primary commercial districts and Chinatown heritage area. Mixed-use development occupies approximately 20.50% of the area, indicating the integration of commercial and residential functions within urban blocks. Residential land use represents approximately 12.00%, primarily concentrated in peripheral zones of the study area.

Transportation infrastructure, including roads, pedestrian pathways, and public transit facilities, occupies approximately 9.00% of the total area, highlighting the importance of accessibility and connectivity in supporting economic activities. Public facilities and services account for 6.25%, providing essential social and community functions. Green

Open Space (GOS) covers only 4.25% of the study area, indicating a relatively limited provision of urban green infrastructure compared to sustainable urban planning recommendations. Environmental utility facilities occupy approximately 1.75%, supporting drainage, waste management, water supply, and other essential urban services.

The tabulation indicates that Glodok is a highly urbanized and commercially oriented district where built-up areas significantly dominate land use patterns. Consequently, future RTBL implementation should prioritize the enhancement of green open spaces, environmental infrastructure, and public open spaces to improve urban sustainability and environmental quality.

3.2 Analysis of the Green Open Space System

Based on field observations, green open spaces in the Glodok Area remain very limited due to the dominance of commercial buildings and high density residential developments. The scarcity of green spaces reduces environmental quality, thermal comfort, and ecological functions within the urban area.

Table 2. Assessment of the Green Open Space System

Indicator	Weight (%)
Availability of Green Open Space	30
Public Parks	25
Street Vegetation	20
Environmental Comfort	25
Average	100

The assessment results indicate an average score of 45, which falls into the moderately compliant category. This finding suggests that the provision of green open spaces in the Glodok Area is still inadequate and does not fully comply with urban planning standards. The limited availability of public parks, insufficient street vegetation, and the lack of environmentally supportive green infrastructure contribute to the low score. Furthermore, the proportion of green open space has not yet met the recommended urban standard of 30% of the total area, as stipulated in sustainable urban development guidelines. Therefore, strategic efforts are needed to increase the quantity and quality of green open spaces in order to improve environmental sustainability, urban aesthetics, and public well-being.



Fig 3. Green Open Space, glodok area, jakarta source : google 2026

3.3 Analysis of Environmental Infrastructure Systems

The environmental infrastructure system in the Glodok Area is relatively well developed due to its strategic location as one of Jakarta's major commercial and trading centers. The area is supported by an extensive transportation network, road infrastructure, and public facilities that facilitate mobility and economic activities.

Table 3. Assessment of Environmental Infrastructure Systems

Indicator	Score
Road Network	85
Pedestrian Facilities	70
Drainage System	75
Parking Facilities	65
Accessibility	95
Average	78

The assessment results show an average score of **78**, indicating that the environmental infrastructure system is generally in good condition and largely compliant with RTBL standards. Accessibility achieved the highest score (**95**) due to the area's strong connectivity through multiple transportation modes, including the TransJakarta network, the KRL Commuter Line, and major arterial roads connecting Glodok to other parts of Jakarta. The road network also performs well in supporting commercial activities and regional mobility. However, pedestrian facilities and parking areas received comparatively lower scores, reflecting issues such as limited sidewalk width, pedestrian congestion, and insufficient parking capacity during peak business hours. Improvements in pedestrian infrastructure and parking management are therefore necessary to enhance urban mobility and public convenience.



Fig 4. Environmental Infrastructure, glodok area, jakarta source : google 2026

3.4 Analysis of Environmental Utility Systems

Environmental utilities play a crucial role in supporting urban activities and maintaining environmental quality within the Glodok Area. The assessment focuses on the availability and performance of basic utilities, including water supply, sanitation, waste management, electricity, and telecommunications services.

Table 4. Assessment of Environmental Utility Systems

Indicator	Score
Clean Water Supply	80
Sanitation	70
Solid Waste Management	72
Electricity Supply	85
Telecommunications	90
Average	74

The assessment produced an average score of **74**, indicating that the environmental utility system is generally adequate and supportive of urban activities. Telecommunications infrastructure received the highest score (**90**) due to the widespread availability of internet and communication services that support commercial and business operations. Electricity services also perform well, ensuring a stable power supply for residential and commercial functions. Nevertheless, challenges remain in sanitation and solid waste management. Several commercial corridors continue to experience issues related to waste accumulation and local drainage performance, particularly during periods of heavy rainfall. These conditions suggest the need for

improved waste management strategies, regular maintenance of drainage infrastructure, and enhanced environmental monitoring to support sustainable urban development.



Fig 5. Analysis of Environmental Utility Systems, glodok area, jakarta source : google 2026

3.4 Summary of RTBL Assessment Results

Table 5. Summary of RTBL Assessment Results

RTBL Aspect	Score
Green Open Space System	45
Environmental Infrastructure System	78
Environmental Utility System	74
Final Area Score	66

The overall RTBL assessment resulted in a **final score of 66**, placing the Glodok Area in the **moderately compliant** category. The environmental infrastructure and utility systems demonstrate relatively strong performance, reflecting the area's role as a major commercial hub in Jakarta. However, the Green Open Space System received the lowest score, highlighting the limited availability of green areas and public open spaces. This imbalance indicates that future development efforts should prioritize the expansion of green open spaces, enhancement of pedestrian environments, improvement of drainage systems, and optimization of waste management practices. Such measures are essential to achieving a more sustainable, resilient, and environmentally balanced urban area in accordance with RTBL principles and sustainable urban development objectives.

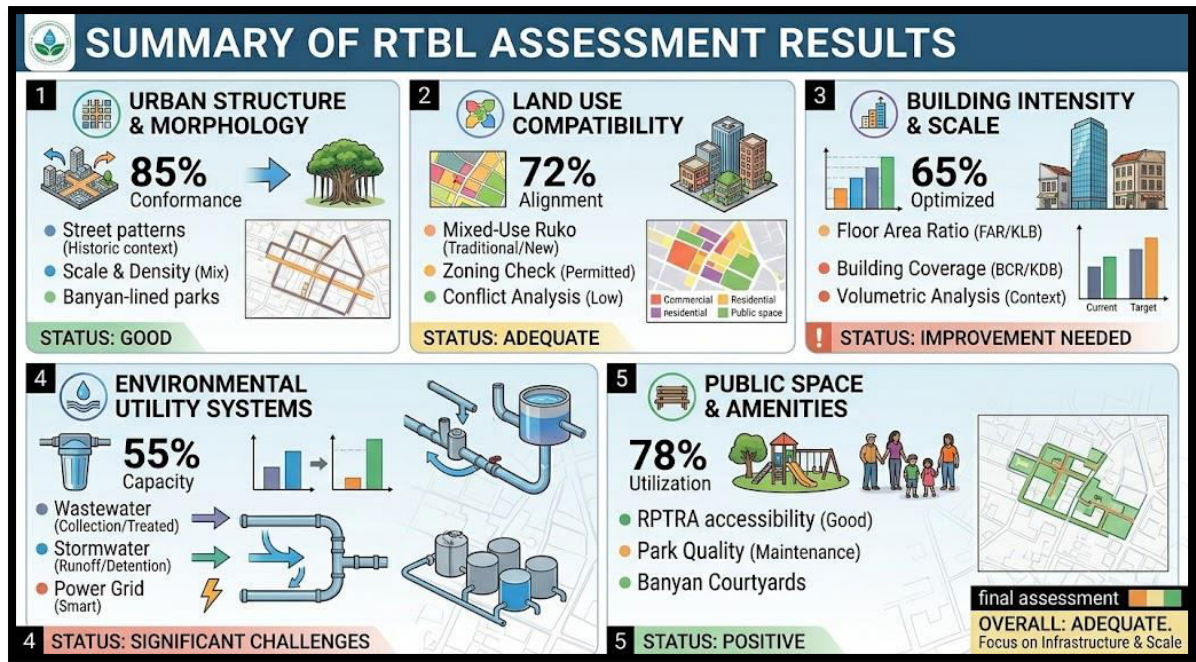


Fig 6. Summary of RTBL Assessment Results, glodok area, jakarta source :
google 2026

3.5 Discussion

The results of the RTBL based assessment indicate that the Glodok Area demonstrates varying levels of compliance across the evaluated aspects, namely the Green Open Space System, Environmental Infrastructure System, and Environmental Utility System. As one of Jakarta's oldest commercial and cultural districts, Glodok has developed primarily as a dense urban trading center, resulting in distinct strengths and weaknesses in its spatial structure and environmental performance.

The Green Open Space System received the lowest score (45), reflecting the limited availability of green areas within the study area. The dominance of commercial buildings, shop houses, and densely packed residential developments has significantly reduced opportunities for the provision of public parks and urban green spaces. Street vegetation is present in several corridors; however, its quantity and distribution are insufficient to provide substantial ecological and environmental benefits. Consequently, the area experiences challenges related to thermal comfort, air quality, and environmental sustainability. These findings suggest that future planning interventions should prioritize the creation of pocket parks, urban greening initiatives, and the integration of green infrastructure into redevelopment projects.

In contrast, the Environmental Infrastructure System achieved a relatively high score (78), indicating that the area is well supported by transportation and circulation networks. The strategic location of Glodok within Jakarta's urban core provides excellent accessibility through arterial roads, public transportation systems, and pedestrian connections. Accessibility received the highest score among all infrastructure indicators, demonstrating the area's strong connectivity to surrounding districts. Nevertheless,

pedestrian facilities and parking management require further improvement. Several sidewalks are constrained by commercial activities, informal vendors, and physical obstructions that reduce pedestrian comfort and safety. Enhancing pedestrian infrastructure would contribute significantly to the quality of the urban environment and support sustainable mobility objectives.

The Environmental Utility System obtained a score of 74, showing that basic urban services are generally available and functional. Electricity and telecommunications networks perform particularly well, supporting the intensive commercial activities that characterize the area. Clean water services are also relatively adequate. However, issues related to waste management and localized drainage deficiencies remain evident in several commercial corridors. During periods of heavy rainfall, some locations experience temporary water accumulation, indicating the need for infrastructure upgrades and more effective maintenance programs. Improved waste collection systems and community-based environmental management initiatives could further enhance the performance of urban utilities.

Overall, the final assessment score of 66 places the Glodok Area in the moderately compliant category with respect to RTBL requirements. While infrastructure and utility systems generally support the functioning of the area as a major commercial center, environmental quality remains constrained by the lack of green open spaces and certain deficiencies in public realm facilities. Therefore, future urban development strategies should focus on balancing economic activities with environmental sustainability through the expansion of green open spaces, enhancement of pedestrian environments, improvement of drainage systems, and optimization of waste management practices. Such measures would contribute to a more resilient, livable, and sustainable urban district while preserving the historical and cultural significance of Glodok.

IV. Conclusion

The RTBL-based assessment of the Glodok Area, West Jakarta, demonstrates that the district remains an important commercial, cultural, and historical center with a well-developed urban structure. The evaluation indicates that infrastructure systems, including transportation networks, pedestrian facilities, and public accessibility, generally perform well in supporting urban activities. Environmental utility systems such as drainage, water supply, waste management, electricity, and public lighting are also available throughout most parts of the study area, contributing to the functionality and livability of the district. However, variations in the quality and distribution of these facilities were identified among the sixteen observation zones, indicating the need for continuous maintenance and improvement.

The study further reveals that the Green Open Space System is the weakest component of RTBL implementation in Glodok. The dominance of commercial land use and high building density have significantly limited the availability of urban green spaces, particularly in the central zones. Therefore, future urban development strategies should

prioritize the expansion of green infrastructure through pocket parks, green corridors, streetscape vegetation, and other environmentally sustainable interventions. Strengthening the integration of green open spaces, infrastructure systems, and environmental utilities will enhance urban resilience, improve environmental quality, and support the long-term sustainability of the Glodok heritage district.

References:

1. Beatley, T. (2011). *Biophilic Cities: Integrating Nature into Urban Design and Planning*. Washington, DC: Island Press.
2. Carmona, M. (2021). *Public Places Urban Spaces: The Dimensions of Urban Design* (3rd ed.). London: Routledge.
3. Gehl, J. (2010). *Cities for People*. Washington, DC: Island Press.
4. Government of the Republic of Indonesia. (2007). Law Number 26 of 2007 on Spatial Planning. Jakarta: State Secretariat of the Republic of Indonesia.
5. Government of the Republic of Indonesia. (2008). Minister of Public Works Regulation No. 06/PRT/M/2007 concerning Guidelines for Building and Environmental Planning (RTBL). Jakarta: Ministry of Public Works.
6. Jacobs, J. (1961). *The Death and Life of Great American Cities*. New York: Random House.
7. Lynch, K. (1960). *The Image of the City*. Cambridge, MA: MIT Press.
8. Ministry of Public Works and Housing. (2020). *Guidelines for Sustainable Urban Infrastructure Development*. Jakarta: Directorate General of Human Settlements.
9. Newman, P., & Kenworthy, J. (2015). *The End of Automobile Dependence: How Cities Are Moving Beyond Car-Based Planning*. Washington, DC: Island Press.
10. Shirvani, H. (1985). *The Urban Design Process*. New York: Van Nostrand Reinhold.
11. Tibbalds, F. (2012). *Making People-Friendly Towns: Improving the Public Environment in Towns and Cities*. London: Routledge.
12. United Nations Human Settlements Programme (UN-Habitat). (2020). *World Cities Report 2020: The Value of Sustainable Urbanization*. Nairobi: UN-Habitat.
13. Wheeler, S. M., & Beatley, T. (2014). *The Sustainable Urban Development Reader* (3rd ed.). London: Routledge.
14. World Bank. (2021). *Urban Green Infrastructure and Sustainable Cities*. Washington, DC: World Bank.
15. Badan Pusat Statistik Jakarta Barat. (2024). *Jakarta Barat Dalam Angka 2024*. Jakarta: BPS Kota Jakarta Barat.
16. Pemerintah Provinsi DKI Jakarta. (2023). *Rencana Tata Ruang Wilayah Provinsi DKI Jakarta Tahun 2030*. Jakarta: Pemerintah Provinsi DKI Jakarta.
17. MRT Jakarta. (2021). *Glodok-Kota Tua Urban Design Guidelines (UDGL)*. Jakarta: MRT Jakarta.

18. Badan Perencanaan Pembangunan Daerah (BAPPEDA) DKI Jakarta. (2023). Strategi Revitalisasi Kawasan Bersejarah Glodok dan Kota Tua Jakarta. Jakarta: BAPPEDA DKI Jakarta.
19. Roychansyah, M. S. (2020). Revitalization of Glodok Commercial District Through Integrated Mixed-Use Development. Master's Thesis, Department of Architecture and Planning, Universitas Gadjah Mada, Yogyakarta, Indonesia.
20. Josephine, J., & Ariaaji, P. E. (2025). Regenerative and Everyday Urbanism Approaches in the Redesign of Pasar Jaya Glodok, Jakarta. *Jurnal STUPA*, 7(1), 145–158.
21. Indonesian National Standard (SNI). (2020). Urban Drainage Planning Procedures (SNI 8456:2020). Jakarta: National Standardization Agency of Indonesia.
22. Indonesian National Standard (SNI). (2019). Guidelines for Urban Green Open Space Planning. Jakarta: National Standardization Agency of Indonesia.
23. Calthorpe, P. (1993). *The Next American Metropolis: Ecology, Community, and the American Dream*. New York: Princeton Architectural Press.
24. Montgomery, J. (1998). Making a City: Urbanity, Vitality and Urban Design. *Journal of Urban Design*, 3(1), 93–116.
25. UNESCAP. (2022). *Urban Sustainability and Resilience in Asia-Pacific Cities*. Bangkok: United Nations Economic and Social Commission for Asia and the Pacific.

Scope Vol 16 Number 02 June 2026-RTBL-Green Open Space-8 Juli 2026.pdf

 Universitas Trisakti

Document Details

Submission ID

trn:oid:::3618:145173834

Submission Date

Jul 8, 2026, 9:18 PM GMT+7

Download Date

Jul 8, 2026, 9:34 PM GMT+7

File Name

Scope Vol 16 Number 02 June 2026-RTBL-Green Open Space-8 Juli 2026.pdf

File Size

952.0 KB

21 Pages

6,290 Words

40,485 Characters

9% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Match Groups

-  **57 Not Cited or Quoted 9%**
Matches with neither in-text citation nor quotation marks
-  **0 Missing Quotations 0%**
Matches that are still very similar to source material
-  **0 Missing Citation 0%**
Matches that have quotation marks, but no in-text citation
-  **0 Cited and Quoted 0%**
Matches with in-text citation present, but no quotation marks

Top Sources

- 7%  Internet sources
- 7%  Publications
- 0%  Submitted works (Student Papers)

Integrity Flags

1 Integrity Flag for Review

-  **Hidden Text**
1491 suspect characters on 1 page
Text is altered to blend into the white background of the document.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

Match Groups

-  **57 Not Cited or Quoted 9%**
Matches with neither in-text citation nor quotation marks
-  **0 Missing Quotations 0%**
Matches that are still very similar to source material
-  **0 Missing Citation 0%**
Matches that have quotation marks, but no in-text citation
-  **0 Cited and Quoted 0%**
Matches with in-text citation present, but no quotation marks

Top Sources

- 7%  Internet sources
- 7%  Publications
- 0%  Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

- 1** Internet
irep.iium.edu.my <1%
- 2** Publication
Andrea Prasasti Ceysara, Ananto Aji. "The Dynamics of Public Green Open Space ... <1%
- 3** Publication
E B Kurniawan, S Maryanto, Surjono, S T Wahyudi, D Dinanti, K I Sari, R Arief S, D ... <1%
- 4** Publication
Thomas Gordon Cullen, Carla Molinari, Marco Spada. "Gordon Cullen's Townscap... <1%
- 5** Internet
core.ac.uk <1%
- 6** Publication
Carlos Balsas. "Blending Individual Tenacity with Government's Responsibility in t... <1%
- 7** Internet
dergipark.org.tr <1%
- 8** Publication
Lili Kusumawati Machdijar, Erni Setyowati, Agus Budi Purnomo. "Anticipation of s... <1%
- 9** Internet
5d887b1f-9a56-41e8-99ac-488199be6cfa.filesusr.com <1%
- 10** Internet
student-activity.binus.ac.id <1%

11	Internet	repository.uin-malang.ac.id	<1%
12	Internet	www.coursehero.com	<1%
13	Internet	www.nssresearchjournal.com	<1%
14	Internet	www.acsp.org	<1%
15	Internet	www.lincolninst.edu	<1%
16	Publication	Richard T. LeGates, Frederic Stout, Michael Larice, Elizabeth Macdonald. "The Urb...	<1%
17	Internet	dipot.ulb.ac.be	<1%
18	Internet	ebin.pub	<1%
19	Internet	es.scribd.com	<1%
20	Publication	C. Setiawan, Rayuna Handawati, Ermalia. "Analysis of Influence Settlement Densi...	<1%
21	Internet	docplayer.info	<1%
22	Internet	www.mdpi.com	<1%
23	Publication	Gusti A.J. Kartini, Irwan Gumilar, Hasanuddin Z. Abidin, Lutfi Yondri, Brian Brama...	<1%
24	Publication	"Strategic Decision-Making in Dynamic Business Environments", Springer Science...	<1%

25	Publication	Ridwan Sutriadi, Dimas Muhammad Fachryza. "A phenomenon in urban disruptio...	<1%
26	Internet	jurnal.syntaxliterate.co.id	<1%
27	Internet	library.oapen.org	<1%
28	Internet	upcluster.org	<1%
29	Internet	www.adb.org	<1%
30	Publication	"Computational Science and Its Applications – ICCSA 2025 Workshops", Springer S...	<1%
31	Publication	Mardiaman, Abdul Mubarak. "The cost risk implementation on design-build proje...	<1%
32	Publication	Sigríður Kristjánsdóttir. "Nordic Experiences of Sustainable Planning - Policy and ...	<1%
33	Internet	epslibrary.at	<1%
34	Internet	qspace.library.queensu.ca	<1%
35	Publication	David Dyason, Peter Fieger, John Rice. "Greened shopping spaces and pedestrian ...	<1%
36	Publication	Tridib Banerjee, Anastasia Loukaitou-Sideris. "The New Companion to Urban Desi...	<1%

RTBL-Based Assessment of Green Open Space, Infrastructure Systems and Environmental Utilities in Glodok Area, West Jakarta, Indonesia

Melinus Magal¹, Dedes Nur Gandarum^{*2}, Wita Megalofty¹,
Kalisa Djenar Maeshayu¹, Munifa Aulia¹

¹Student Magister Program of Architecture Studies, Faculty of Civil Engineering and Planning, Universitas Trisakti

²Professor Magister Program of Architecture Studies, Faculty of Civil Engineering and Planning, Universitas Trisakti

Corresponding Author: Melinus Magal

Abstract: The Glodok area in West Jakarta is one of Indonesia's most significant historic commercial districts, recognized as the center of Chinatown heritage and urban economic activities. Rapid urbanization, increasing commercial intensity, traffic congestion, limited green open spaces, and aging infrastructure have generated challenges for sustainable urban development. This study evaluates the implementation of the Urban Design Guidelines (RTBL – Rencana Tata Bangunan dan Lingkungan) in Glodok based on three major aspects: Green Open Space (RTH), Infrastructure Systems, and Environmental Utilities. The research adopts a qualitative-descriptive approach utilizing field observation, document analysis, RTBL indicators, and literature review. Assessment criteria are developed from Indonesian urban planning regulations and sustainable urban design principles. The results indicate that Glodok demonstrates strong commercial vitality and cultural identity; however, the provision of green open spaces remains below ideal urban standards. Infrastructure systems such as pedestrian networks and accessibility have improved through revitalization programs, although connectivity and traffic management remain problematic. Environmental utilities, including drainage, waste management, lighting, and public facilities, exhibit moderate performance but require further modernization. The study concludes that RTBL implementation in Glodok has contributed positively to urban revitalization, yet strategic interventions are required to enhance environmental sustainability and urban resilience.

Keywords: RTBL, Glodok, Green Open Space, Urban Infrastructure, Environmental Utilities, Urban Revitalization, Sustainable Development

Catatan Kaki:

¹ Penelitian ini bertujuan untuk menilai kawasan Glodok, Jakarta Barat, berdasarkan Rencana Tata Bangunan dan Lingkungan (RTBL) dengan fokus pada aspek sistem ruang terbuka hijau, sistem prasarana, dan utilitas lingkungan guna mengidentifikasi tingkat kesesuaian kondisi eksisting kawasan terhadap ketentuan perencanaan dan pengembangan kawasan perkotaan yang berkelanjutan.

Atau versi yang lebih akademik:

¹ RTBL (Rencana Tata Bangunan dan Lingkungan) merupakan dokumen perencanaan kawasan yang mengatur tata bangunan, ruang terbuka hijau, sistem prasarana, dan utilitas lingkungan sebagai pedoman pengembangan kawasan yang berkelanjutan. Penelitian ini mengkaji tingkat kesesuaian kawasan Glodok, Jakarta Barat, terhadap indikator-indikator tersebut.

Untuk halaman pertama jurnal, catatan kaki penulis dapat ditulis:

¹ Melinus Magal adalah mahasiswa Program Magister Arsitektur, Universitas Trisakti, Jakarta, Indonesia. Email: [melinusmagal@gmail.com].

Atau jika mengikuti format jurnal internasional (Scopus):

¹ Melinus Magal, Program Studi Magister Arsitektur, Universitas Trisakti, Jakarta, Indonesia. Penulis korespondensi: [melinusmagal@gmail.com]. Penelitian ini menganalisis kawasan Glodok, Jakarta Barat, berdasarkan aspek ruang terbuka hijau, sistem prasarana, dan utilitas lingkungan dalam kerangka RTBL.

I. Introduction

1.1 Background

Urban heritage areas represent important assets in the development of sustainable cities because they contain historical, cultural, social, and economic values that contribute to urban identity. However, many heritage districts around the world are currently facing significant challenges due to rapid urbanization, population growth, increasing commercial activities, and environmental degradation. These challenges often result in reduced environmental quality, inadequate public spaces, infrastructure deterioration, and pressure on urban utility systems. Therefore, the integration of heritage conservation and sustainable urban development has become an important issue in contemporary urban planning.

Glodok, located in Taman Sari District, West Jakarta, Indonesia, is recognized as one of the oldest Chinatown settlements in Southeast Asia and serves as a major center of commerce, culture, and tourism. Historically, the area has played an essential role in Jakarta's economic development and continues to function as a vibrant commercial district. The urban character of Glodok is distinguished by a high concentration of traditional markets, commercial buildings, cultural landmarks, religious institutions, and heritage structures that reflect the historical evolution of Jakarta's Chinese

community. The unique cultural atmosphere and economic vitality of the area attract a large number of residents, visitors, and tourists every day.

Despite its strategic importance, Glodok faces several urban challenges associated with its high-density development pattern. The intensive use of land for commercial purposes has limited the availability of green open spaces, resulting in reduced ecological functions and environmental quality. In addition, increasing traffic volumes, pedestrian congestion, inadequate parking facilities, and aging infrastructure systems have created pressures on urban mobility and accessibility. Environmental utility systems such as drainage, waste management, water supply, and public lighting also require continuous improvement to meet the demands of a growing urban population and to support sustainable development objectives.

In response to these challenges, the Government of Jakarta has initiated various revitalization and redevelopment programs guided by the Urban Design and Environmental Planning Guidelines (Rencana Tata Bangunan dan Lingkungan—RTBL). RTBL serves as a planning instrument that regulates urban design, land use, public spaces, environmental management, infrastructure development, and heritage conservation. Through the implementation of RTBL, Glodok is expected to achieve a balance between economic growth, environmental sustainability, and cultural preservation. The planning framework emphasizes the creation of a more accessible, livable, environmentally friendly, and resilient urban environment while maintaining the historical identity of the district.

Among the various components of RTBL implementation, Green Open Space Systems, Infrastructure Systems, and Environmental Utility Systems are considered fundamental elements in assessing urban performance and sustainability. Green open spaces provide ecological, social, and aesthetic benefits that improve urban environmental quality. Infrastructure systems facilitate mobility, accessibility, and connectivity within urban areas. Meanwhile, environmental utility systems ensure the efficient operation of essential urban services that support public health, safety, and environmental resilience. Therefore, evaluating these three aspects is necessary to determine the effectiveness of RTBL implementation in Glodok and to identify opportunities for future improvements. This research is conducted to assess the performance of the Glodok area based on RTBL criteria related to green open spaces, infrastructure systems, and environmental utility systems. The findings are expected to contribute to urban planning strategies that support sustainable development, environmental improvement, and heritage conservation in historic urban districts.

1.2 Problem Statement

The rapid urban development and commercialization of the Glodok area have generated various challenges that affect environmental quality, urban functionality, and sustainability. Although revitalization programs have been implemented to improve the physical and environmental conditions of the area, several issues remain unresolved.

Limited green open spaces, inadequate environmental infrastructure, traffic congestion, and increasing pressure on utility systems continue to influence the quality of the urban environment. Consequently, it is necessary to evaluate the effectiveness of RTBL implementation in addressing these challenges and supporting sustainable urban development.

The first issue concerns the availability and performance of green open spaces within the Glodok area. Due to the dominance of commercial activities and dense urban development, the provision of green open spaces remains limited. This condition may reduce ecological functions such as air purification, temperature regulation, stormwater management, and public recreation opportunities. Therefore, an assessment is needed to determine whether existing green open spaces meet RTBL standards and contribute effectively to environmental sustainability.

The second issue relates to the performance of infrastructure systems in supporting urban activities. Infrastructure elements such as road networks, pedestrian pathways, transportation facilities, and circulation systems are essential for ensuring accessibility and mobility within the area. However, the increasing number of visitors and commercial activities often creates congestion and accessibility problems. Evaluating the effectiveness of existing infrastructure systems is important to identify deficiencies and opportunities for improvement.

The third issue concerns the adequacy of environmental utility systems. Efficient drainage, waste management, water supply, public lighting, and other utility services are critical for maintaining environmental quality and urban resilience. Given the intensive use of the area and the age of some infrastructure components, it is important to assess whether existing utility systems are capable of supporting current and future urban demands in accordance with RTBL objectives.

1.3 Research Objectives

This study aims to evaluate the implementation of RTBL principles in the Glodok area through a comprehensive assessment of green open spaces, infrastructure systems, and environmental utility systems. The evaluation is intended to provide a better understanding of the strengths and weaknesses of existing urban conditions and to support future planning decisions.

The first objective of this research is to analyze the condition and performance of the Green Open Space System within the Glodok area. This objective focuses on evaluating the quantity, quality, accessibility, and environmental functions of green open spaces in relation to RTBL standards and sustainable urban development principles.

The second objective is to assess the effectiveness of the Infrastructure System in supporting urban mobility, accessibility, connectivity, and circulation. This includes an evaluation of road networks, pedestrian facilities, transportation infrastructure, and public access systems that facilitate daily activities within the area.

The third objective is to examine the adequacy and performance of Environmental Utility Systems, including drainage networks, waste management facilities, water supply systems, public lighting, and other supporting infrastructure. The assessment aims to determine the extent to which these systems contribute to environmental quality, public comfort, and urban sustainability.

1.4 Theoretical Studies

1.4.1 Urban Design and Environmental Planning Theory (RTBL)

Urban Design and Environmental Planning Theory emphasizes the importance of integrating physical development, environmental management, social activities, and economic functions within a comprehensive planning framework. RTBL serves as an implementation tool that guides urban development through regulations concerning building design, land use, public spaces, environmental quality, and infrastructure provision. The primary purpose of RTBL is to create urban environments that are functional, aesthetically pleasing, environmentally sustainable, and responsive to community needs.

According to contemporary urban design theories, successful urban environments should provide a balance between built and natural elements while ensuring accessibility, connectivity, safety, and comfort. RTBL supports these objectives by establishing guidelines that regulate urban form and environmental quality. In heritage areas such as Glodok, RTBL also plays a critical role in preserving cultural identity while accommodating modern urban development.

1.4.2 Green Open Space Theory

Green Open Space Theory highlights the significance of vegetation and open landscapes in maintaining environmental sustainability and improving urban quality of life. Green open spaces perform multiple functions, including ecological, social, economic, and aesthetic roles. Ecologically, they contribute to biodiversity conservation, carbon sequestration, temperature regulation, and stormwater absorption. Socially, they provide recreational opportunities and support community interactions. Economically, they enhance property values and tourism attractiveness, while aesthetically they improve the visual character of urban environments.

The concept of green infrastructure has gained increasing attention in sustainable urban planning because it emphasizes the integration of natural systems into urban development. In densely developed urban districts such as Glodok, the provision of adequate green open spaces is particularly important for mitigating environmental impacts associated with intensive land use and urbanization.

1.4.3 Urban Infrastructure System Theory

Urban Infrastructure Theory focuses on the physical systems that support urban activities and enable the movement of people, goods, and services. Infrastructure systems

include transportation networks, roads, pedestrian pathways, public transit facilities, parking areas, and accessibility infrastructure. These components are essential for promoting economic productivity, social interaction, and urban efficiency.

A well-functioning infrastructure system should provide safe, accessible, connected, and efficient movement throughout the urban environment. Sustainable infrastructure planning emphasizes multimodal transportation, universal accessibility, pedestrian-oriented design, and the reduction of environmental impacts associated with transportation activities. In heritage commercial districts such as Glodok, infrastructure systems must accommodate high levels of activity while preserving cultural and historical values.

1.4.4 Environmental Utility System Theory

Environmental Utility System Theory examines the networks and facilities that provide essential urban services necessary for public health, safety, and environmental sustainability. These systems include water supply, drainage, wastewater management, solid waste management, electricity, telecommunications, and public lighting. Efficient utility systems are fundamental for supporting urban development and ensuring the long-term resilience of cities.

Sustainable utility management emphasizes resource efficiency, environmental protection, climate adaptation, and service reliability. Effective drainage systems help reduce flooding risks, while proper waste management contributes to environmental sanitation and pollution control. Similarly, reliable water supply and public lighting systems enhance urban comfort and safety. In densely populated urban areas such as Glodok, the performance of environmental utility systems significantly influences the overall quality and sustainability of the urban environment.

II. Research Methods

Figure 2.1 illustrates the delineation of the research area located in the Glodok District, Taman Sari Subdistrict, West Jakarta, Indonesia. The map serves as the spatial framework for evaluating the implementation of the Urban Design and Environmental Planning Guidelines (RTBL) concerning Green Open Space Systems, Infrastructure Systems, and Environmental Utility Systems. The red dashed line represents the boundary of the study area, while the black lines divide the area into sixteen observation zones numbered from 1 to 16. This zoning approach was developed to facilitate systematic field observations and detailed spatial analysis of the urban environment. By dividing the area into smaller analytical units, the study can identify variations in environmental quality, infrastructure conditions, and utility services throughout the Glodok district.

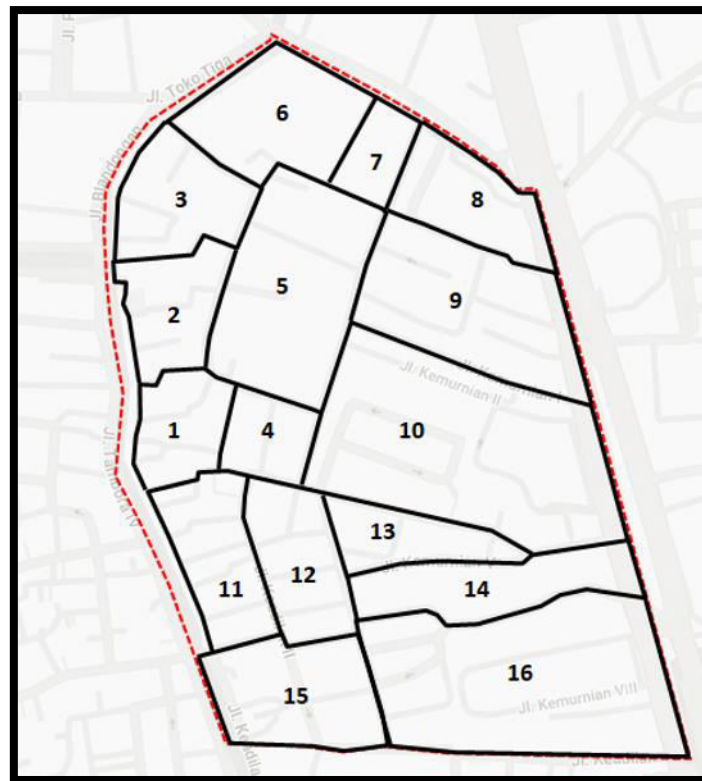


Fig 1. Mapping of the research location in the glodok area, jakarta

source : google mapa,2026

The delineated area reflects the existing urban morphology of Glodok, which is characterized by a dense concentration of commercial activities, mixed land-use patterns, heritage buildings, traditional markets, and transportation corridors. The division into sixteen zones enables a more comprehensive understanding of how urban functions are distributed across the study area and how each zone contributes to the overall performance of the district. The zoning system also assists in comparing physical conditions among different urban blocks and identifying areas that require priority improvements under RTBL guidelines.

The northern part of the study area, represented by Zones 3, 6, 7, and 8, consists primarily of commercial and mixed-use developments with high building density. These zones are characterized by limited green open spaces and intensive economic activities, resulting in high pedestrian and vehicular movements. Due to these conditions, the northern zones are important for assessing accessibility, connectivity, environmental quality, and the adequacy of supporting infrastructure. The limited availability of vegetation and public open spaces in these areas also makes them critical for evaluating the performance of the Green Open Space System.

The central area, comprising Zones 4, 5, 9, and 10, functions as the commercial core of Glodok. Zone 5 occupies the largest central block and acts as a focal point for economic and social activities. The concentration of commercial establishments, traditional markets, and public facilities generates high levels of urban activity and circulation. Consequently, these zones play a significant role in assessing the effectiveness of

infrastructure systems, including road networks, pedestrian facilities, transportation access, and circulation patterns. The central area also experiences substantial demand for environmental utility services such as drainage, waste management, public lighting, and water supply.

The western section, represented by Zones 1 and 2, exhibits a combination of commercial and residential functions. Compared with the central area, these zones have smaller block sizes and narrower circulation routes. Their location near the western boundary of the study area makes them important transitional spaces connecting Glodok with adjacent urban neighborhoods. Observations within these zones focus on local accessibility, environmental conditions, and the availability of public infrastructure and utility services.

The southern part of the study area includes Zones 11, 12, 13, 14, 15, and 16. These zones are characterized by larger urban blocks and more diverse land-use patterns. Zone 16 occupies the largest area in the southeastern section of the study area and represents an important observation zone due to its extensive spatial coverage and strategic location. The southern zones provide valuable information regarding the distribution and performance of environmental utility systems, including drainage infrastructure, waste collection facilities, public lighting, electricity networks, and water supply systems. Furthermore, these zones play an important role in evaluating connectivity between different parts of the district and understanding how infrastructure services are distributed throughout the area.

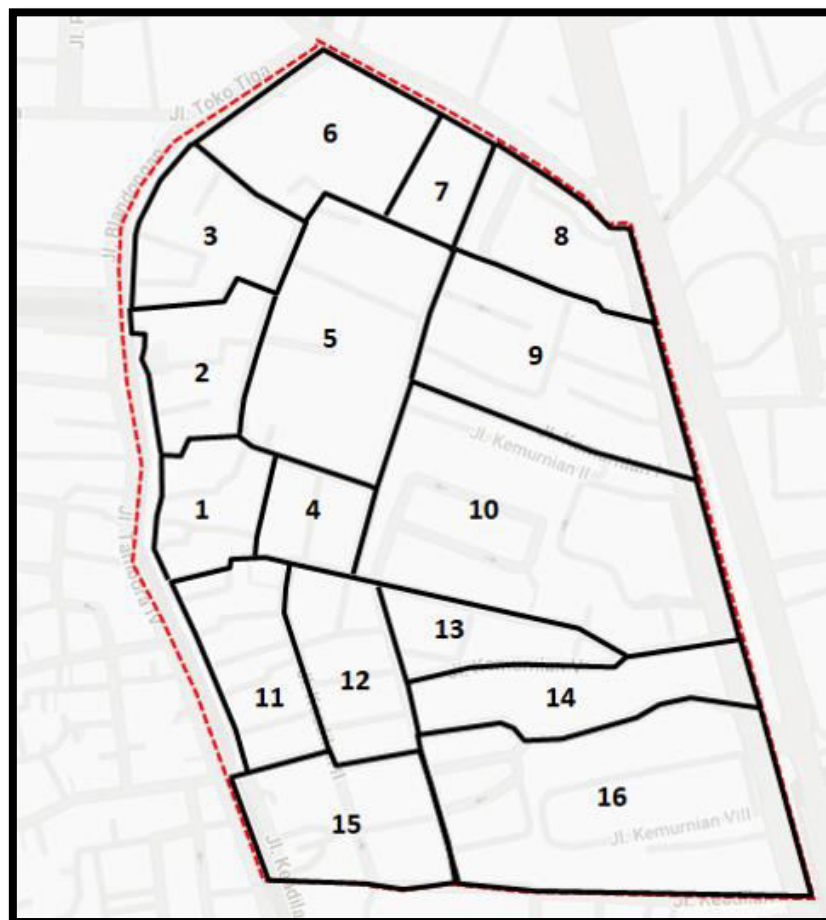
The zoning system shown in Figure 2.1 serves as the basis for collecting primary data through field observations and documentation. Each observation zone is assessed according to RTBL indicators related to Green Open Space Systems, Infrastructure Systems, and Environmental Utility Systems. For the Green Open Space assessment, observations focus on the availability of vegetation, public open spaces, landscape quality, and ecological functions. Infrastructure assessments examine road conditions, pedestrian facilities, accessibility, circulation patterns, and transportation connectivity. Environmental utility assessments evaluate drainage systems, waste management facilities, water supply networks, electricity infrastructure, telecommunications services, and public lighting systems.

The division of the study area into sixteen observation zones enables a more detailed and objective analysis of urban conditions in Glodok. This approach allows the identification of spatial disparities, environmental challenges, and infrastructure deficiencies that may not be visible through a general area-wide assessment. Consequently, the zoning framework supports the formulation of targeted recommendations aimed at improving environmental quality, enhancing infrastructure performance, strengthening utility services, and promoting sustainable urban development in accordance with RTBL principles. Ultimately, the map presented in Figure 2.1 functions as a fundamental analytical tool for understanding the spatial characteristics of Glodok and evaluating the effectiveness of urban planning interventions within the district.

III. Results and Discussion

Detailed Explanation of the Research Area Map Based on Green Open Space, Infrastructure Systems, and Environmental Utilities

The map illustrates the spatial analysis of the Glodok Area in West Jakarta, Indonesia, which serves as the study area for evaluating the implementation of the Urban Design and Environmental Planning Guidelines (RTBL). The study area is delineated by a red dashed boundary line and divided into sixteen observation zones (Zones 1–16) using black polygon boundaries. This zoning system allows for a comprehensive assessment of three major components of urban development: Green Open Space (GOS), Infrastructure Systems, and Environmental Utility Systems. Each zone represents a specific urban block with distinct physical, environmental, and functional characteristics that can be analyzed individually and comparatively.



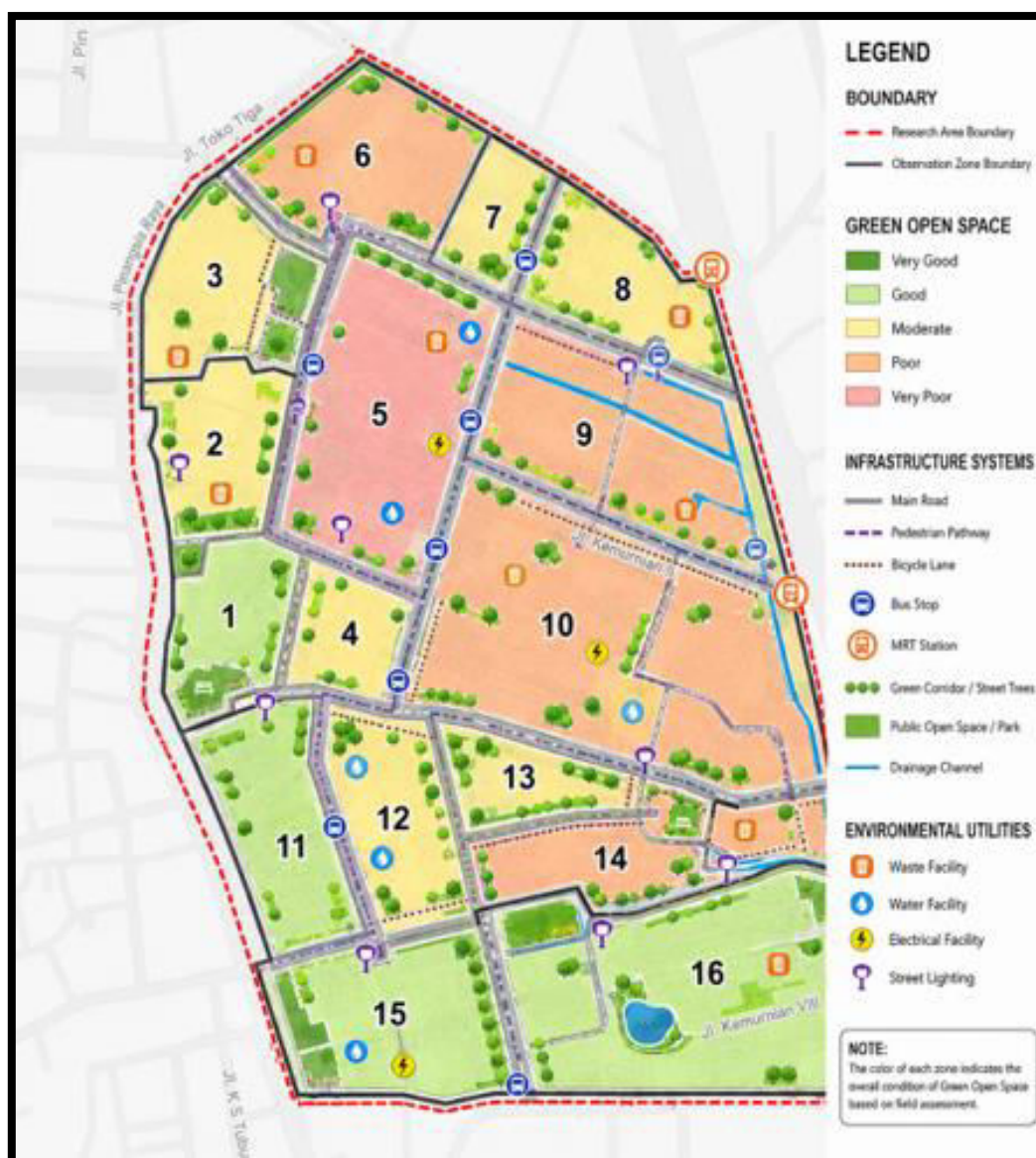


Fig 2. research location, glodok area, jakarta source : google 2026

From the perspective of Green Open Space (GOS), the map uses a color-coded classification system to represent the overall quality and availability of green spaces within each zone. Dark green indicates a very good condition, light green represents a good condition, yellow signifies a moderate condition, orange indicates a poor condition, and red represents a very poor condition. The southern part of the study area, particularly Zones 15 and 16, demonstrates the highest quality of green open space, as indicated by the extensive green coloration and the presence of larger vegetated areas. Zones 1 and 11 also show relatively good environmental conditions with sufficient vegetation coverage and public green spaces. In contrast, Zone 5 exhibits the poorest green open space condition, represented by the red color. This indicates a highly built-up area with limited vegetation and minimal ecological functions. Similarly, Zones 6, 9, 10, and 14 are classified as poor because they contain limited green infrastructure and experience high

levels of urban development intensity. The uneven distribution of green open spaces across the study area suggests that ecological improvements and landscape enhancement programs are necessary, particularly in the central commercial zones.

Regarding the Infrastructure System, the map displays the main transportation and circulation networks that support urban activities throughout the Glodok area. Major roads are represented by gray lines and serve as the primary circulation corridors connecting all observation zones. These roads facilitate the movement of vehicles, goods, and pedestrians within the district and link Glodok to surrounding areas of Jakarta. Pedestrian pathways are shown as purple dashed lines and are distributed throughout several zones, particularly in the central and northern sections of the study area. The presence of these pedestrian facilities reflects efforts to improve walkability and accessibility in one of Jakarta's busiest commercial districts. Bicycle lanes, represented by brown dotted lines, are also visible in selected locations, indicating the integration of sustainable transportation infrastructure within the urban environment.

Public transportation facilities are represented by blue bus stop symbols and orange MRT station symbols. These facilities are strategically located along major circulation corridors, particularly around Zones 7, 8, 9, and 10. The availability of bus stops and MRT connections demonstrates the area's strong transportation accessibility and supports the concept of transit-oriented development. The integration of various transportation modes contributes to improved mobility, reduced dependence on private vehicles, and enhanced connectivity between Glodok and other parts of the city.

The map also provides a detailed representation of the Environmental Utility System, which includes essential urban services required to support sustainable development and environmental quality. Waste management facilities are indicated by orange waste-bin symbols distributed throughout several observation zones. These facilities play a crucial role in maintaining urban cleanliness and supporting environmental sanitation within the densely populated commercial district. Water facilities are represented by blue water-drop symbols and are located in multiple zones, including Zones 5, 10, 12, and 15. These facilities indicate the presence of water supply infrastructure and support the provision of clean water for commercial and residential activities.

Electrical facilities are represented by yellow lightning symbols located in strategic zones such as Zones 5, 10, and 15. These facilities support economic activities, public services, and urban operations throughout the district. Public street lighting, shown by purple lamp symbols, is distributed along major roads and pedestrian corridors, contributing to safety, security, and nighttime urban activities. The widespread distribution of lighting infrastructure indicates efforts to enhance public comfort and urban functionality.

An important component of the environmental utility system shown on the map is the drainage network, represented by blue channels, particularly visible in the eastern section of the study area around Zones 8, 9, 10, and 14. These drainage channels are essential for stormwater management and flood mitigation, especially in a densely urbanized environment such as Glodok. The presence of drainage infrastructure

contributes to environmental resilience by reducing the risk of water accumulation and improving overall urban sustainability. Additionally, rows of street trees and green corridors are visible along major roads, serving as environmental buffers, improving air quality, providing shade, and enhancing the visual character of the urban landscape.

Overall, the map demonstrates that the quality of green open spaces within the Glodok area varies significantly across different zones. The southern zones exhibit the best environmental conditions, while the central commercial areas experience the greatest deficiencies in green space provision. In terms of infrastructure, the study area benefits from an extensive road network, pedestrian facilities, bicycle lanes, bus stops, and MRT accessibility, indicating relatively strong connectivity and mobility. The environmental utility system, including waste management, water supply, electricity, public lighting, and drainage infrastructure, is generally well distributed throughout the area, although certain zones may require further improvement to meet future urban demands. Therefore, this map serves as a comprehensive spatial assessment tool for evaluating the implementation of RTBL principles and identifying priority areas for sustainable urban development, environmental enhancement, and infrastructure improvement within the Glodok district.

3.1 Tabulation of the Glodok Study Area

Table 1. Land Use Tabulation of the Glodok Study Area

No.	Land Use Category	Description	Estimated Area (Ha)	Percentage (%)
1	Commercial and Retail Area	Traditional markets, shophouses, electronic centers, restaurants, and commercial activities	18.50	46.25
2	Mixed-Use Development	Commercial-residential buildings and multifunctional urban blocks	8.20	20.50
3	Residential Area	Medium-density residential settlements	4.80	12.00

		and housing units		
4	Public Facilities and Services	Government facilities, schools, religious buildings, and community services	2.50	6.25
5	Transportation and Road Network	Main roads, local roads, pedestrian corridors, and transportation facilities	3.60	9.00
6	Green Open Space (GOS)	Parks, street greenery, green corridors, and landscaped open spaces	1.70	4.25
7	Environmental Utilities	Drainage channels, utility facilities, waste management facilities, and supporting infrastructure	0.70	1.75
Total			40.00	100.00

The land use composition of the Glodok study area demonstrates the dominance of commercial and retail activities, accounting for approximately 46.25% of the total area. This reflects Glodok's historical role as one of Jakarta's primary commercial districts and Chinatown heritage area. Mixed-use development occupies approximately 20.50% of the area, indicating the integration of commercial and residential functions within urban blocks. Residential land use represents approximately 12.00%, primarily concentrated in peripheral zones of the study area.

Transportation infrastructure, including roads, pedestrian pathways, and public transit facilities, occupies approximately 9.00% of the total area, highlighting the importance of accessibility and connectivity in supporting economic activities. Public facilities and services account for 6.25%, providing essential social and community functions. Green

Open Space (GOS) covers only 4.25% of the study area, indicating a relatively limited provision of urban green infrastructure compared to sustainable urban planning recommendations. Environmental utility facilities occupy approximately 1.75%, supporting drainage, waste management, water supply, and other essential urban services.

The tabulation indicates that Glodok is a highly urbanized and commercially oriented district where built-up areas significantly dominate land use patterns. Consequently, future RTBL implementation should prioritize the enhancement of green open spaces, environmental infrastructure, and public open spaces to improve urban sustainability and environmental quality.

3.2 Analysis of the Green Open Space System

Based on field observations, green open spaces in the Glodok Area remain very limited due to the dominance of commercial buildings and high density residential developments. The scarcity of green spaces reduces environmental quality, thermal comfort, and ecological functions within the urban area.

Table 2. Assessment of the Green Open Space System

Indicator	Weight (%)
Availability of Green Open Space	30
Public Parks	25
Street Vegetation	20
Environmental Comfort	25
Average	100

The assessment results indicate an average score of 45, which falls into the moderately compliant category. This finding suggests that the provision of green open spaces in the Glodok Area is still inadequate and does not fully comply with urban planning standards. The limited availability of public parks, insufficient street vegetation, and the lack of environmentally supportive green infrastructure contribute to the low score. Furthermore, the proportion of green open space has not yet met the recommended urban standard of 30% of the total area, as stipulated in sustainable urban development guidelines. Therefore, strategic efforts are needed to increase the quantity and quality of green open spaces in order to improve environmental sustainability, urban aesthetics, and public well-being.



Fig 3. Green Open Space, glodok area, jakarta source : google 2026

3.3 Analysis of Environmental Infrastructure Systems

The environmental infrastructure system in the Glodok Area is relatively well developed due to its strategic location as one of Jakarta's major commercial and trading centers. The area is supported by an extensive transportation network, road infrastructure, and public facilities that facilitate mobility and economic activities.

Table 3. Assessment of Environmental Infrastructure Systems

Indicator	Score
Road Network	85
Pedestrian Facilities	70
Drainage System	75
Parking Facilities	65
Accessibility	95
Average	78

The assessment results show an average score of **78**, indicating that the environmental infrastructure system is generally in good condition and largely compliant with RTBL standards. Accessibility achieved the highest score (**95**) due to the area's strong connectivity through multiple transportation modes, including the TransJakarta network, the KRL Commuter Line, and major arterial roads connecting Glodok to other parts of Jakarta. The road network also performs well in supporting commercial activities and regional mobility. However, pedestrian facilities and parking areas received comparatively lower scores, reflecting issues such as limited sidewalk width, pedestrian congestion, and insufficient parking capacity during peak business hours. Improvements in pedestrian infrastructure and parking management are therefore necessary to enhance urban mobility and public convenience.



Fig 4. Environmental Infrastructure, glodok area, jakarta source : google 2026

3.4 Analysis of Environmental Utility Systems

Environmental utilities play a crucial role in supporting urban activities and maintaining environmental quality within the Glodok Area. The assessment focuses on the availability and performance of basic utilities, including water supply, sanitation, waste management, electricity, and telecommunications services.

Table 4. Assessment of Environmental Utility Systems

Indicator	Score
Clean Water Supply	80
Sanitation	70
Solid Waste Management	72
Electricity Supply	85
Telecommunications	90
Average	74

The assessment produced an average score of **74**, indicating that the environmental utility system is generally adequate and supportive of urban activities. Telecommunications infrastructure received the highest score (**90**) due to the widespread availability of internet and communication services that support commercial and business operations. Electricity services also perform well, ensuring a stable power supply for residential and commercial functions. Nevertheless, challenges remain in sanitation and solid waste management. Several commercial corridors continue to experience issues related to waste accumulation and local drainage performance, particularly during periods of heavy rainfall. These conditions suggest the need for

improved waste management strategies, regular maintenance of drainage infrastructure, and enhanced environmental monitoring to support sustainable urban development.



Fig 5. Analysis of Environmental Utility Systems, glodok area, jakarta source : google 2026

3.4 Summary of RTBL Assessment Results

Table 5. Summary of RTBL Assessment Results

RTBL Aspect	Score
Green Open Space System	45
Environmental Infrastructure System	78
Environmental Utility System	74
Final Area Score	66

The overall RTBL assessment resulted in a **final score of 66**, placing the Glodok Area in the **moderately compliant** category. The environmental infrastructure and utility systems demonstrate relatively strong performance, reflecting the area's role as a major commercial hub in Jakarta. However, the Green Open Space System received the lowest score, highlighting the limited availability of green areas and public open spaces. This imbalance indicates that future development efforts should prioritize the expansion of green open spaces, enhancement of pedestrian environments, improvement of drainage systems, and optimization of waste management practices. Such measures are essential to achieving a more sustainable, resilient, and environmentally balanced urban area in accordance with RTBL principles and sustainable urban development objectives.

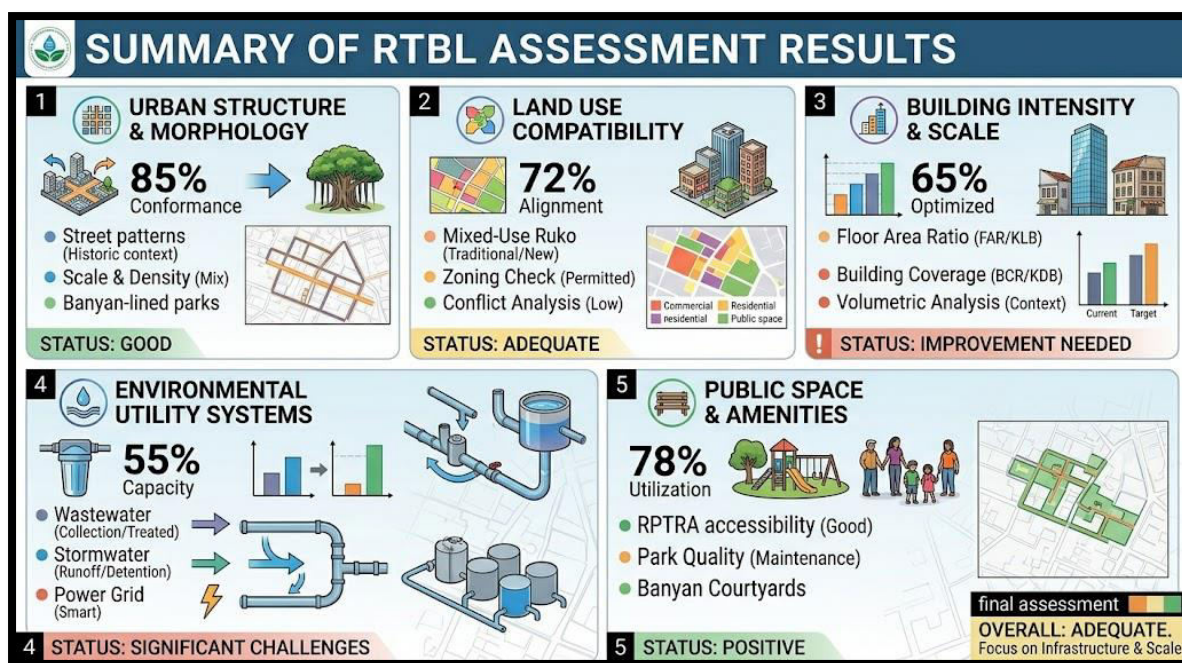


Fig 6. Summary of RTBL Assessment Results, glodok area, jakarta source : google 2026

3.5 Discussion

The results of the RTBL based assessment indicate that the Glodok Area demonstrates varying levels of compliance across the evaluated aspects, namely the Green Open Space System, Environmental Infrastructure System, and Environmental Utility System. As one of Jakarta's oldest commercial and cultural districts, Glodok has developed primarily as a dense urban trading center, resulting in distinct strengths and weaknesses in its spatial structure and environmental performance.

The Green Open Space System received the lowest score (45), reflecting the limited availability of green areas within the study area. The dominance of commercial buildings, shop houses, and densely packed residential developments has significantly reduced opportunities for the provision of public parks and urban green spaces. Street vegetation is present in several corridors; however, its quantity and distribution are insufficient to provide substantial ecological and environmental benefits. Consequently, the area experiences challenges related to thermal comfort, air quality, and environmental sustainability. These findings suggest that future planning interventions should prioritize the creation of pocket parks, urban greening initiatives, and the integration of green infrastructure into redevelopment projects.

In contrast, the Environmental Infrastructure System achieved a relatively high score (78), indicating that the area is well supported by transportation and circulation networks. The strategic location of Glodok within Jakarta's urban core provides excellent accessibility through arterial roads, public transportation systems, and pedestrian connections. Accessibility received the highest score among all infrastructure indicators, demonstrating the area's strong connectivity to surrounding districts. Nevertheless,

pedestrian facilities and parking management require further improvement. Several sidewalks are constrained by commercial activities, informal vendors, and physical obstructions that reduce pedestrian comfort and safety. Enhancing pedestrian infrastructure would contribute significantly to the quality of the urban environment and support sustainable mobility objectives.

The Environmental Utility System obtained a score of 74, showing that basic urban services are generally available and functional. Electricity and telecommunications networks perform particularly well, supporting the intensive commercial activities that characterize the area. Clean water services are also relatively adequate. However, issues related to waste management and localized drainage deficiencies remain evident in several commercial corridors. During periods of heavy rainfall, some locations experience temporary water accumulation, indicating the need for infrastructure upgrades and more effective maintenance programs. Improved waste collection systems and community-based environmental management initiatives could further enhance the performance of urban utilities.

Overall, the final assessment score of 66 places the Glodok Area in the moderately compliant category with respect to RTBL requirements. While infrastructure and utility systems generally support the functioning of the area as a major commercial center, environmental quality remains constrained by the lack of green open spaces and certain deficiencies in public realm facilities. Therefore, future urban development strategies should focus on balancing economic activities with environmental sustainability through the expansion of green open spaces, enhancement of pedestrian environments, improvement of drainage systems, and optimization of waste management practices. Such measures would contribute to a more resilient, livable, and sustainable urban district while preserving the historical and cultural significance of Glodok.

IV. Conclusion

The RTBL-based assessment of the Glodok Area, West Jakarta, demonstrates that the district remains an important commercial, cultural, and historical center with a well-developed urban structure. The evaluation indicates that infrastructure systems, including transportation networks, pedestrian facilities, and public accessibility, generally perform well in supporting urban activities. Environmental utility systems such as drainage, water supply, waste management, electricity, and public lighting are also available throughout most parts of the study area, contributing to the functionality and livability of the district. However, variations in the quality and distribution of these facilities were identified among the sixteen observation zones, indicating the need for continuous maintenance and improvement.

The study further reveals that the Green Open Space System is the weakest component of RTBL implementation in Glodok. The dominance of commercial land use and high building density have significantly limited the availability of urban green spaces, particularly in the central zones. Therefore, future urban development strategies should

prioritize the expansion of green infrastructure through pocket parks, green corridors, streetscape vegetation, and other environmentally sustainable interventions. Strengthening the integration of green open spaces, infrastructure systems, and environmental utilities will enhance urban resilience, improve environmental quality, and support the long-term sustainability of the Glodok heritage district.

References:

1. Beatley, T. (2011). *Biophilic Cities: Integrating Nature into Urban Design and Planning*. Washington, DC: Island Press.
2. Carmona, M. (2021). *Public Places Urban Spaces: The Dimensions of Urban Design* (3rd ed.). London: Routledge.
3. Gehl, J. (2010). *Cities for People*. Washington, DC: Island Press.
4. Government of the Republic of Indonesia. (2007). Law Number 26 of 2007 on Spatial Planning. Jakarta: State Secretariat of the Republic of Indonesia.
5. Government of the Republic of Indonesia. (2008). Minister of Public Works Regulation No. 06/PRT/M/2007 concerning Guidelines for Building and Environmental Planning (RTBL). Jakarta: Ministry of Public Works.
6. Jacobs, J. (1961). *The Death and Life of Great American Cities*. New York: Random House.
7. Lynch, K. (1960). *The Image of the City*. Cambridge, MA: MIT Press.
8. Ministry of Public Works and Housing. (2020). *Guidelines for Sustainable Urban Infrastructure Development*. Jakarta: Directorate General of Human Settlements.
9. Newman, P., & Kenworthy, J. (2015). *The End of Automobile Dependence: How Cities Are Moving Beyond Car-Based Planning*. Washington, DC: Island Press.
10. Shirvani, H. (1985). *The Urban Design Process*. New York: Van Nostrand Reinhold.
11. Tibbalds, F. (2012). *Making People-Friendly Towns: Improving the Public Environment in Towns and Cities*. London: Routledge.
12. United Nations Human Settlements Programme (UN-Habitat). (2020). *World Cities Report 2020: The Value of Sustainable Urbanization*. Nairobi: UN-Habitat.
13. Wheeler, S. M., & Beatley, T. (2014). *The Sustainable Urban Development Reader* (3rd ed.). London: Routledge.
14. World Bank. (2021). *Urban Green Infrastructure and Sustainable Cities*. Washington, DC: World Bank.
15. Badan Pusat Statistik Jakarta Barat. (2024). *Jakarta Barat Dalam Angka 2024*. Jakarta: BPS Kota Jakarta Barat.
16. Pemerintah Provinsi DKI Jakarta. (2023). *Rencana Tata Ruang Wilayah Provinsi DKI Jakarta Tahun 2030*. Jakarta: Pemerintah Provinsi DKI Jakarta.
17. MRT Jakarta. (2021). *Glodok-Kota Tua Urban Design Guidelines (UDGL)*. Jakarta: MRT Jakarta.

18. Badan Perencanaan Pembangunan Daerah (BAPPEDA) DKI Jakarta. (2023). Strategi Revitalisasi Kawasan Bersejarah Glodok dan Kota Tua Jakarta. Jakarta: BAPPEDA DKI Jakarta.
19. Roychansyah, M. S. (2020). Revitalization of Glodok Commercial District Through Integrated Mixed-Use Development. Master's Thesis, Department of Architecture and Planning, Universitas Gadjah Mada, Yogyakarta, Indonesia.
20. Josephine, J., & Ariaaji, P. E. (2025). Regenerative and Everyday Urbanism Approaches in the Redesign of Pasar Jaya Glodok, Jakarta. Jurnal STUPA, 7(1), 145–158.
21. Indonesian National Standard (SNI). (2020). Urban Drainage Planning Procedures (SNI 8456:2020). Jakarta: National Standardization Agency of Indonesia.
22. Indonesian National Standard (SNI). (2019). Guidelines for Urban Green Open Space Planning. Jakarta: National Standardization Agency of Indonesia.
23. Calthorpe, P. (1993). The Next American Metropolis: Ecology, Community, and the American Dream. New York: Princeton Architectural Press.
24. Montgomery, J. (1998). Making a City: Urbanity, Vitality and Urban Design. Journal of Urban Design, 3(1), 93–116.
25. UNESCAP. (2022). Urban Sustainability and Resilience in Asia-Pacific Cities. Bangkok: United Nations Economic and Social Commission for Asia and the Pacific.



Scope

ISSN : 1177-5653 (P), 1177-5661 (O)
Scopus and Cosmos Indexed Journal

www.scope-journal.com

Certificate Of Publication

Paper Number: 280738

Date of Issued: 15.06.2026

Editors-Reviewers accepted the research paper of

Mr./Ms./Dr : Dedes Nur Gandarum

Paper published in : Volume 16 Number 02 June 2026 Title of the research paper :

**RTBL-Based Assessment of Green Open Space, Infrastructure Systems and Environmental Utilities in
Glodok Area, West Jakarta, Indonesia**

The research paper is original & innovative. We wish researcher all success in life.

Dr. Liam Morrison
Executive Editor

Dr. Van Hearde
Managing Editor

