Evaluation of Environmental Performance Using the Green City Index in Depok City, Indonesia

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Abstract. Green City Index as a reference to measure environmental performance and improve environmental quality. The growth and development of cities raises environmental problems, especially for cities that have strong connections to the capital of Indonesia such as Depok City. This study aims to obtain the value of environmental performance in the city of Depok with quantitative methods based on the Green City Index with eight assessment categories. The results of this study indicate that the environmental performance of the City of Depok with an average percentage of all categories of 50.2%. Average performance falls into six categories, namely, Energy and CO2, Land Use and Building, Waste, Sanitation, Air Quality and Environmental Governance. While the below average performance in the Transport and Waste category and above average performance in the Water category. For the assessment of community perceptions through the Index of Happiness obtained by 60% of happy people, 23% of people are very happy and 17% of people less happy about the state of the surrounding environment. So it can be concluded that the majority of the people of Depok City are happy living in Depok City with the current environmental conditions.

Keywords: City Performance, Sustainable Cities, Depok

1. Introduction
In general, various definitions and concepts proposed to overcome green city problems are related to the three pillars of sustainability theory and various other problems such as health, greening, resilience and equality. Issues relating to the environment so far are the ones most often presented in the definition, concept and method of green city. Although there is no uniform definition of "green city," several central themes help shape and define what is green city. These themes include energy efficiency (built-in forms) and reducing dependence on non-renewable energy sources, sustainable low-carbon transportation systems, green and environmentally friendly infrastructure, waste management and reduction, enhancement of green areas, water cycle management, and planning integrated.

How a city develops as a green city varies with geography, sector and speed. Decisions taken by city leaders about where, what, and how investments will be directed to support green development need to be considered when adopting a systems approach. The system-based approach recognizes sector linkages and the importance of sequencing. Cities evolve to "green" levels at different levels and development is not uniform. Adopting a green city approach to development in Asian cities encourages the development of urban space that can provide benefits to residents and the natural environment.

Finally, the city's goal is to adopt a green city approach through integrated planning and investment, the urban environment will: (a) respond well to its climate, location, orientation and context, optimizing natural assets such as sunlight and wind flow; (b) peaceful, clean and effective, with a healthy microclimate; (c) has reduced or has no carbon dioxide emissions, because it strives as an independent
energy producer, supported by renewable energy sources; and (d) eliminate the concept of waste, because it is based on a closed ecosystem cycle with significant recycling, reusing, reproducing, and composting [1].

Evaluation plays a number of key functions in policy analysis, first and foremost, it provides valid and reliable information about policy performance. Second, evaluation contributes to the clarification and criticism of the values that underlie the selection of goals and targets [2]. So evaluation is giving reliable information about policy performance, and contributing to clarification and criticism of the values that underlie the selection of goals and targets.

Depok City as one of the buffer cities of the capital city of Indonesia so that the Depok city become a destination city for residents who work in Jakarta. Some of the problems that exist in the city of Depok today include: (a) an increase in electricity and motor fuel consumption as well as an increase in air pollution in the form of CO2. (b) The narrower water catchment area due to changes in land use to housing and offices. (c) The flow of traffic is jammed during commuting hours and after work. (d) Waste that has not been managed optimally. (e) Increased consumption of clean water and slow flowing and turbid water conditions. (f) Disposing of household waste that has not been managed optimally. (g) Unhealthy air quality. (h) Regional government policies that are still in conflict with the public interest. (i) The role of the community is not optimal in supporting the green city.

2. Framework theory

The Asian Green City Index is used as a tool in evaluating the application of the concept of a green city in Depok because it has a measurable weighting and has a category that is quite in accordance with the availability of data in Indonesian cities. The Asian Green City Index in collaboration with the Economist Intelligence Unit (EIU) has eight categories to create a sustainable city, including Energy and CO2 (energy consumption and CO2 emissions), Land Use and Building (very significant changes in environmental conditions), Transport (traffic management and public transportation), Waste (average disposal per person and waste recycling), Water (average water consumption and water quality in a city), Sanitation (sanitation management), Air Quality (air quality control) and Environmental Governance (policy and community participation). The Asian Green City Index serves to analyze and compare the environmental performance and efforts of each Asian city to improve the sustainability of the city and to help understand the strengths and weaknesses of each city [3].

Depok City as one of the buffer cities of the Capital of Indonesia so that the City of Depok become a destination city for residents who work in Jakarta. This raises several environmental problems such as increasing population, traffic congestion, garbage, air pollution, environmental damage and other problems that cause cities to be less comfortable to live in. In minimizing these problems, it is necessary to develop an environmentally friendly city so that the impact of environmental development is not getting worse. One effort to develop an environmentally friendly city is to apply the concept of a green city.

Green city is a metaphor of achieving the goals of sustainable urban development [4]. In realizing a sustainable city, there must be a balance between economic, socio-cultural, and environmental aspects [5]. In realizing a sustainable city, one of the most influential elements on the environment is the community. Spatial planning will greatly affect human resources that interact with the place, time and culture of the local community [6]. Development of an area, space intended for the public must be supported by the existence of spatial elements that can provide comfort for users [6]. A greener environment encourages people to carry out activities, increase social interaction and social relations and can reduce social crime rates [7]. So it can be said that the better the quality of the environment, the people who live in the environment will be happier because it is supported by a safe and comfortable environment. GDP affects green city development positively, population size negatively affects it and the sanitation and air quality sector most influences green city performance. Various studies have been conducted on green city. Consolidation of previous research into a conceptual actionable framework and method [8].

Create more coherence in understanding and evaluating "Green City" by identifying multidimensional indicators. Dimensions considered are "Environmental quality", "Human well-being" and "Social and political action". Green City is a city that takes political and social action that is
responsible for achieving high environmental quality, which itself contributes to human well-being ([9]; [10]; [11]).

The research objective is to evaluate the performance of the City of Depok based on eight categories of the Green Asian Cities Index such as: energy and CO$_2$, land use and building, transportation, waste, water, sanitation, air quality, environmental governance; and measure the level of happiness of the people of Depok City towards the surrounding environment. Researchers are interested in conducting research with the title Evaluation of the Concept of Green City in Depok using the Asian Green City Index (AGCI).

3. Research methodology

This study uses quantitative methods to evaluate the environmental performance of the application of the concept of green city in Depok based on the Green City Index which has 8 (eight) categories. Each category of Green City Index consists of several indicators which are divided into two aspects, namely quantitative and qualitative aspects. To find out the community’s preferences, the Depok City Society Index of Happiness was calculated. The research sample of 100 respondents using random sampling techniques (probability sampling). This research was conducted in several stages, namely preparation, inventory, analysis, and evaluation.

Stages of preparation are the stages of administrative preparation and licensing of the intended office in conducting research. Preparation for administration is the preparation of a research permit addressed to the relevant department that handles each category of the Green City Index.

Inventory phase is the stage of data collection in the form of primary data and secondary data. Primary data is data taken directly by researchers at the research location, while secondary data is data collected from the literature that helps researchers in processing data. The primary data collected is visual data in the form of existing site conditions documentation and interviews with the relevant government agencies regarding the application of the concept of green city in Depok. Secondary data is data that cannot be obtained directly from the study site. Secondary data in this study were obtained from the relevant agencies related to the application of the concept of green cities and supporting literature. To find out the Index of Happiness and public perception, data collection was done using the Index of Happiness questionnaire. Table of types and sources of primary and secondary data collected are in Table 1 below:

| No | Aspect | Data | Data Type | Data Source | Collection Method |
|----|--------|------|-----------|-------------|-------------------|
| 1  | General Conditions of the City of Depok | Location, area, site boundary, slope topography, climate, type land, geology, land use, demographics. | Secondary | Depok City Spatial Plan 2011-2031, Compilation RTH 2013, master plan, 2012 SLHD Report Book | Literature review |
| 2  | Quantitative Aspects | Energy and CO$_2$, Land Use and Building, Transport, Waste, Water, Sanitation, Air Quality. | Secondary | BLH, DKP Depok City, Distarkim, DSDA, PDAM, DISHUB, BAPPEDA | Literature review |
| 3  | Qualitative aspects | Energy and CO$_2$, Land Use and Building, Transport, Waste, Water, Sanitation, Air | Primary, Secondary | BLHD, DKP Depok City, Distarkim, DSDA, PDAM | Survey, Interview, Literature Study |
Each Asian Green City Index category has indicators. Indicators from each category are divided into two types namely quantitative and qualitative. Data taken for each indicator is different. explanations for each category and weight indicator of the Asian Green City Index are in Table 2 below:

| No | Category | Indicator | Type | Data Type | weight AGCI |
|----|----------|-----------|------|-----------|-------------|
| 1  | Energy & CO₂ | Total CO2 emissions (kg) | Quantitative | Secondary | 25% |
|    |          | Total energy consumption in Depok City (kWh / person) | Quantitative | Primary | 25% |
|    |          | Clean energy policy | Qualitative | Secondary | 25% |
|    |          | Action planning to reduce climate change | Qualitative | Secondary | 25% |
| 2  | Land use and Buildings | Amount of green open space (%) | Quantitative | Secondary | 25% |
|    |          | Population density (people / km²) | Quantitative | Primary | 25% |
|    |          | Policy on eco building | Qualitative | Secondary | 25% |
|    |          | Land use policy | Qualitative | Secondary | 25% |
| 3  | Transport | Transportation network (km/km²) | Quantitative | Secondary | 33% |
|    |          | Policy regarding urban mass transportation | Qualitative | Primary | 33% |
|    |          | Congestion policy | Qualitative | Secondary | 33% |
| 4  | Waste     | Waste generated (m³ / day) | Quantitative | Secondary | 25% |
|    |          | Trash managed (%) | Quantitative | Secondary | 25% |
|    |          | Waste collection policy | Qualitative | Primary | 25% |
|    |          | Policy in waste recycling | Qualitative | Secondary | 25% |
| 5  | Water     | Amount of water consumption per capita (liter / person) | Quantitative | Secondary | 25% |
|    |          | Water system leakage (%) | Quantitative | Secondary | 25% |
|    |          | Water quality policy | Qualitative | Primary | 25% |
|    |          | Policy on water sustainability | Qualitative | Secondary | 25% |
| 6  | Sanitation | Populations that have latrines (%) | Quantitative | Secondary | 33% |
|    |          | Amount of wastewater that can be managed (%) | Quantitative | Primary | 33% |
|    |          | Sanitation policy | Qualitative | Secondary | 33% |
| 7  | Air Quality | NO₂ concentration in the air per day (μg/ Nm³/ day) | Quantitative | Secondary | 25% |
|    |          | SO₂ concentration in the air per day (μg/ Nm³/ day) | Quantitative | Secondary | 25% |
| No | Category               | Indicator                                         | Type       | Data Type | weight |
|----|------------------------|---------------------------------------------------|------------|-----------|--------|
| 1  | AGCI                   | PM10 concentration in the air per day (µg/ Nm3/ day) | Quantitative | Secondary | 25%    |
| 2  | AGCI                   | Policy regarding air quality                      | Qualitative | Primary   | 25%    |
| 3  | Environment            | Management of the environment                     | Qualitative | Primary   | 33%    |
| 4  | Environment            | Environmental monitoring                          | Qualitative | Secondary | 33%    |
| 5  | Governance             | Public participation                               | Qualitative | Primary   | 33%    |

Source: Asian Green City Index (2011)

Retrieval of Index of Happiness data begins with counting the number of samples that will be used as research respondents. Calculation of the number of samples is done by calculating the sample using the Slovin formula. The following is the calculation of the number of samples or respondents to measure the Index of Happiness related to the application of the concept of a green city in Depok:

\[
n = \frac{N}{1 + N (e)^2}
\]

Information:
- \( n \) = Number of samples or respondents
- \( N \) = Number of population
- \( e \) = Precision value (used 99% with \( \alpha = 0.01 \))
- Known: Total population (\( N \)) = 1898567

Precision value = 0.01

Thus the large sample size can be calculated as follows:

\[
n = \frac{1898567}{1 + 1898567 (0.01)^2 + 1}
\]

\[
= \frac{1898567}{1899.856}
\]

\[
= 99.5 \text{ rounded to } 100
\]

The total number of samples was 100 Depok City people.

The sampling technique used is random sampling (probability random sampling) in which all populations have the same opportunity to be sampled. In selecting the sample in this study, the researcher chose the sample by dividing the number of samples obtained by the Slovin formula of 100 samples / respondents in each district in the city of Depok. The proportion of the number of respondents in each Sub-district in Depok City is shown in Table 3 below:

| No | District | Number of Population (Soul) | Number of Respondents |
|----|----------|------------------------------|-----------------------|
| 1  | Sawangan | 134.943                      | 7                     |
| 2  | Bojongsari | 108.913                      | 6                     |
| 3  | Pancoran Mas | 229.887                     | 12                    |
| 4  | Cipayung  | 139.689                      | 7                     |
| 5  | Sukmajaya | 253.687                      | 13                    |
| 6  | Cilodong  | 136.519                      | 7                     |
| 7  | Cimanggis | 264.248                      | 14                    |
| 8  | Tapos     | 236.113                      | 13                    |
| 9  | Beji      | 181.171                      | 10                    |
| 10 | Limo      | 96.047                       | 5                     |
| 11 | Cinere    | 117.350                      | 6                     |
|    | Total population | 1.898.567                 | 100                   |

Information:
- Number of respondents = Number of residents per district / total population of Depok City
4. Result And Discussion
The analysis process is carried out by analyzing the general conditions and efforts of Depok City in applying the concept of green city. The general condition of Depok City related to Green City was identified based on quantitative aspects of the Green City Index while for efforts identified based on qualitative aspects of the Green City Index. The Green City Index indicator has a weight value of each that will be multiplied by the results of the calculation of quantitative data and the results of the qualitative data scoring of each indicator.

4.1. Quantitative Aspects
Analysis carried out on quantitative aspects uses normalization techniques multiplied by the Green City Index indicator weights. Quantitative aspect calculation uses the following formula:

For data with provisions getting closer to a standard quality number, the more "green" calculations are used with the formula:

\[
\text{Value weight} = \left( \frac{\text{Value obtained}}{\text{Value of quality standard}} \right) \times \text{Indicator weight} \quad (2)
\]

For data with provisions getting closer to a standard quality number the more "not green" calculation using the formula:

\[
\text{Value weight} = \left( 1 - \frac{\text{Value obtained}}{\text{Value of quality standard}} \right) \times \text{Indicator weight} \quad (3)
\]

For data that has a quality standard with a maximum value and a minimum value, a calculation using the formula is used:

\[
\text{Value weight} = \left( \frac{\text{Value obtained} - \text{Min. value of quality standard}}{\text{Max. value of quality standard} - \text{Min. value of quality standard}} \right) \times \text{Indicator weight} \quad (4)
\]

For data that has a quality standard with a maximum value and a minimum value and the closer to the quality standard the more bad the calculation using the formula:

\[
\text{Value weight} = \left( 1 - \frac{\text{Value obtained} - \text{Min. value of quality standard}}{\text{Max. value of quality standard} - \text{Min. value of quality standard}} \right) \times \text{Indicator weight} \quad (5)
\]

Weight values with values that exceed the Green City Index weight and weight values that have a negative value will be assessed by weighting the maximum value and weighting the Green City Index minimum value. The value of a negative value will be given a value of 0% and a weighting value that exceeds the weighted value of the Green City Index will be given a value of 25%. The quality standards used in the quantitative aspects are listed in Table 4 below:

| No | Category            | Indicator                              | Quality Standards                        |
|----|---------------------|----------------------------------------|------------------------------------------|
| 1  | Energy & CO₂       | Total CO₂ emissions (kg)               | ≤ 1 378 672.905.5 kg CO₂                |
|    |                     | Total energy consumption in City of Depo (kWh/person) | ≤ 815 kwh/person                          |
| 2  | Land use and Buildings | Population density (people / km²)   | ≤ 10 000 person/Km²                      |
|    |                     | Amount of green open space (%)        | ≥ 30%                                    |
| 3  | Transport           | Length of transportation network (km / km²) | ≥ 0.3 km/km²                            |
| 4  | Waste               | Amount of waste produced (m³/ day)    | ≤ 4746 m³/day                            |
|    |                     | Amount of waste managed (%)           | ≥ 70%                                    |
| 5  | Water               | Amount of water consumption per capita (liter / person) Water system leakage (%) | Min : 60 lt/day/or, Max:126.9 lt/day/or ≤ 45% |
| 6  | Sanitation          | Populations that have latrines (%)    | Min : 20%, Max : 100%                    |
|    |                     | Amount of wastewater that can be managed (%) | Min :10%, Max : 100%                     |
| 7  | Air Quality         | NO₂ concentration in the air per day (μg / Nm³/ day) | ≤ 150 μg/Nm³/day                         |
|    |                     | SO₂ concentration in the air per day (μg / Nm³/ day) | ≤ 365 μg/Nm³/day                         |
|    |                     |                                        | ≤ 150 μg/Nm³/day                         |
| No | Category | Indicator | Quality Standards |
|----|----------|-----------|-------------------|
|    |          | PM10 concentration in the air per day (μg / Nm³ / day) | |

Source: [12], [13], [14], [15], [16], [17], [18], [19]

4.2. Qualitative Aspects

In qualitative data, in assessing the efforts of cities to achieve sustainability by grouping these efforts into four scores, where score 0 is the smallest value and score 3 is the largest value. The weighting formula used is as follows:

0 = no rules, no implementation,
1 = there are rules, there are no applications / there are no rules yet, there are applications,
2 = there are rules with the application of ≤ 50%,
3 = there are rules with application > 50%.

In determining the score 2 or 3 by identifying the extent to which an effort in the City of Depok has been carried out based on the criteria that have been determined. After determining the weighting formula, the next step is determining the percentage of application of effort in Depok City to achieve sustainability, which is formulated as follows:

Total application value (Xt) = x1 + x2 + ... + xn

Maximum value (Xmax) = maximum number of attempts x points

Percentage of implementation = = \left( \frac{\text{Total deployment value}}{\text{Maximum value}} \right) \times \text{GCI Weight}

4.3. Evaluation

Evaluation is done by compiling the results of each indicator in the evaluation table then giving recommendations in the form of green initiatives in each category. Green initiatives are recommended by looking at environmental issues and identifying what factors can be improved in Depok City. The results of weighting each indicator are grouped into performance consisting of five criteria and their range of values, including well below average (very below average) 0% - 20%; below average (below average) (20% - 40%); average (40% - 60%); above average (60% - 80%); well above average (very above average) (80% - 100%). Overall results obtained from the weighting of quantitative data and qualitative data, the results of the evaluation are expected to be used as a basis for learning to improve the quality of the city [3].

In the evaluation phase, it also measured the perception of the people of Depok City (index of happiness). Measurements were made using a questionnaire method in order to obtain the percentage of people who have a very high level of happiness, high and moderate. This measurement aims to see the level of happiness of people who live in the city of Depok and then adjusted to the performance of the city in applying the concept of a green city. In The Greater Victoria Well-Being Survey, several factors that affect happiness and satisfaction in one's life include: physical and mental health, time balance, social quality, cultural quality, financial satisfaction, government quality and environmental quality. The quality of the environment means having a natural environment and good environmental quality, it will affect the increase in one's happiness. Likert scale used in this study is a scale of 1 to 3 with the provisions of scale 1 is not agree, scale 2 is less agree and scale 3 agree. In this happiness level questionnaire there are 20 variables studied which are seen from the current environmental conditions of Depok City. In order to obtain a minimum scale of 20.0 and a maximum scale of 60.0, the calculation of the rating scale ranges using the following formula:

\[ R_s = \left( \frac{\text{Maximum score} - \text{Minimum score}}{\Sigma \text{Class}} \right) \]

\[ R_s = \left( \frac{60.0 - 20.0}{3} \right) \]

Rs = 13.3

Based on this range, the criteria for people's happiness are divided into three groups, including:
Table 5. Community happiness criteria

| No  | Criteria                  | Score  |
|-----|---------------------------|--------|
| 1   | Low (less happy)          | 20.0 – 33.3 |
| 2   | Medium (happy)            | 33.4 – 46.7 |
| 3   | High (very happy)         | 46.8 – 60.0 |

The results of the evaluation of all Green City Index categories for each category towards a sustainable city in Depok can be seen in the summary of the results of the discussion in Table 6 below:

Table 6. Evaluation results of all Green City Index categories for each category

| No | Category               | Well below average (0%-20%) | Below average (20%-40%) | Average (40%-60%) | Above average (60%-80%) | Well Above Average (80%-100%) |
|----|------------------------|-----------------------------|-------------------------|-------------------|-------------------------|--------------------------------|
| 1  | Energy & CO2           | 52.8%                       |                         |                   |                         |                                |
| 2  | Land use and Buildings | 43.6%                       |                         |                   |                         |                                |
| 3  | Transport              | 26.9%                       |                         |                   |                         |                                |
| 4  | Waste                  | 38.2%                       |                         |                   |                         |                                |
| 5  | Water                  |                             |                         |                   | 67.8%                   |                                |
| 6  | Sanitation             |                             |                         |                   | 56.9%                   |                                |
| 7  | Air Quality            |                             |                         |                   | 55.7%                   |                                |
| 8  | Environmental Governance|                            |                         |                   | 59.8%                   |                                |
|    | Overall Results (Average Amount) |               |                         |                   | **50.2%**               |                                |

Source: Analysis Researcher, 2019

Based on Table 6 shows that the overall results of the performance of the City of Depok in heading towards green city the average is average with an average percentage of all categories of 50.2%. Average performance falls into six categories, including Energy and CO2, Land Use and Building, Waste, Sanitation, Air Quality and Environmental Governance. The below average performance is in the Transport and Waste category. While the above average performance is in the Water category.

4.4. Index of Happiness

This Index of Happiness is used to measure the level of happiness of people who live in Depok by looking at aspects of the surrounding environment. After taking data on the perception of the community to 100 respondents, the Depok City people's happiness index was 47.12 on a scale of 20.0 to 60.0 so that it was included in the happy range. This figure is obtained from the average calculation of each respondent. When viewed based on the results of the frequency distribution obtained by 60% of people happy, 23% of people are very happy and 17% of people less happy about the environment. So it can be concluded that the majority of the people of Depok City are happy living in Depok City with the current environmental conditions.
Based on the sample of respondents, the category that has the lowest value or the lowest level of happiness is the Transport category, which is an indicator related to congestion. Some people complain about the traffic jams that often occur in the city of Depok, especially during rush hour. Some connected roads in Depok City are the main access roads so there is no alternative access and cause severe congestion, such as on Margonda Street and Tole Iskandar Street. Small road segments also trigger severe traffic congestion in the city of Depok, such as those on the Pitara Road. As for the category with the second lowest value still in the Transport category, most people complain that they cannot ride bikes in Depok safely and comfortably. Due to the little availability of a special path for cyclists and the high intensity of motorized vehicles that pass through the highway so that the highway becomes crowded.

While the category that has the highest value is the Water category because the water quality in Depok City is still relatively good and not polluted so that people can use clean water every day. The category that has the second highest value is the Environmental Governance and Transport category. In the Environmental Governance category, the majority of the community claimed to have actively participated in protecting the environment, such as disposing of rubbish in its place so that the surrounding environment was clean and maintained, as was the case in the residential areas of Beji, Pancoran Mas and Sukmajaya. As for the Transportation category, most people are happy about the ease of finding public transportation. The number of public transports is large, but the public transportation has a short length of passage, making it less effective. Integrated transportation has also been implemented in the University of Indonesia (UI) area, UI has bicycle lanes, pedestrian lanes and interconnected bus stops and adequate public facilities.

The Some of the results of previous studies related to research conducted by researchers, shows that GDP influences Green City Performances positively, population size influences it negatively and sanitation and air quality sectors influence green city performance the most [20]. The sustainability and sustainable development have become popular topics not only for scholars, particularly in the fields of environmental economics, technology and science, urban planning, development, and management, but also for urban policy makers and professional practitioners [21].

The indicates human occupancy is everywhere and per capita, open green space in the city is very below the global average. The local government must think about different modality for development of green open space in collaboration with other government agency occupying more open space or engagement with private sectors. This finding could contribute a planner for spatial planning of green space development in a Metropolitan City [22].

The notwithstanding variation across cities, it is possible to distinguish six such types of cities with relatively distinct behaviors and performances: multinodal, dispersed cities, with mixed outcomes (type A); multinodal, contiguous, slow-growing (type B); transport-oriented, dispersed, fast-growing (type C); large, buzzy, constrained (type D); dense, contiguous, fast-growing (type E); and transport-oriented, contiguous, interactive (type F) cities [23].

Figure 1. Depok City Community Happiness Index
5. Conclusion
The current condition of Depok City is quite good, but there needs to be an increase in performance in several categories that are still not optimal. Depok City has had a lot of efforts and direction in going to green city. The evaluation results on the performance show that Depok City is included in the average with an average percentage of all categories of 50.2%. Average performance falls into six categories, including Energy and CO2, Land Use and Building, Waste, Sanitation, Air Quality and Environmental Governance. The below average performance is in the Transport and Waste category. While the above average performance is in the Water category.

Index of Happiness obtained by 60% of people happy, 23% of people are very happy and 17% of people less happy about the environment. So it can be concluded that the majority of the people of Depok City are happy living in Depok City with the current environmental conditions.

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