



Spatial Distribution Analysis Of The Human Development Index (HDI) In Depok City, West Java

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Abstrak

Pembangunan Manusia merupakan suatu konsep yang mencakup upaya untuk meningkatkan kesejahteraan dan potensi manusia. Kota Depok, sebagai bagian integral dari pembangunan perkotaan di Indonesia, mengalami pertumbuhan penduduk, urbanisasi, dan perubahan sosial yang secara signifikan memengaruhi kualitas hidup penduduknya. Oleh karena itu, penelitian ini menjadi penting. Tujuan penelitian ini adalah untuk mengetahui Indeks Pembangunan Manusia (IPM) di Kota Depok serta mengidentifikasi persebaran IPM di Kota Depok pada tahun 2018, 2020, dan 2022. Metode yang digunakan adalah pendekatan kuantitatif berdasarkan pedoman Badan Pusat Statistik (BPS) tahun 2016 dan memanfaatkan Sistem Informasi Geografis (SIG) untuk menganalisis data persebaran spasial. Hasil penelitian menunjukkan bahwa IPM Kota Depok memiliki tren positif dengan peningkatan setiap tahunnya. IPM Kota Depok terbagi ke dalam dua kelas, yaitu tinggi yang tersebar di bagian barat dan timur, serta sangat tinggi yang tersebar di bagian utara dan meluas hingga ke bagian selatan Kota Depok.

Abstract

Human Development is a concept that encompasses efforts to enhance human well-being and potential. Depok City, as an integral part of urban development in Indonesia, experiences population growth, urbanization, and social changes that significantly impact the quality of life of its residents. Therefore, this research is crucial. The purpose of this study is to determine the Human Development Index (HDI) in Depok City and identify the distribution of the HDI in Depok City for the years 2018, 2020, and 2022. The method used involves a quantitative approach based on the 2016 Central Statistics Agency guidelines and utilizes Geographic Information Systems (GIS) to analyze spatial distribution data. The research results indicate that Depok City's HDI shows a positive trend, with an increase each year. Depok City's HDI is divided into two classes: high, which is spread in the western and eastern parts, and very high, which is spread in the northern part and extends to the southern part of Depok City.

INTRODUCTION

Human development is a concept that encompasses efforts to improve the well-being and potential of individuals in a comprehensive manner, including three main dimensions: health, education, and economy. Thus, this concept provides a more holistic picture of the socio-economic conditions of society (Susanto, 2021). The high level of human development primarily determines the ability of a population to absorb and manage sources of economic growth, both in terms of technology and institutions, as important means to achieve economic growth. The success of national development is not only measured by a high rate of economic growth but especially by the success of human resource development (Canggih and Wahyu, 2022). One of the main tools in strengthening the concept of human development is the Human Development Index (HDI). The HDI is used to measure human development outcomes based on many fundamental components of quality of life. The Human Development Index (HDI) provides a comprehensive measure of three aspects of human development: health, education, and purchasing power (BPS, 2008). The health dimension is measured by life expectancy, while the education dimension is assessed based on adult literacy rates and the average years of schooling. The purchasing power dimension, reflecting a decent standard of living, is measured by purchasing power parity (UNDP, 2004).

The Human Development Index (HDI) is used as an indicator that describes the level of community welfare and allows comparisons between countries. HDI provides a holistic picture of a country's development, beyond mere economic growth. The main focus of HDI is on human development, which involves meeting basic needs and improving quality of life (Nizhamul et al., 2023). HDI defines whether a country falls into the category of developed, developing, or underdeveloped nations. The Human Development Index has become a global measure of human development, and the direction of development itself has shifted from focusing solely on economic growth, which emphasizes increasing people's income (Azfirmawarman et al., 2023). In this context, the criteria embodied in the Human Development Index (HDI) not only influence the direction of development but also play an important role in economic decision-making within a country and reflect the overall quality of its society Garibaldi (2015).

The COVID-19 pandemic, which spread globally in early 2020, became a real test of human development resilience. Large-scale social mobility restrictions implemented to curb virus transmission simultaneously disrupted economic

activities, reduced regional income, increased unemployment rates, and interrupted the continuity of conventional educational institutions (Kurniawan & Handayani, 2020). At the national level, this multidimensional crisis significantly weakened the per capita expenditure component of society. Consequently, most regencies and municipalities in Indonesia experienced stagnation or even a decline in their aggregate Human Development Index (HDI) values during the 2020–2021 period (BPS, 2022).

However, a positive development anomaly occurred in Depok City, West Java Province. According to official data released by Statistics Indonesia (BPS), the Human Development Index (HDI) of Depok City demonstrated a consistently strengthening trend from the pre-pandemic period, through the peak of the pandemic, and into the post-pandemic recovery phase (BPS, 2022). The HDI of Depok City increased steadily from approximately 80.29 in 2018 to approximately 81.05 in 2022 (Depok, 2022). Prior to the COVID-19 pandemic, the HDI value of Depok City stood at 80.82 in 2019. Rather than declining, it continued to increase to 80.97 in 2020, rose further to 81.37 in 2021 during the early recovery period, and maintained a positive growth trajectory in subsequent years (Department of Communication and Informatics of Depok City, 2020 & 2021). This achievement places Depok City within the "Very High" human development category and establishes it as one of the regions with the strongest HDI resilience performance in West Java (Department of Communication and Informatics of Depok City, 2021).

Nevertheless, an increase in the aggregate HDI value does not necessarily indicate that human development is evenly distributed across all areas of Depok City. Therefore, further analysis is required to determine whether each district exhibits relatively similar levels of human development or whether disparities exist among regions. Identifying the spatial distribution of HDI is essential for understanding the geographical patterns of human development and for revealing areas that continue to experience disparities in educational attainment, health outcomes, and standards of living.

In the midst of rapid urban development, such as in Depok City, the quality of its population becomes increasingly crucial in determining the direction and effectiveness of development efforts. Geographic factors in analyzing population quality become significant because different areas within the city have varying characteristics in terms of access to healthcare facilities, educational institutions, and other socio-economic factors. Changes in the geographic distribution of educational quality also provide indications of the impacts of implemented development policies. Therefore, geographic analysis is highly relevant in this context. Through such analysis, researchers can

identify patterns of population quality changes across various regions of Depok City. Mapping the distribution of the Human Development Index (HDI) over the years will aid in identifying areas experiencing improvements or declines in quality of life, as well as the contributing factors to these changes.

In a regional context, human development does not occur in isolation. Geographically proximate areas tend to exhibit social and economic interconnections, including population mobility, shared access to education and healthcare facilities, and integrated labor markets. This principle is consistent with the First Law of Geography, which states that areas located closer together tend to have stronger relationships than those farther apart (Tobler, 1970). These conditions create the possibility of a spillover effect in Human Development Index (HDI) outcomes, indicating that analyses that neglect the spatial dimension may lead to less accurate conclusions.

This study offers novelty by comprehensively examining the development of the Human Development Index (HDI) in Depok City over the 2018–2022 period through an approach that is not only descriptive but also analytical, focusing on the dynamics of each HDI dimension. The study emphasizes the identification of pattern changes before and after the pandemic, as well as evaluating the extent to which the recovery observed in 2022 was able to restore the trajectory of human development to its previous path. Therefore, this research is expected to make a meaningful contribution to the body of knowledge on urban human development, particularly in understanding the resilience and adaptability of human development in the face of global crises.

METHODS

The Study Area

The study area for this research was conducted in Depok City, West Java Province. Depok City comprises 11 districts: Baji, Bojongsari, Cilodong, Cimanggis, Cinere, Cipayung, Limo, Pancoranmas, Sawangan, Sukmajaya, and Tapos. The elevation of Depok City generally ranges from approximately 50 to 150 meters above sea level, with landforms characterized by gently undulating to relatively flat topography. Hydrologically, Depok is part of the Ciliwung River Basin, where regional

drainage systems consist of tributaries connected to the Ciliwung River and other river networks flowing toward the Bogor–Jakarta region (Geospatial Information Agency [BIG], 2022). Rapid urban expansion, particularly residential and commercial development along major corridors such as Margonda Raya Road, has led to significant land-use change from agricultural and plantation areas to dense residential settlements, commercial centers, and large university campuses. Official spatial planning documents indicate that this transformation has accelerated since the early 2000s (BIG, 2022; Government of Depok City, 2023).

Climatically, Depok experiences a tropical monsoon climate, characterized by a pronounced rainy season occurring mainly between November and March and a relatively drier period during the middle of the year. The city records average annual temperatures ranging from 22°C to 33°C, accompanied by high annual rainfall totals exceeding 2,000 mm per year in several areas (Badan Pusat Statistik [BPS], 2024). These climatic conditions increase the city's vulnerability to urban flooding and place considerable pressure on drainage infrastructure, particularly in densely built-up zones. Consequently, climate characteristics play a critical role in environmental risk assessment, public health planning, and sustainable urban development.

From a demographic perspective, Depok City is among the most densely populated urban areas in West Java Province. In 2024, the population reached approximately 2,163,635 inhabitants, resulting in a population density of about 10,823 persons per square kilometer (BPS, 2024). The population structure is dominated by the productive-age group (15–64 years), accounting for roughly 67% of the total population, which indicates substantial potential for economic productivity and regional development. Population growth in Depok is strongly influenced by in-migration, driven by its proximity to Jakarta and the availability of urban facilities and employment opportunities. Social welfare conditions are relatively favorable, as reflected in the low poverty rate of approximately 2.34% in 2024, one of the lowest in West Java. Nevertheless, challenges persist, including inter-district disparities and high commuter mobility, with a significant proportion of the working population commuting daily to Jakarta and surrounding metropolitan areas (BPS, 2024). The administrative map showing the research location is presented in Figure 1.

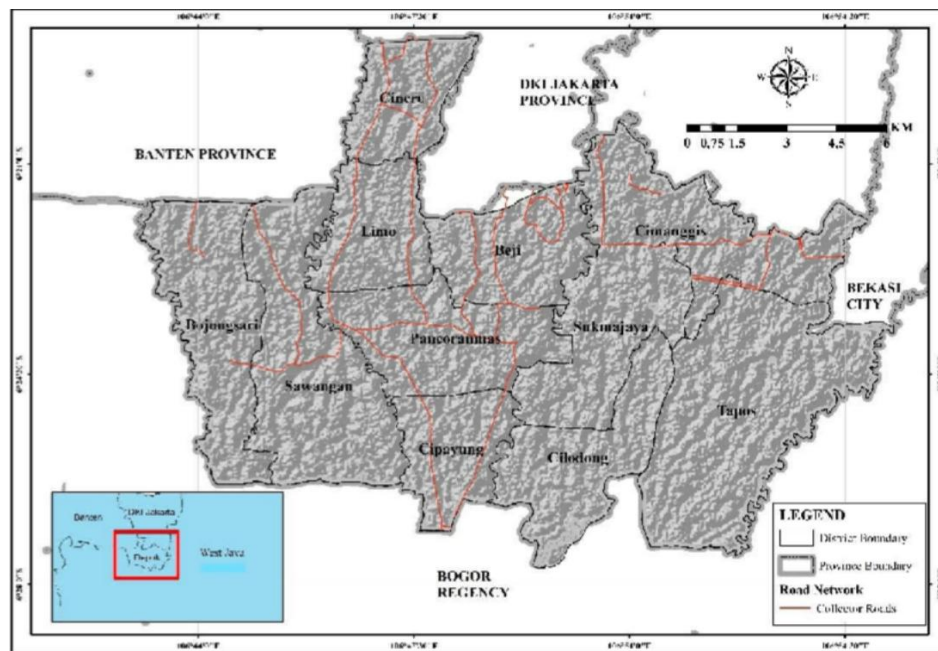


Figure 1. Research location map

Data Collection

The types and sources of data used in this research consist of secondary data from the years 2018, 2020, and 2022, the selected period was chosen to capture the dynamics of human development before, during, and after the initial phase of the COVID-19 pandemic, which affected the health, education, and economic dimensions.

Population data such as life expectancy, mean years of schooling, and expected years of schooling, as well as Gross Regional Domestic

Product (PDRB) data, were obtained from the Depok City Central Statistics Agency. Meanwhile, geospatial data such as administrative boundaries were sourced from Ina-Geoportal. Population data were utilized to analyze the Human Development Index (HDI), with the output being a description of the HDI in Depok City. Administrative maps were employed to understand the spatial distribution of the HDI in Depok City, resulting in map outputs. The research workflow is illustrated in Figure 2.

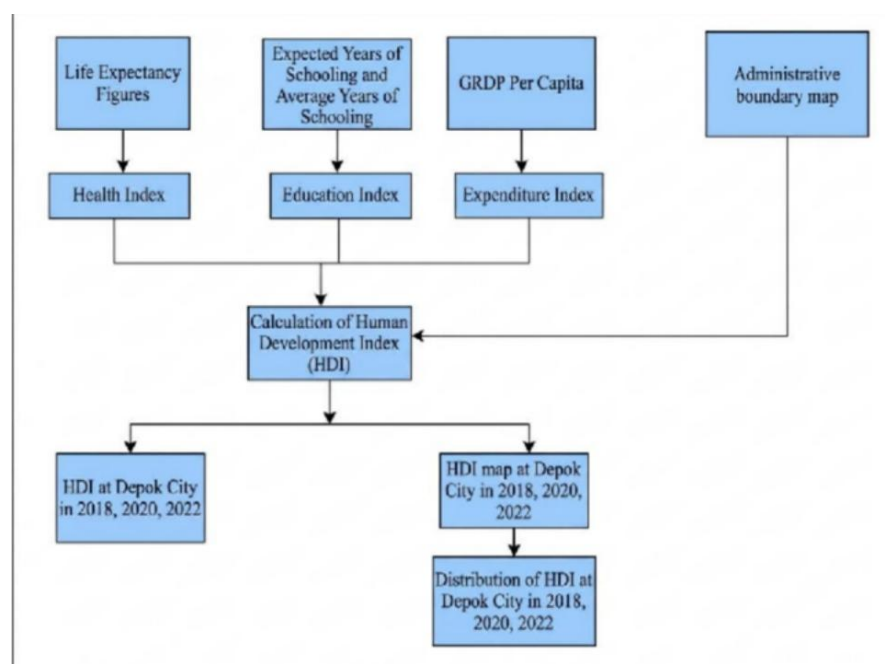


Figure 2. Flowchart showing data analysis procedure

Data Processing

Calculation of HDI Indicators

Based on calculations and formulas from BPS and the United Nations Development Programme (UNDP), there are three key indicators determining the Human Development Index (HDI): health index, education index, and per capita expenditure index. Each HDI indicator is standardized with minimum and maximum values before being used to calculate the Human Development Index. The formula used is as follows

- **Health Index**

To calculate the Health Index, the life expectancy (AHH) is used as the, presented in equation 1:

$$IHealth = \frac{AHH - AHHmin}{AHH maks - AHH min} \quad (1)$$

Note:

IHealth = Health index

AHHmin = Lowest Life Expectancy

AHHmaks = Highest Life Expectancy

- **Education Index**

The Education Index is calculated using two indicators: mean years of schooling (RLS) and expected years of schooling (HLS). Mean years of schooling, presented in equation 2:

$$IEducation = \frac{IHLS + IRLS}{2} \quad (2)$$

Note:

IEducation = Education index

IHLS = Results of the Expected Years of Schooling

IRLS = Results of the Mean Years of Schooling

$$IHLS = \frac{HLS - HLSmin}{HLS maks - HLS min} \quad (3)$$

Note:

IHLS = Results of the Expected Years of Schooling

HLSmin = Lowest Expected Years of Schooling

HLSmaks = Highest Expected Years of Schooling

$$IRLS = \frac{RLS - RLSmin}{RLS maks - RLS min} \quad (4)$$

Note:

IRLS = Results of the Mean Years of Schooling

RLSmin = Lowest Mean Years of Schooling

RLSmaks = Highest Mean Years of Schooling

- **Per Capita Expenditure Index**

Per capita expenditure is adjusted based on the value of per capita expenditure, presented in equation 5:

IExpenditure

$$= \frac{\ln(\text{Expenditure}) - \ln(\text{Expenditure min})}{\ln(\text{Expenditure maks}) - \ln(\text{Expenditure min})} \quad (5)$$

Note:

I expenditure = Expenditure index

$\ln(\text{expenditure})$ = Per capita expenditure

$\ln(\text{expenditure})$ = Lowest per capita expenditure

$\ln(\text{expenditure maks})$ = Highest per capita expenditure

Human Development Index (HDI)

The Human Development Index (HDI) is calculated as the geometric mean of the health index, education index, and expenditure index, presented in equation 6:

$$IPM = \sqrt[3]{IHealth \times IEducation \times IExpenditure} \times 100 \quad (6)$$

Classification of Human Development Index calculations refers to the Central Statistics Agency's 2014 guidelines, where calculations are classified into 5 categories: low, medium, high, and very high. The classification of the Human Development Index is presented in tabel 1:

Table 1 Human Development Index Classification

Class	Interval
Low	<60
Medium	60-70
High	70-80
Very High	>80

Source: BPS (2008)

Data Analysis

The Human Development Index (HDI) values were analyzed quantitatively, then compared across districts and mapped to identify distribution patterns and development disparities. The interpretation of the results was conducted by relating variations in HDI values to regional characteristics based on secondary data obtained from official publications, including HDI, population, education, health, and socio-economic data from Statistics Indonesia (BPS) and other relevant institutions.

To analyze the distribution of the Human Development Index (HDI) in Depok City, this study employed a regional complex approach. This approach was selected because it enables the identification of variations in development characteristics across regions through the integration of spatial analysis and socio-economic conditions within each administrative area. The analysis was conducted at the district level to examine differences in human development levels across all areas of Depok City.

The indicators used were based on the components of the HDI, namely: (1) the health indicator (life expectancy at birth), (2) the education indicators (expected years of schooling and mean years of schooling), and (3) the standard of living indicator (adjusted per capita expenditure). The indicator contributing the most to the HDI value of Depok City is the health index, which is measured through life expectancy. Based on the calculation results, the average life expectancy in Depok City during the 2018–2022 period reached 74.5 years. This achievement indicates that, in general, the health conditions of the population in Depok City are relatively good and reflect successful development in the health sector. The high life expectancy suggests that residents have greater opportunities for longer lives, supported by adequate access to healthcare

services, improving environmental conditions, and increasing public awareness of healthy lifestyles.

These findings are consistent with the study conducted by Daniel Prawiro Pardamean Manurung and Husnul Fitri Sundoko (2024), which explained that the availability of healthcare facilities, such as community health centers and hospitals, as well as relatively good public access to healthcare services, are the main factors supporting this achievement. Similar findings are further supported by the e-book published by the Department of Statistics, Faculty of Mathematics and Natural Sciences, IPB University, which states that the health sector serves as one of the main pillars contributing to the improvement of the HDI in Depok City.

Table 2. Indicator (HDI)

Indicator	YEARS			
	2018	2020	2022	Average
HDI	80,29	80,97	81,86	81,04
Life Expectancy	74,17	74,44	74,92	74,51
Mean Years of Schooling	10,85	11,28	11,47	11,2
Expected Years of Schooling	13,9	13,92	13,94	13,92
Expenditure	15.256	15.281	15.926	15.488

Source: Calculation, 2024

The spatial distribution of the Human Development Index (HDI) in Depok City in 2018, 2020, and 2022 was classified into two categories: high and very high. Among all districts, two districts consistently recorded the highest HDI values, namely Sukmajaya and Cinere. The high HDI performance in these two leading districts was driven by strengths in different development dimensions.

Sukmajaya District achieved the highest HDI in Depok City (86.36 in 2018; 87.08 in 2020; and 87.21 in 2022). Sukmajaya's strong performance was primarily supported by its dominance in the health and educational expectancy indicators. The district consistently recorded the highest life expectancy (LE) in Depok City, ranging from 77.38 years in 2018 to 77.62 years in 2022. In line with this, the knowledge dimension in Sukmajaya was also supported by a strong Expected Years of Schooling (EYS) performance (Table 6), reaching 14.55 years in 2018 and remaining relatively high at 14.38 years in 2022. Additionally, its adjusted per capita expenditure consistently ranked as the second highest based on Table 7. Cinere District ranked second highest in terms of HDI (85.81 in 2018; 86.67 in 2020; and 86.80 in 2022). The district's primary strengths were associated with the economic prosperity indicator and educational attainment level. Based on per capita expenditure data presented in Table 7.

Cinere recorded the highest purchasing power in Depok City, with expenditure reaching IDR21.26 million in 2018 and increasing to IDR 22.35 million in 2022. This economic advantage was positively associated with educational achievement, as shown in Table 5, where the Mean Years of Schooling (MYS) among the adult population in Cinere recorded the highest value in Depok City, increasing from 12.43 years in 2018 to 13.24 years in 2022. This indicates that the majority of its population had attained higher education, despite the district's life expectancy remaining relatively lower than that of Sukmajaya.

The results of this analysis are consistent with the document Human Development Analysis of Districts in Depok City 2021, which explicitly stated that the highest HDI in Depok City was concentrated in Sukmajaya District (score of 87.19), followed closely by Cinere District with a score of 86.78 (Diskominfo, 2021). This trend appears to be consistent rather than a temporary fluctuation. In the Human Development Analysis of Districts in Depok City 2024 report, the ranking structure remained unchanged, with Sukmajaya maintaining the highest HDI score of 88.65, followed by Cinere in second place (Diskominfo, 2024).

Table 3. Human Development Index in Depok City by District, 2018, 2020, 2022

Subdistrict	2018	2020	2022	Average	Class
Beji	81,15	81,51	81,85	81,50	Very High
Bojongsari	76,93	77,76	77,86	77,52	High
Cilodong	80,23	82,26	82,40	81,63	Very High
Cimanggis	84,07	84,58	84,92	84,52	Very High
Cinere	85,81	86,67	86,80	86,43	Very High
Cipayung	74,77	75,55	75,66	75,33	High
Limo	79,85	80,70	80,92	80,49	Very High
Pancoran Mas	80,21	82,11	82,25	81,52	Very High
Sawangan	77,28	77,79	78,10	77,72	High
Sukmajaya	86,36	87,08	87,21	86,88	Very High
Tapos	76,69	77,35	77,66	77,23	High
Depok City	80,29	80,97	81,86	81,04	Very High

Source: Calculation, 2024

Distribution of the Human Development Index in Depok City Human Development Index in Year 2018

Human Development Index in 2018 is divided into 2 classes: high and very high. High HDI levels were found in 5 districts: Bojongsari, Cipayung, Limo, Sawangan, and Tapos. Meanwhile, there are 6 districts classified as very high, including Beji, Cilodon, Cimanggis, Cinere, Pancoran Mas, and Sukmajaya. Based on the map, areas with very high levels tend to be located in the northern part extending towards the center of the city.

The northern part of Depok City tends to fall into the very high HDI category. This condition is assumed to be influenced by its direct proximity to South Jakarta and East Jakarta, both of which have shown a consistent increase in HDI values over time. In 2018, the HDI of South Jakarta was recorded at 84.13, while East Jakarta reached 81.61. These values increased in 2020 to 84.72 in South Jakarta and 82.66 in East Jakarta and continued to rise in 2022 to 85.21 and 83.45, respectively. This upward trend indicates the potential influence of surrounding regional development on the high level of human development observed in the northern area (BPS, 2023).

This phenomenon is supported by previous research explaining that Depok has developed as a satellite city of Jakarta and maintains strong linkages with the Special Capital Region of Jakarta (DKI Jakarta) in terms of economic development, population mobility, and

urban regional growth. The growth of Jakarta as an economic center has been

followed by the development of Depok, which has contributed to improvements in the quality of human development in areas with greater accessibility to this growth center (Irma, 2016).

In addition to proximity to Jakarta, other studies have demonstrated that the availability of educational facilities, Gross Regional Domestic Product (GRDP) per capita, and population density have positive and significant effects on HDI in Depok City. This suggests that the high HDI levels in the northern region are not solely influenced by geographic proximity to DKI Jakarta but are also supported by the availability of educational infrastructure and strong economic activity among the population (Dewi et al., 2016).

Geographically adjacent regions tend to exhibit social and economic interconnections, including population mobility, shared access to educational and healthcare facilities, and integrated labor markets. This principle is consistent with the First Law of Geography, which states that areas located closer together tend to have stronger relationships than those farther apart (Tobler, 1970). Neighboring regions may influence the HDI performance of surrounding areas, as factors such as access to healthcare and education services, as well as income levels, can interact and affect one another (Arafat, 2018). These conditions create the possibility of a spillover effect in HDI achievement, indicating that analyses that neglect the spatial dimension may lead to less accurate conclusions.

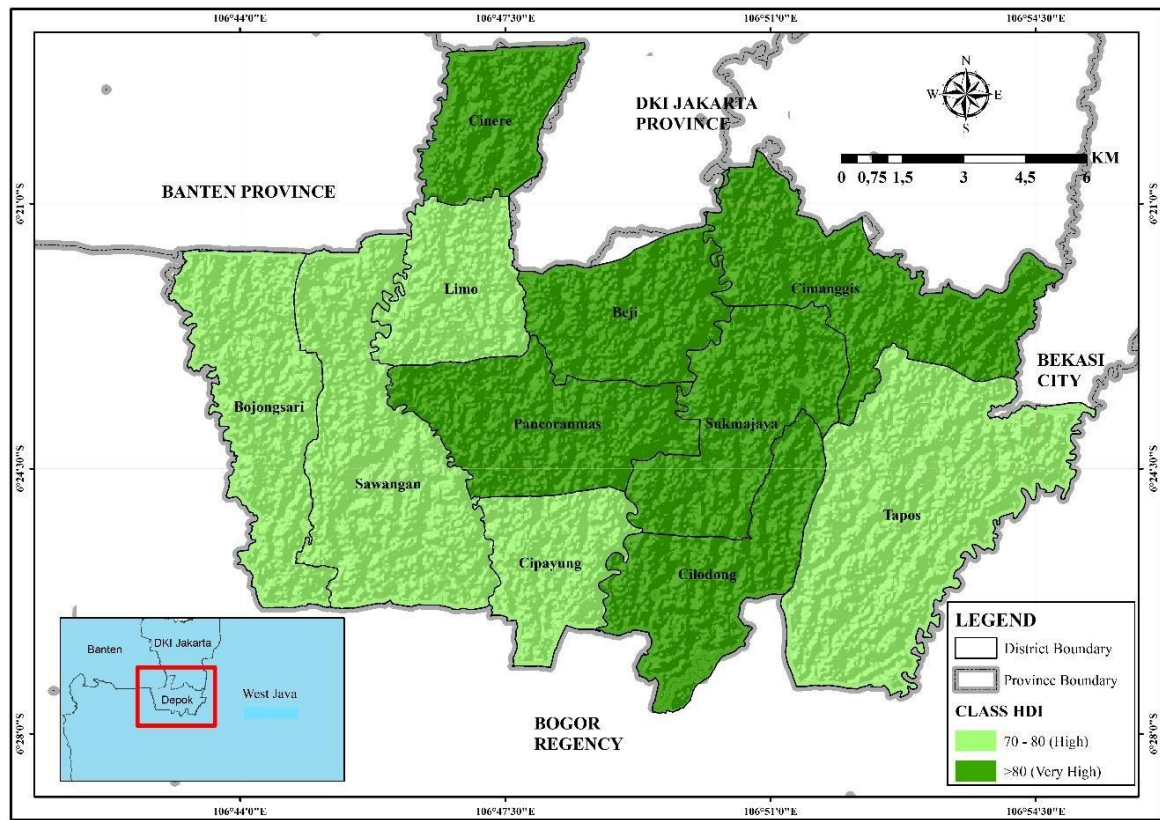


Figure 3. HDI Map in 2018

Human Development Index in Year 2020

Spatial distribution of the Human Development Index in 2020 expanded compared to 2018, where the HDI value of Limo district increased, thus entering the very high class. Depok City with high HDI is distributed in the western and eastern parts. Bojongsari, Sawangan, Cipayung, and Tapos districts are classified as high-class areas.

The spatial distribution of the Human Development Index in Depok City in 2020 showed changes compared with 2018, marked by the increase in the HDI value of Limo District, which shifted into the very high category. In general, areas classified within the high to very high HDI categories tended to be concentrated in the western and eastern parts of Depok City, while several other areas remained in the high category. This pattern can be explained using the complex regional approach, which views a region as the result of interactions among physical, social, economic, accessibility, and functional relationships between regions.

Within the complex regional approach, the high HDI values observed in the western and eastern parts of Depok City are not solely influenced by internal regional characteristics but also by their linkages with surrounding growth centers. The western part of Depok City, such as Limo District and parts of Sawangan, has functional proximity to the buffer areas of DKI Jakarta and the economic zones of South Tangerang City.

Meanwhile, eastern areas such as Cimanggis District benefit from locational advantages due to better accessibility to DKI Jakarta and Bekasi City through transportation networks, accompanied by the expansion of residential areas and economic activities. Proximity to these growth centers contributes to greater employment opportunities, higher income levels, improved access to education, and better healthcare services, which constitute the main components of HDI.

The increase in the Human Development Index (HDI) value of Limo District in 2020 from 79.85 (2018) to 80.70 (2020) indicates an improvement in the quality of human development, resulting in its classification within the very high category (Table 3). This increase was influenced by improvements across the three dimensions composing the HDI, namely health, education, and standard of living.

In the health dimension, life expectancy increased from 72.05 years to 72.20 years, representing an increase of 0.15 years (Table 4). In the education dimension, mean years of schooling increased from 11.14 years to 11.59 years, representing an increase of 0.45 years, although expected years of schooling slightly declined from 14.25 years to 14.21 years (Table 5).

Meanwhile, the largest contribution originated from the standard of living dimension, indicated by the increase in adjusted per capita expenditure from 13,814 to 14,554, equivalent to an increase of approximately 5.36% (Table 7).

The improvement across these three indicators reflects better health conditions, educational

attainment, and economic capacity among the population, which collectively contributed to the increase in the HDI value of Limo District in 2020.

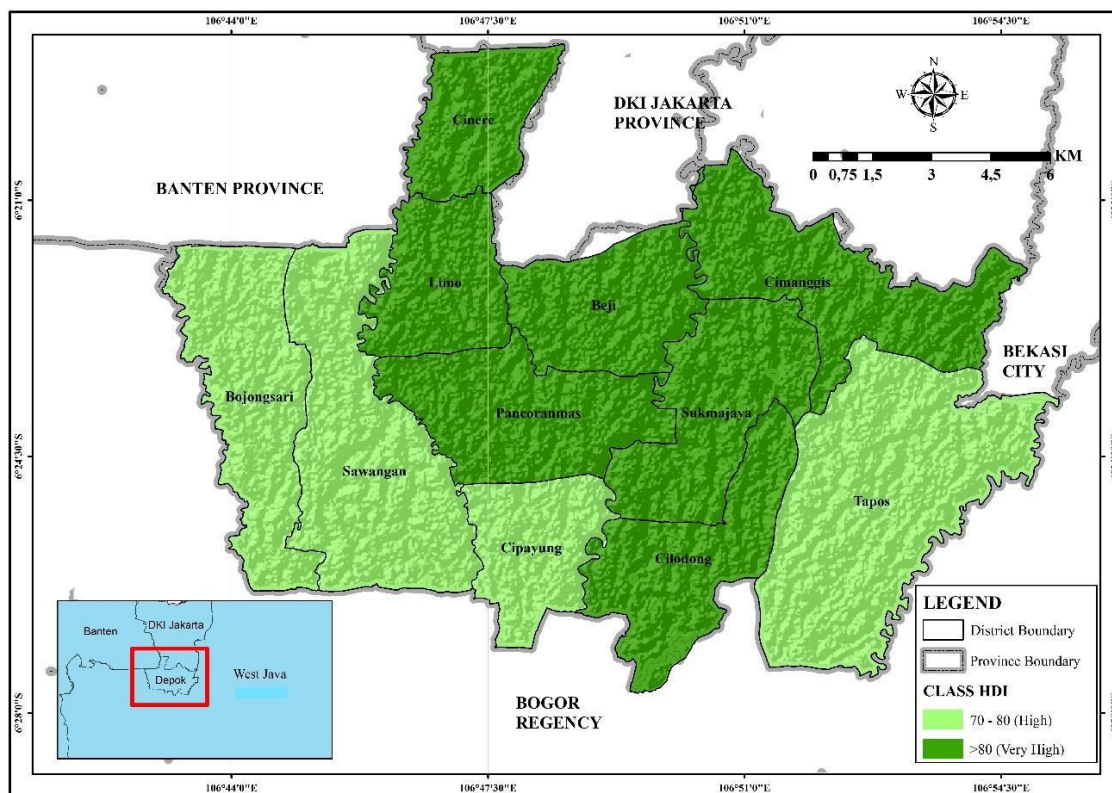


Figure 4. HDI Map in 2020

Human Development Index in Year 2022

Spatially, the Human Development Index (HDI) distribution in 2022 exhibited a pattern similar to that observed in 2020, with seven districts classified in the very high category and four districts classified in the high category. However, in 2022, all districts in Depok City experienced an increase in their Human Development Index (HDI) values compared with the previous period.

This improvement was reflected in rising HDI values across all districts, although the magnitude of change varied. Sukmajaya District remained the area with the highest HDI value at 87.21, followed by Cinere District at 86.80 and Cimanggis District at 84.92. Meanwhile, Tapos District continued to record the lowest HDI value at 77.66, despite showing an increase compared with its 2020 value of 77.35. In addition, Limo District demonstrated a consistent increase from 79.85 in 2018 to 80.70 in 2020 and reached 80.92 in 2022, enabling it to enter and maintain its position within the very high category.

The relatively consistent increase in HDI values across all districts during the 2018–2022 period indicates that human development in Depok City has followed an incremental rather than an accelerated growth pattern. This finding suggests

that areas already categorized as having high HDI generally

have more limited growth potential compared with regions that remain at lower levels of development (Rah Adi et al., 2024).

When examined based on the components constituting HDI, the improvement in Limo District was supported by increases across all indicators, including life expectancy from 72.20 to 72.25 years, mean years of schooling from 11.59 to 11.71 years, expected years of schooling from 14.21 to 14.29 years, and adjusted per capita expenditure from 14,554 to 14,706. These conditions indicate that the increase in HDI was not driven by a single dimension but rather represented relatively balanced progress across health, education, and living standard dimensions.

The gradual (incremental) pattern of improvement suggests that the spatial dynamics of HDI in Depok City were not characterized by extreme shifts in development categories but rather by sustained improvements in education quality, health conditions, and living standards across districts. At the national level, HDI recovery in the post-pandemic period in 2022 was primarily driven by improvements in the standard of living dimension, as reflected by increases in adjusted real per capita expenditure (BPS, 2022).

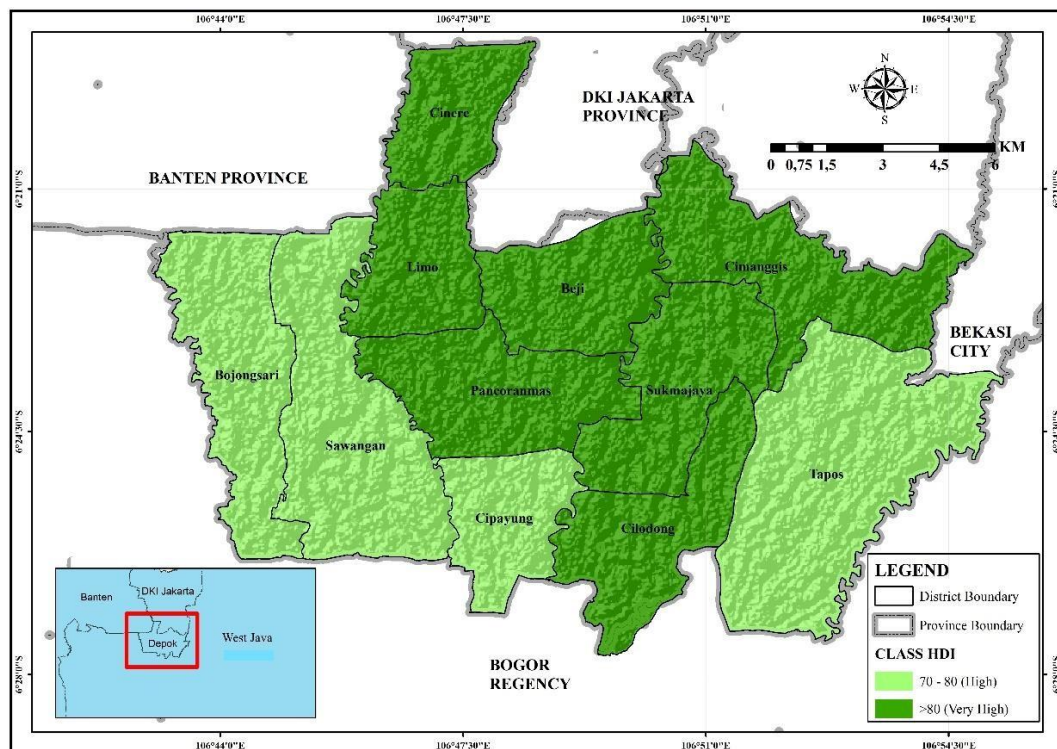


Figure 5. HDI Map In 2022

Indicator Human Development Index

Life Expectancy

The life expectancy in Depok City shows a consistently increasing trend, with an overall average of 74,51 years. This means that residents of Depok have a life expectancy of approximately 74,51 years. With this figure, it can be interpreted that the life expectancy in Depok is relatively high compared to the national average, which was around 71,83 years in 2022 (BPS, 2023). The improvement in life expectancy in Depok is supported by good healthcare infrastructure, easy access, and availability of healthcare services. As of 2022, Depok City has a total of 2,239 healthcare

facilities provided by both government and private sectors (DINKES, 2023).

Life expectancy varies significantly across the eleven districts of Depok City. The highest life expectancy is found in Sukmajaya District, with an average of 77,52 years, while the lowest life expectancy is in Cipayung District, averaging 70,58 years. Based on these life expectancy figures, the Depok City government can. The high life expectancy is supported by the availability of adequate healthcare facilities and services. This favorable condition needs to be continuously maintained and, if possible, further improved.

Table 4. Life Expectancy in Depok City by District, 2018, 2020, 2022

Subdistrict	2018	2020	2022	Average
Beji	72,04	72,21	72,26	72,17
Bojongsari	71,67	71,83	71,88	71,79
Cilodong	76,39	76,55	76,62	76,52
Cimanggis	76,54	76,70	76,78	76,67
Cinere	74,55	74,71	74,78	74,68
Cipayung	70,46	70,61	70,66	70,58
Limo	72,05	72,20	72,25	72,17
Pancoran Mas	71,07	71,22	71,27	71,19
Sawangan	70,59	70,74	70,79	70,71
Sukmajaya	77,38	77,55	77,62	77,52
Tapos	72,15	72,31	72,37	72,28
Depok City	74,17	74,44	74,92	74,51

Source: Calculation, 2024

Mean Years of Schooling

Mean years of schooling (*Rata-Rata Lama Sekolah*) and Expected Years of Schooling (*Angka Harapan Lama Sekolah*) are indicators that reflect the level of education quality in the community. Life expectancy (*Angka Harapan Hidup*) is an indicator that reflects the level of public health quality in Depok City.

The mean years of schooling for the population of Depok City from 2018, 2020, and 2023 reached 11,20 years. This means that on average, the population of Depok City completes education up to the equivalent of the second year of high school (*SMA kelas 2*). A study conducted by Ari et al. (2021) stated that the average years of schooling have a significant positive impact on economic growth. The highest mean years of schooling is in Cinere District at 12,92 years. In other words, residents of Cinere

District on average complete formal education up to the equivalent of the third year of high school (*SMA kelas 3*). Meanwhile, the lowest mean years of schooling is in Bojongsari District at 10,34 years, which is equivalent to completing the first year of high school (*SMA kelas 1*).

The longer the study period, the higher a person's level of education. A common assumption states that there is a positive correlation between a person's level of education and their quality, both in their thinking patterns and actions. Generally, the mean years of schooling in Depok City are up to high school. This should be a concern for the Depok City Government to prioritize education by making access easier for the community, for example, by providing educational assistance such as scholarships or loans to help students who lack economic means to finance their education.

Table 5. Mean Years of Schooling in Depok City by District, 2018, 2020, 2022

Subdistrict	2018	2020	2022	Average
Beji	10,36	10,72	10,84	10,64
Bojongsari	10,05	10,43	10,55	10,34
Cilodong	11,09	11,51	11,64	11,41
Cimanggis	11,31	11,76	11,89	11,65
Cinere	12,43	13,10	13,24	12,92
Cipayung	10,61	10,97	11,08	10,89
Limo	11,14	11,59	11,71	11,48
Pancoran Mas	10,73	11,05	11,16	10,98
Sawangan	10,24	10,56	10,67	10,49
Sukmajaya	11,42	11,90	12,03	11,78
Tapos	11,30	11,84	11,96	11,70
Depok City	10,85	11,28	11,47	11,20

Source: Calculation, 2024

Expected Years of Schooling

The Expected Years of Schooling (EYS) in Depok City was 13.90 years in 2018, which slightly increased to 13.92 years in 2020 and further to 13.94 years in 2022. These values indicate that children in Depok City are expected to complete approximately 14 years of education, which is equivalent to attaining education up to the Diploma II (D-II)

level. At the district level, the highest EYS was recorded in Beji District at 15.07 years, indicating that children in this district are expected to attain education equivalent to the Diploma III (D-III) level. In contrast, the lowest EYS was observed in Tapos District at 13.03 years, suggesting an expected educational attainment equivalent to the Diploma I (D-I) level. The detailed distribution of EYS across districts is presented in Table 6.

Table 6. Expected Years of Schooling in Depok City by District, 2018, 2020, 2022

Subdistrict	2018	2020	2022	Average
Beji	15,25	14,94	15,02	15,07
Bojongsari	13,92	13,84	13,92	13,89
Cilodong	13,55	14,64	14,73	14,31
Cimanggis	14,07	13,84	13,93	13,95
Cinere	13,15	13,04	13,13	13,11
Cipayung	13,51	13,50	13,57	13,53
Limo	14,25	14,21	14,29	14,25
Pancoran Mas	13,83	14,91	14,98	14,57
Sawangan	14,24	14,10	14,17	14,17
Sukmajaya	14,55	14,10	14,38	14,34
Tapos	13,14	12,93	13,01	13,03
Depok City	13,90	13,92	13,94	13,92

Source: Calculation, 2024

Per Capita Spendingran

Per capita expenditure in Depok city in 2018 was 15.256 million per year, increased to 15.281 million in 2020, and 15.926 million in 2022. The significant increase from 2020 to 2022 correlates with the high inflation in 2022, which was 5.51% (yoy/year on year), compared to 1.87% in 2021 and 1.68% in 2020 (BankIndonesia, 2023).

The district with the lowest per capita expenditure is Cipayung at 10.831 million, while Cinere has the highest per capita expenditure at 21.928 million. Per capita expenditure is an indicator of community welfare and an economic parameter for monitoring development progress. Analysis of purchasing power through per capita expenditure shows economic improvement in Depok city and all its districts, presented in the table 7.

Table 6. Expected Years of Schooling in Depok City by District, 2018, 2020, 2022

Subdistrict	2018	2020	2022	Average
Beji	15.657	16.404	16.563	16.208
Bojongsari	12.381	13.077	13.225	12.894
Cilodong	12.520	13.222	13.370	13.037
Cimanggis	16.738	17.548	17.712	17.333
Cinere	21.265	22.170	22.350	21.928
Cipayung	10.397	10.978	11.117	10.831
Limo	13.814	14.554	14.706	14.358
Pancoran Mas	16.524	17.312	17.474	17.103
Sawangan	12.823	13.526	13.675	13.341
Sukmajaya	18.983	19.862	20.034	19.626
Tapos	11.038	11.729	11.871	11.546
Depok City	15.256	15.281	15.926	15.488

Source: Calculation, 2024

CONCLUSION

Based on the analysis results, the Human Development Index (HDI) of Depok City during the 2018–2022 period demonstrated a consistent upward trend and remained within the very high category, including during the COVID-19 pandemic period. This condition positions Depok City as one of the regions with strong human development resilience in West Java Province. The improvement in HDI reflects successful development across the three main dimensions—health, education, and standard of living with the health dimension contributing the most through the high life expectancy of the population.

Spatial analysis indicates that the distribution of HDI in Depok City has not been entirely even. The northern areas, particularly Sukmajaya, Cinere, and Cimanggis Districts, consistently recorded the highest HDI values and remained within the very high category. These achievements were influenced by the proximity of these areas to DKI Jakarta as an economic growth center, better availability of educational and healthcare facilities, and stronger economic activity among the population. In contrast, several districts in the southern and eastern parts, such as Tapos, remained in the high category despite showing improvements over time.

The spatial changes observed during the study period indicate improvements in the quality of human development across all districts. One example is Limo District, which successfully transitioned from the high category to the very high category in 2020 and maintained this status through 2022. This improvement was supported by simultaneous progress in health, education, and per capita expenditure indicators. Overall, human development in Depok

City has progressed in a gradual (incremental) and sustainable manner. Although all districts experienced improvements in HDI values, variations in achievement across regions remain, indicating the presence of spatial disparities. Therefore, future development policies should focus on improving equitable access to education, healthcare, and economic opportunities, particularly in districts that still exhibit relatively lower HDI values, so that improvements in human development quality can be experienced more evenly across all areas of Depok City.

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