

Economic Valuation of Udayana Green Open Space in Mataram City: A Contingent Valuation Method (CVM) Study

Orchidamoty^{1*}, Diswandi², M Firmansyah³

^{1,2,3}, Universitas Mataram, Mataram, Indonesia

*Corresponding Author: orchidamoty285@gmail.com

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ABSTRAK

Ruang Terbuka Hijau (GOS), sebagai barang publik, memberikan manfaat ekologis, sosial-budaya, ekonomi, dan estetika yang penting bagi masyarakat. Namun, nilai ekonomi yang terkait dengan manfaat tersebut seringkali tidak ditangkap atau diukur secara memadai. Studi ini bertujuan untuk memperkirakan nilai ekonomi Ruang Terbuka Hijau Udayana di Kota Mataram menggunakan Metode Valuasi Kontingen (CVM) dalam kerangka kuantitatif deskriptif. Populasi penelitian terdiri dari penduduk Kota Mataram di enam kecamatan, dengan ukuran sampel ditentukan menggunakan rumus Slovin, menghasilkan 100 responden. Data primer dikumpulkan melalui kuesioner terstruktur yang diberikan kepada responden yang memenuhi kriteria yang telah ditentukan, sedangkan data sekunder dikumpulkan menggunakan pendekatan empiris karena terbatasnya ketersediaan data resmi dari lembaga terkait. Data dianalisis menggunakan regresi linier berganda. Hasil menunjukkan bahwa rata-rata kesediaan membayar (WTP) adalah Rp 2.000, dengan perkiraan total nilai ekonomi tahunan sekitar Rp 1,5 miliar. Selanjutnya, temuan menunjukkan bahwa secara bersamaan, pendidikan, pendapatan, frekuensi kunjungan, fasilitas GOS, kesadaran lingkungan, dan faktor kelembagaan memiliki pengaruh positif dan signifikan secara statistik terhadap WTP responden. Namun, analisis parsial menunjukkan bahwa pendidikan dan kesadaran lingkungan tidak memiliki pengaruh signifikan secara statistik terhadap WTP.

ABSTRACT

Green Open Space (GOS), as a public good, provides essential ecological, socio-cultural, economic, and aesthetic benefits to the community. However, the economic value associated with these benefits is often not adequately captured or quantified. This study aims to estimate the economic value of Udayana Green Open Space in Mataram City using the Contingent Valuation Method (CVM) within a descriptive quantitative framework. The study population comprises residents of Mataram City across six districts, with the sample size determined using the Slovin formula, resulting in 100

Keywords: Green Open Space (GOS), Contingent Valuation Method (CVM), Environmental Awareness

respondents. Primary data were collected through structured questionnaires administered to respondents who met the predefined criteria, while secondary data were compiled using an empirical approach due to the limited availability of official data from relevant institutions. The data were analyzed using multiple linear regression. The results indicate that the mean willingness to pay (WTP) is IDR 2,000, with an estimated total annual economic value of approximately IDR 1.5 billion. Furthermore, the findings reveal that, simultaneously, education, income, visitation frequency, GOS facilities, environmental awareness, and institutional factors have a positive and statistically significant effect on respondents' WTP. However, partial analysis shows that education and environmental awareness do not have a statistically significant effect on WTP.

INTRODUCTION

Green Open Space (GOS) constitutes an integral component of environmental development aimed at maintaining ecological balance, particularly in densely populated urban areas. GOS serves four primary functions ecological, socio-cultural, economic, and aesthetic which are essential to enhancing urban livability (Asmasuci & Hadibasyir, 2019; Harahap, 2021; Purnamaselfi & Widiasamratri, 2022). In Law No. 26 of 2007 on Spatial Planning, it is stipulated that a minimum of 30% of urban land area should be allocated to GOS, comprising 20% public GOS and 10% private GOS. However, achieving the 20% threshold for public GOS remains a significant challenge for many regions in Indonesia, including Mataram City.

Mataram City, the capital of West Nusa Tenggara, consists of six administrative districts: Ampenan, Mataram, Sekarbela, Cakranegara, Sandubaya, and Selaparang (Mataram City Government, 2009). The city covers a total land area of 61.30 km² and a water area of 56.80 km². Based on its land area, the ideal extent of public GOS in Mataram City should be approximately 12.26 km². Nevertheless, data from the Environmental Agency of Mataram City indicate that only around 7% of the required 20% public GOS has been fulfilled, while private GOS has exceeded the target, reaching approximately 13% (Aulya, 2024). The Mataram City Government identifies rapid population growth as one of the most significant challenges in achieving the mandated GOS provision, as illustrated in the following data.

Table 1. Population Growth of Mataram City

Year	Total Population	Population Density (Per km ²)	Population Growth Rate
2019	486,715	7,940	2,06
2020	429,651	7,009	0,63
2021	432,024	7,048	0,41
2022	434,331	7,085	0.54
2023	441,147	7,197	1.34

Source: Statistics Indonesia (BPS) and the Ministry of Home Affairs, 2024

Figure 1. Planned Distribution of GOS in Mataram City, 2009–2028



Source: *Regional Environmental Status Report of Mataram City, 2009*

As cultural beings, communities should be regarded as active agents in environmental management and protection, encompassing all stages from planning to utilization, maintenance, and evaluation (Mina et al., 2022). To ensure that development processes operate effectively and sustainably, the active involvement of both government and society is essential (Puspitasari et al., 2022). The level of community participation in environmental development cannot be assessed solely based on willingness or intention (Putra et al., 2020). Rather, participation may take various forms, including intellectual contributions, labor, financial resources, as well as skills and expertise (Yuslimu & Setiawan, 2021). To date, there remains a paucity of studies examining community participation in the provision of Green Open Space (GOS) from the perspective of environmental economic valuation, particularly in emerging regions located on small islands such as Mataram City. Therefore, this study seeks to address this gap in the literature.

Mark Granovetter's Embeddedness Theory posits that "*economic actions are not autonomous but are embedded within social relations, cultural contexts, and societal norms*" (Granovetter, 1985). This perspective implies that individuals' willingness to participate is strongly influenced by prevailing cultural values, norms, and levels of trust. Such a framework provides an important theoretical foundation for examining how social variables such as income, education, gender, age, and environmental awareness shape individual economic decision-making. Within the field of institutional economics, Oliver Williamson extends the ideas of Ronald Coase by emphasizing transaction costs, arguing that "*economic outcomes are influenced by the costs associated with resource governance*" (Williamson, 1985). Similarly, Elinor Ostrom asserts that "*common-pool resources can be effectively managed collectively when supported by robust local institutions*" (Ostrom, 1990). These theoretical perspectives underscore the importance of institutional factors in shaping public satisfaction, trust in governance systems, and the willingness to contribute financially to environmental management initiatives. Accordingly, this study incorporates the following variables: education level (X1), income level (X2), visitation frequency (X3), GOS facilities

(X4), environmental awareness (X5), institutional factors (X6), and willingness to pay (WTP) (Y).

This study aims to estimate the average willingness to pay (WTP) of the community for Udayana Green Open Space (GOS), to analyze the determinants influencing WTP, and to identify the forms of non-monetary contributions that individuals are willing to provide. One of the economic instruments applicable for this purpose is environmental valuation through the measurement of economic value, particularly the Contingent Valuation Method (CVM). CVM involves directly eliciting individuals' willingness to pay for the benefits derived from the provision or improvement of environmental resources that do not have observable market prices (Astuti, 2021; A. Lestari, 2019).

METHOD

This study employs a quantitative research design with a descriptive approach. Quantitative research refers to the systematic investigation of phenomena through the collection of measurable data, which are subsequently analyzed using statistical, mathematical, or computational techniques (Abdullah et al., 2022). A survey method was utilized for data collection. Given constraints related to time, cost, and resources, the study relies on a sample drawn from the target population. The sample size was determined using the Slovin formula, which is commonly applied when the population size is known with certainty. Based on the calculation using the Slovin formula:

$$= \frac{441,147}{1 + 441,147(0.1)^2} = \frac{441,147}{4411.47} = 99,98$$

The sample size for this study consists of 100 respondents, distributed as follows: 21% from Ampenan District, 14% from Sekarbela District, 18% from Mataram District, 15% from Selaparang District, and 16% from Cakranegara and Sandubaya Districts. The data collection techniques employed in this study include questionnaires and documentation, with primary data serving as the main data source. The quantitative primary data consist of numerical responses provided by respondents through structured questionnaires. These responses are recorded in the form of scores, which are subsequently processed using SPSS software and analyzed using multiple linear regression. The regression model applied in this study is specified as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e$$

In the context of the Contingent Valuation Method (CVM), and in alignment with the research objectives, cross-sectional data are employed to estimate WTP under a hypothetical scenario at a single point in time, thereby capturing variations in individual preferences rather than changes in behavior over time. The data analysis procedure includes several stages: instrument testing (validity and reliability tests), classical assumption tests, multiple linear

regression analysis, coefficient of determination (R^2) analysis, hypothesis testing, and the estimation of WTP values.

RESULTS AND DISCUSSION



Figure 2. Udayana Green Open Space (GOS)

Udayana Green Open Space (GOS) is located in the capital city of West Nusa Tenggara. Administratively, the site is situated in Karang Baru, Selaparang District, and Pajerakan Karya, Ampenan District, within Mataram City. Covering an area of approximately 6.3 hectares, it represents the largest green open space in the city. As of 2 November 2025, the site has received a 4.5 (excellent) rating from 1,540 reviews on the TikTok platform. It is consistently well-attended, particularly on weekends, due to regular events such as Car Free Day. User reviews and online ratings indicate that visitors appreciate the improved park management, which has enhanced its function as a comfortable public space for family recreation, alongside the development of supporting facilities provided by the park management.

Udayana GOS can be classified into three primary typologies. In terms of ownership, it is categorized as a public green open space, as it is owned and managed by the Government of Mataram City through the Environmental Agency. From a structural perspective, the site reflects a combination of ecological and planological patterns, although it is predominantly planological, as evidenced by the presence of various built facilities within the park area. Physically, Udayana GOS is classified as a non-natural green open space, as it has been deliberately designed, constructed, and maintained by human intervention.

The functions of Udayana Green Open Space (GOS) can be broadly categorized into ecological, socio-cultural, aesthetic, economic, and educational functions. The ecological function emphasizes the role of GOS in maintaining environmental balance and supporting the surrounding ecosystem. This includes the presence of vegetation such as Trembesi (*Samanea saman*) and Banyan (*Ficus benjamina*) trees, which contribute to pollutant absorption and the maintenance of water quality. The facilities provided within Udayana GOS

have a significant impact on the socio-cultural life of the community. These include Teras Udayana, children's playgrounds, sports areas, seating and gathering spaces, as well as other supporting amenities that facilitate social interaction and recreational activities. From an aesthetic perspective, the linear spatial design of Udayana GOS enhances the visual quality and urban landscape of the city. The economic function of Udayana GOS has continued to develop over time, particularly through the provision of designated spaces for local vendors and micro, small, and medium enterprises (MSMEs) along the park corridor. The recently developed MSME bazaar area located adjacent to Teras Udayana reflects a more modern and organized design approach. In addition, Udayana GOS serves an important educational function. This is reflected in the presence of facilities such as a reading house/library, as well as landmarks including the Bumi Gora Monument and the Trigatra Bangun Bahasa Monument, which contribute to public education and cultural awareness.

Respondent Characteristics

Respondent characteristics are essential for understanding the diversity of field survey outcomes, particularly in relation to the factors influencing economic valuation as measured by the Contingent Valuation Method (CVM) for Udayana Green Open Space (GOS). In this study, nine key respondent characteristics were examined, including place of residence, age, gender, marital status, highest level of education, occupation, income level, visitation frequency, and travel cost.

Based on these criteria, the highest willingness to pay (WTP) values within each category are as follows: respondents residing in Selaparang District (IDR 2,400); respondents aged 41–60 years (IDR 2,400); female respondents (IDR 2,273); unmarried respondents (IDR 2,233); respondents with a high school education (IDR 2,280); private sector employees (IDR 2,342); respondents with an income ranging from IDR 1,001,000 to IDR 2,500,000 (IDR 2,361); respondents with a visitation frequency of 5–10 times per year (IDR 2,353); and respondents incurring zero travel costs (IDR 2,667). These groups exhibit higher WTP values compared to their respective counterparts across each category.

Estimating WTP for Udayana GOS

Table 2. Bidding Game Scenario 1: Initial WTP

No	WTP Value 1	Total	Percentage
1	Rp. 0	36	36%
2	Rp. 500	34	34%
3	Rp. 1000	30	30%
Total		100	100%

Source : Processed Primary Data

Table 3. Bidding Game Scenario 2: Intermediate WTP

No	WTP Value 2	Total	Percentage
1	Rp. 500	19	19%
2	Rp. 1000	45	45%
3	Rp. 1.500	36	36%
Total		100	100%

Source : Processed Primary Data

Table 4. Bidding Game Scenario 3: Final WTP

No	Nilai WTP	Total	Persentase
1	Rp. 1000	7	7%
2	Rp. 1.500	2	2%
3	Rp. 2.000	44	44%
4	Rp 2.500	34	34%
5	Rp. 3.000	13	13%
Total		100	100%

Source : Processed Primary Data

In the initial scenario, the WTP bid is set at IDR 0, which represents the realistic possibility that respondents may be unwilling to pay. This starting point is also intended to minimize starting-point bias, thereby preventing respondents from being influenced by a predefined reference value and enhancing the objectivity of the elicited WTP responses. In the third scenario, the upper bound of IDR 3,000 reflects respondents' ability to pay. This threshold is designed to avoid unrealistic responses that may arise from excessively high bid values, particularly given that green open spaces are generally accessible to individuals across all income levels. The mean WTP is calculated using the approach proposed by Robert K Davis (1963) as follow:

$$WTP_{avg} = \frac{\sum_{i=1}^n WTP_i}{N} = \frac{Rp\ 222.000}{100} = Rp\ 2.220$$

Based on the calculated average WTP, the estimated value is IDR 2,220, which is subsequently rounded to IDR 2,000 per visitor. This value may serve as a practical benchmark for policy formulation aimed at improving the quality and supporting the conservation of Udayana Green Open Space (GOS). The total WTP for environmental services and the development of Udayana GOS is obtained by multiplying the mean WTP by the total population considered in the study. However, no official data are available from the Government of Mataram City or related institutions regarding the average or aggregate number of visitors to Udayana GOS. Therefore, a representative estimate is derived using an artificial intelligence (AI)-based approach, drawing on relevant secondary data such as regional characteristics, consumer behavior patterns, and visitation trends observed in comparable locations.

Table 5. Willingness to Pay (WTP) for Environmental Services of Udayana Green Open Space (GOS), Mataram City, 2025

Month	Visitor	Actual %	Actual Visitor	WTP	Act Visitor x WTP
January	88.000	68%	59,840	Rp 2,000	119,680,000
February	72.000	72%	51,840	Rp 2,000	103,680,000
March	76.500	73%	55,845	Rp 2,000	111,690,000
April	92.000	65%	59,800	Rp 2,000	119,600,000
May	97.500	67%	65,325	Rp 2,000	130,650,000
June	102.000	70%	71,400	Rp 2,000	142,800,000
July	112.000	66%	73,920	Rp 2,000	147,840,000
August	107.000	69%	73,830	Rp 2,000	147,660,000
September	83.000	74%	61,420	Rp 2,000	122,840,000
October	79.500	75%	59,625	Rp 2,000	119,250,000
November	84.000	73%	61,320	Rp 2,000	122,640,000
December	118.000	64%	75,520	Rp 2,000	151,040,000
TOTAL					1,539,370,000

Source: Processed secondary data

Based on the table above, it can be concluded that the total annual WTP for Udayana Green Open Space (GOS) amounts to IDR 1,539,370,000. On a monthly basis, the average value derived from environmental services is estimated at IDR 128,280,833. This value may serve as a financial reference for the further development and improvement of GOS management and conservation efforts.

Classical Assumption Tests

The first classical assumption test conducted is the normality test. To assess whether the data are normally distributed, the Kolmogorov–Smirnov test was employed. The results indicate that the data have an Asymp. Sig. (2-tailed) value of 0.062, which is greater than 0.05, thereby confirming that the data are normally distributed.

The next classical assumption test is the multicollinearity test, which is used to detect the presence of linear relationships among independent variables within the model. The criteria for the absence of multicollinearity are a Variance Inflation Factor (VIF) value of less than 10 and a Tolerance value greater than 0.10. The results show that all variables in this study meet these criteria, indicating that multicollinearity is not present.

The final classical assumption test is the heteroskedasticity test, which aims to determine whether there is inequality in the variance of the error terms (residuals). This test was conducted using the White test. The significance values for the variables are as follows: education level (X1) = 0.213, income level (X2) = 0.107, visitation frequency (X3) = 0.214, GOS facilities (X4) = 0.108, environmental awareness (X5) = 0.773, and institutional factors

(X6) = 0.386. All values exceed 0.05, indicating the absence of heteroskedasticity in the model.

Hypothesis Testing

The coefficient of determination (R^2) of 0.497 indicates that 49.7% of the variation in respondents' willingness to pay (WTP) for Udayana Green Open Space (GOS) can be explained by the six independent variables included in the model, namely education level, income level, visitation frequency, GOS facilities, environmental awareness, and institutional factors. The remaining 50.3% is attributable to other factors not captured in the model, which may include the availability of substitute green spaces, travel costs, alternative recreational preferences, distance from the site, leisure time availability, and health-related considerations.

Based on the test results, with a sample size of ($n = 100$) and six independent variables ($k = 6$), the degrees of freedom are calculated as ($df_1 = k - 1 = 5$) and ($df_2 = n - k = 94$). At a significance level of ($\alpha = 0.05$), the critical value is ($F_{\{(0.05; 5; 94)\}} = 2.311$). The computed F-statistic of 15.307 exceeds the critical value ($15.307 > 2.311$), with a significance level of less than 0.001 ($p < 0.05$). Therefore, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, indicating that the independent variables jointly exert a positive and statistically significant effect on respondents' WTP for Udayana GOS in Mataram City. The results of the partial (t-test) analysis reveal that income level, visitation frequency, GOS facilities, and institutional factors have a positive and statistically significant effect on WTP. In contrast, education level and environmental awareness do not exhibit statistically significant effects.

Regression Analysis

The influence of the independent variables on the dependent variable is examined multiple linear regression analysis using the Ordinary Least Squares (OLS) approach. Based on the data processing conducted using SPSS, the estimated multiple linear regression equation is as follows:

$$Y = -67 + 0.207 X1 + 0.387 X2 + 0.381 X3 + 0.320 X4 + 0.146 X5 + 0.541 X6 + \varepsilon$$

All independent variables exhibit a positive (direct) relationship with the dependent variable, indicating that an increase in X1, X2, X3, X4, X5, and X6 is associated with a corresponding increase in Y (WTP).

Non-Monetary Participation

This study offers a novel contribution by incorporating non-monetary dimensions of participation, in addition to financial contributions. Specifically, it considers alternative forms of contribution, including intellectual input and voluntary labor. The following section presents the types of non-monetary participation that respondents are willing to provide:

Table 7. Forms of Non-Monetary Participation in Udayana Green Open Space (GOS)

No.	Type of Participation	Form of Contribution
1	Intellectual Contribution	<p>Providing suggestions and ideas to the government and relevant stakeholders regarding the development of GOS</p> <p>Conducting online campaigns to promote awareness of GOS utilization and development</p> <p>Initiating youth communities focused on enhancing environmental awareness related to GOS</p> <p>Developing a centralized information system for activities related to GOS</p> <p>Increasing the frequency of seminars, discussions, and environmental education programs</p>
2	Action Oriented	<p>Participating in community-based activities (gotong royong) for the maintenance and development of GOS</p> <p>Reducing the use of motorized vehicles when visiting Udayana GOS</p> <p>Maintaining and responsibly utilizing public facilities to ensure their optimal use</p>

Source: Processed Primary Data

Based on the findings regarding the economic valuation of Udayana Green Open Space (GOS) and the determinants influencing respondents' willingness to pay (WTP), it can be inferred that the economic value of GOS is inherently multidimensional. Specifically, income represents the economic dimension, education reflects the cognitive dimension, visitation frequency captures the behavioral dimension, facilities indicate the service quality dimension, environmental awareness corresponds to the normative dimension, and institutional factors represent the structural dimension.

The existence of Udayana GOS reflects the government's commitment to fulfilling the mandated minimum proportion of green open space, as required to support a healthy and sustainable urban environment. The results indicate that the average WTP of respondents is IDR 2,000 per visit, demonstrating a tangible level of public support for financially contributing to the maintenance and development of Udayana GOS. For low- to middle-income groups, this amount remains both reasonable and realistic, thereby reflecting not only stated preferences but also actual ability to pay. This is particularly relevant given that GOS is typically perceived as a non-excludable public good. However, when aggregated across the entire population, even a relatively small individual contribution translates into a substantial total economic value.

CONCLUSION

This study demonstrates that Udayana Green Open Space (GOS) possesses a significant economic value despite not being traded in formal markets. The average willingness to pay (WTP) of IDR 2,000 per visit yields an estimated total economic value of approximately IDR 1.5 billion annually. This WTP value reflects a shift in public perception from viewing GOS as a free public space to recognizing it as an environmental asset that requires collective financial support. Furthermore, respondents' WTP is more strongly influenced by economic factors, actual user experience, facility quality, and institutional governance than by cognitive factors such as education level and environmental awareness. From a theoretical perspective, these findings reinforce the notion within Contingent Valuation Method (CVM) studies that WTP is not merely a reflection of moral or normative considerations, but rather a function of perceived benefits, ability to pay, and trust in governance systems.

REFERENCES

- Abdullah, K., Jannah, M., Hasda, S., Fadilla, Z., Masita, Sari, M. E., & Ardiawan, K. N. (2022). Metodologi Penelitian Kuantitatif. In *Yayasan Penerbit Muhammad Zaini*.
- Asmasuci, T. D., & Hadibasyir, H. Z. (2019). ANALISIS KETERSEDIAAN RUANG TERBUKA HIJAU MENGGUNAKAN DATA PENGINDERAAN JAUH DENGAN METODE FOREST CANOPY DENSITY DI KOTA SURAKARTA. *Sustainability (Switzerland)* 11(1), 1–14.
- Astuti, S. (2021). ANALISIS KESEDIAAN MEMBAYAR (WILLINGNESS TO PAY) TERHADAP PENGELOLAAN SAMPAH DI PASAR TUGU DAN FAKTOR-FAKTOR YANG MEMPENGARUHI. *Penambahan Natrium Benzoat Dan Kalium Sorbat (Antiinversi) Dan Kecepatan Pengadukan Sebagai Upaya Penghambatan Reaksi Inversi Pada Nira Tebu*.
- Aulya, Busra. 2024. Pemkot Mataram Kembangkan Pemakaman Umum Modern sebagai RTH Publik. Dikutip pada tanggal 20/04/2026, diakses melalui laman: https://greennetwork.id/gna-knowledge-hub/pemkot-mataram-kembangkan-pemakaman-umum-modern-sebagai-rth-publik/?utm_source=chatgpt.com
- Granovetter, Mark. 1985. "Economic Action and Social Structure: The Problem of Embeddedness." *American Journal of Sociology*, Volume 91, Issue 3 (November 1985), 481-510
- Harahap, I. H. (2021). Analisis ketersediaan ruang terbuka hijau dan dampaknya bagi warga kota DKI Jakarta. *Journal of Entrepreneurship, Management and Industry (JEMI)*, 4(1), 18–24. <https://doi.org/10.36782/jemi.v4i1.2134>
- Lestari, A. (2019). Analisis willingness to pay (WTP) masyarakat terhadap upaya pelestarian lingkungan Situ Ciledug Kota Tangerang Selatan. *Skripsi*. <https://repository.uinjkt.ac.id/dspace/handle/123456789/46702>

- Mina, R., Fality, F., Djanun, Z., & Panggato, S. (2022). Model Peran Serta Masyarakat Dalam Pengelolaan Ruang Terbuka Hijau Di Kabupaten Banggai. *Desember*, 6(2), 1.
- Ostrom, E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press, Cambridge.
- Pemerintah Kota Mataram. (2009). *Pemerintah Kota Mataram Pemerintah Kota Mataram Provinsi Nusa Tenggara Barat Provinsi Nusa Tenggara Barat*.
- Purnamaselfi, M. W., & Widyasamratri, H. (2022). Studi Literatur: Analisis Penyediaan Ruang Terbuka Hijau di Wilayah Urban. *Jurnal Kajian Ruang*, 1(1), 29. <https://doi.org/10.30659/jkr.v1i1.19976>
- Puspitasari, N. Z., Kumala, N. D., Putra, Y. R. K., & Alamiyah, S. S. (2022). Partisipasi Masyarakat Dalam Penataan Ruang Terbuka Hijau Di Kelurahan Gunung Anyar Surabaya. *Jurdimas (Jurnal Pengabdian Kepada Masyarakat) Royal*, 5(1), 85–92. <https://doi.org/10.33330/jurdimas.v5i1.1232>
- Putra, H., Erwin, & Ifdal. (2020). Analisis Partisipasi Masyarakat dalam Pembangunan RTH Tepi Sungai Batang Agam Kota Payakumbuh. *Jurnal Ilmiah MEA*, 4(3), 868–883.
- Williamson, O. E. (1985). *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. The Free Press
- Yuslimu, A., & Setiawan, W. (2021). Partisipasi Masyarakat Millenial Kendal Terhadap Program Ruang Terbuka Hijau Di Kabupaten Kendal. *Arsir*, 26, 46. <https://doi.org/10.32502/arsir.v0i0.3648>