

# Distribution of Optimized Public Assets Utilization in Yogyakarta Province using Geographic Information System

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## Distribution of Optimized Public Assets Utilization in Yogyakarta Province using Geographic Information System

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### Abstract

Public asset is an integral part of regional assets that is owned and controlled by regional government, this asset could be financed partly or wholly by regional budget. Asset should be distributed proportionally to optimally support the economic development. This study examines the distribution of assets to boost regional economic growth that eventually will increase the regional government revenue. The optimized distribution of public assets is expected to be a source of regional financing and asset management is one of the keys to successfully manage regional economic. The conclusion is that the asset management with innovation and technology could optimize the utilization of regional assets in boosting the economy.

**Keywords:** *Geographic Information System; asset management, asset optimization*

### Abstract

Aset publik adalah bagian integral dari aset daerah yang dimiliki dan dikendalikan oleh pemerintah daerah, aset ini dapat dibiayai sebagian atau seluruhnya dengan anggaran daerah. Aset harus didistribusikan secara proporsional untuk mendukung pembangunan ekonomi secara optimal. Studi ini mengkaji distribusi aset untuk mendorong pertumbuhan ekonomi daerah yang pada akhirnya akan meningkatkan pendapatan pemerintah daerah. Distribusi aset publik yang dioptimalkan diharapkan menjadi sumber pembiayaan daerah dan pengelolaan aset adalah salah satu kunci untuk berhasil mengelola ekonomi daerah. Kesimpulannya adalah bahwa manajemen aset dengan inovasi dan teknologi dapat mengoptimalkan pemanfaatan aset daerah dalam meningkatkan perekonomian.

**Kata kunci:** *Sistem Informasi Geografis, Manajemen Aset, Optimalisasi aset.*

### INTRODUCTION

Public asset (BMD) is a regional asset that is bought or obtained at the expense of the regional government (APBD) or other legal acquisition, both movable and immovable along with their parts or which constitute certain units that can be assessed, calculated, measured or weighed including animals and plants, except money and other securities (Sholeh & Rochmansjah, 2010). Land is important for urban development activities in terms of providing housing for residents, urban activity centers, basic facilities and infrastructure, infrastructure networks, and central development new growth centers of activity. Land is limited, and it can't keep

pace with the increase of urban development, resulting in an intensification of land use in the downtown area and uncontrolled expansion of developed land in the suburbs.

On the other hand, the regional government has public assets that can be used to support the urban development activities. Asset is defined as something or goods owned by person, business entity, or agency, which has economic value, commercial value and exchange value. Assets can be in the form of immovable property (land and buildings) or movable property (capital, savings, debt ) which can be considered as wealth (Siregar, 2004). Regional government assets can be in the

form of land, buildings, equipment and machinery, roads, irrigation and canals, construction in progress, and other assets.

Land has unique characteristics because of its limited nature, but the human need for land is also increase, in this sense, the land value will increase. Land value is influenced by physical characteristics, such as size and shape, the influence of soil angle, plotting, land access, topography, utility, site development, location and environment (Hidayati & Harjanto, 2003). The land utilization must be well considered to increase regional revenue. Land is a natural resource that is very important for human life and existence. In the asset management, there is a concept of real property, which is an individual or legal entity's right to own and control land with a land title, such as ownership rights or building rights along with (permanent) buildings erected on it or without buildings. The definition of ownership can be distinguished into physical control over the property (real estate) and ownership of a legal concept as juridical assignment which is based on a land right (real property) (Siregar, 2004).

Geographic Information System (GIS) is an information system in managing data with spatial information (spatial reference). The understanding of geographical information refer to place or location, where an object is located on the surface of the earth and information about the object where the geographical spatial is located for analysis in decision making. Most of data processing is still using desktop applications, in the future we are suggesting the online version as many data can be gathered quickly wherever the operator located. The Financial And Asset Management Agency (BPKAD) Yogyakarta Province has several assets in the form of lands and buildings that are spreaded across the region. The spreaded assets throughout this region must be evaluated so the utilization could reach its optimal utilization. We then use the GIS

application to evaluate whether this region has optimal utilization or not.

## LITERATURE REVIEW

### Optimization of Regional Assets

Cooperation between local government and private companies will boost local revenue (PAD), therefore this cooperation model should be prioritized especially in the era of globalization, when foreign investment can go directly to regencies. Nationally, the increase of PAD could be assumed as a determinant of a long-term economic growth.

Yogyakarta Province has renewable energy source as assets include; water, solar, wind, wave, and biomass energy, however they have not been used optimally. There are no deposit of coal or fossil energy resources, while oil and gas is still in the exploration stage.

There are several efforts to optimize the asset management regionally to turn these sources into value in increasing PAD. The increase will eventually lead to the implementation of regional autonomy. Efforts to optimize regional asset management can be done by utilizing regional assets.

### Utilization of Regional Assets

Idle regional assets should be utilized optimally, for the reasons of:

- a. Relieving pressure of the APBD, in particular the costs associated with maintenance and security aspects to prevent proprietorship issue.
- b. Increasing the PAD.

Utilization in term of regional assets is the usefulness of regional property, which is not used in accordance to work unit (SKPD) tasks. Commonly they are used in the form of lease, lend-use, cooperation, and built-operated-transferred, without changing the proprietorship status.

#### 1. Lease

The term of lease is referred to the use of property belonging to the region by another party within a certain

period of time in exchange for cash. Regionally owned property, both movable and immovable property that has not been utilized by local governments, can be leased to third parties as long as it benefits the region. The lease implementation is determined by the decision of a regional head. Leases can be carried out as follows :

- a. Leasing of regional goods is permitted only with the consideration of optimizing regional goods.
  - b. Asset is idle and have not been utilized by regional or work units.
  - c. Regional assets could be leased to other parties such as BUMN / BUMD, koperasi, foundations or private parties.
  - d. The types of regional goods that can be leased are determined by the respective regional head.
  - e. Rental price of regional goods is determined a regional head.
  - f. Proceeds from leasing are regional revenue and must be submitted to official treasury.
  - g. Leasing agreement must be clearly defined:
    - 1) Type, amount, cost and duration of rental.
    - 2) Operation and maintenance costs are the responsibility of the lessee.
    - 3) Other conditions deemed necessary. Types of regional goods that can be rented out:
      - a) Mess, guesthouse, cinema and the like.
      - b) Warehouse and building.
      - c) Shop or kiosk.
      - d) Land.
      - e) Large vehicles and equipment.
2. Land-used

Lend-used is a transfer of the use of regional goods to a government agency or other party determined by statutory regulations for a certain

period of time, without receiving compensation, after the period ends, the assets are returned to the owner.

- a. Lend-use of regional goods can only be done with considerations of:
  - 1) Regional goods can be used economically by government agencies/regions.
  - 2) Social or religious purposes.
- b. The terms of lend-use for regional goods are:
  - 1) The regional goods have not been utilized for a long time by the regional units/work units.
  - 2) The borrowed regional goods can only be used by the borrower in accordance with their origin purpose.
  - 3) The lend-use does not interfere with smooth operation of the institution or regional work units/units concerned.
  - 4) Borrowed assets must be goods that are not consumables
  - 5) The borrower is obliged to properly maintain the costs required during the loan.
  - 6) The maximum loan period is 2 (two) years and if needed can be extended.
  - 7) For certain purposes this period can be given more than two years, especially where the place is adjusted to the designation of the city plan.
  - 8) Goods borrowed must be returned in a good condition.
- c. Lend-use of regional property can only be carried out between government agencies, except as referred to number b1.
- d. Hand over of lend-use goods that owned/controlled by the regional government is determined by the decision of a regional head and the implementation is outlined in the official report.
- e. Agencies and other parties pursuant to number 1a and b above submit

the application to the regional head through the equipment bureau chief/equipment division head and the settlement if deemed necessary is a committee can be formed by the regional head. The implementation of the land-use is determined by a regional head.

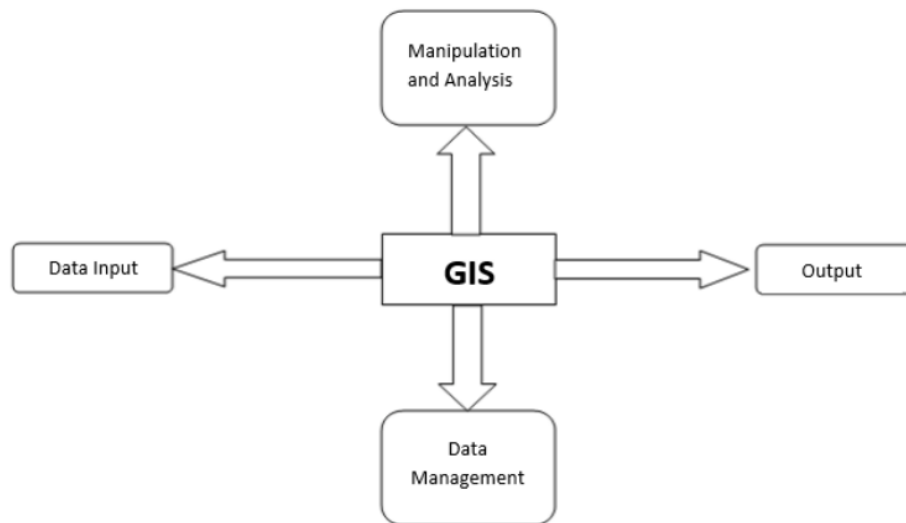
The implication of the use and management of assets that are not optimal is the imbalance value between the intrinsic value and the asset potential. For example, from the economic aspect, the failure of getting revenue that is commensurate with the assets value, which is one of the potential sources of revenue for local government, or in other words the low return on assets (ROA).

With assets distribution and the handling of each specific asset (for example due to differences in terms of utilization, diverse designation, as well as the model of business use of assets to diverse third parties), asset management must be carried out in a program that can

be accounted for. The program must reflect the commitment of the regional government to guarantee good governance, and refer to the principles of disclosure, fairness, accountability and prioritizing the public interest. These activities will encourage local governments to truly develop regional development strategies based on their own potential.

### Geographic Information System

According to Gistut (1994), GIS is a system that supports spatial decision making and integrate location descriptions with the characteristics of phenomena found at those locations. Spatial data can be an interpreted data about objects or geographical elements (both below, above and on the surface of the earth) that can be identified and have a location reference based on a specific coordinate system or georeferenced. GIS can be broken down into several subsystems and can be explained in the following figure.



**Figure 1.** GIS Subsystems

where:

#### 1. Data Input Subsystem

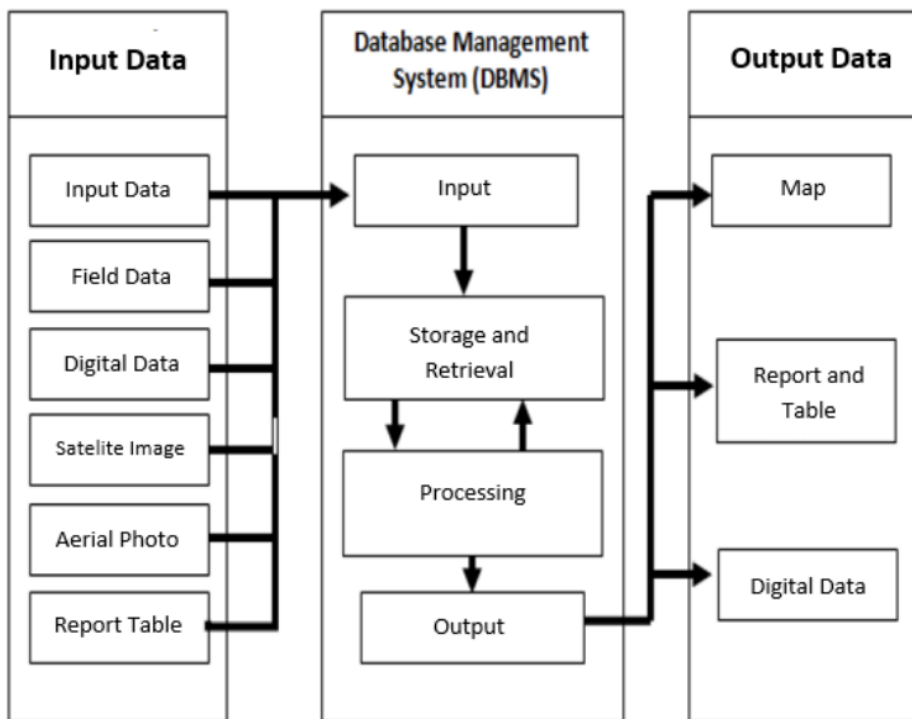
1) chareg in collecting and preparing spatial data and attributes from various

sources. The subsystem is also responsible for converting or transforming original data formats into a format that can be used by GIS.

2. Data Management Subsystem  
The subsystem organizes spatial data and attributes into a database system such that spatial data is easy to find, update and change.
3. Manipulation and Analysis Subsystem  
The subsystem determines the information that can be generated by GIS, this subsystem also manipulates and creates modeling data to generate information.
4. Output Subsystem

The subsystem is referred to Presentation Subsystems, this subsystem displays or produces output or database, both in softcopy and hardcopy, tabular, graphic, map, and other formats.

These subsystems are well explained using their descriptions of the type of input, process and type of output which is presented in figure 2.



**Figure 2.** Description of GIS Subsystems

GIS is a complex system, it integrates to other system environments, both in functional and network level, it also has many components.

### RESEARCH METHODS

The methodology used consists of data collection methodologies and data analysis. Data obtained through indirect

sources (secondary) are in the form of a database of the number of assets and their locations from BPKAD Yogyakarta Province. The analytical method used is spatial descriptive analysis. Spatial descriptive analysis is a collection of techniques used to explore data from a spatial perspective (spatial) and present it back to a more communicative form. This analysis is carried out by utilizing GIS

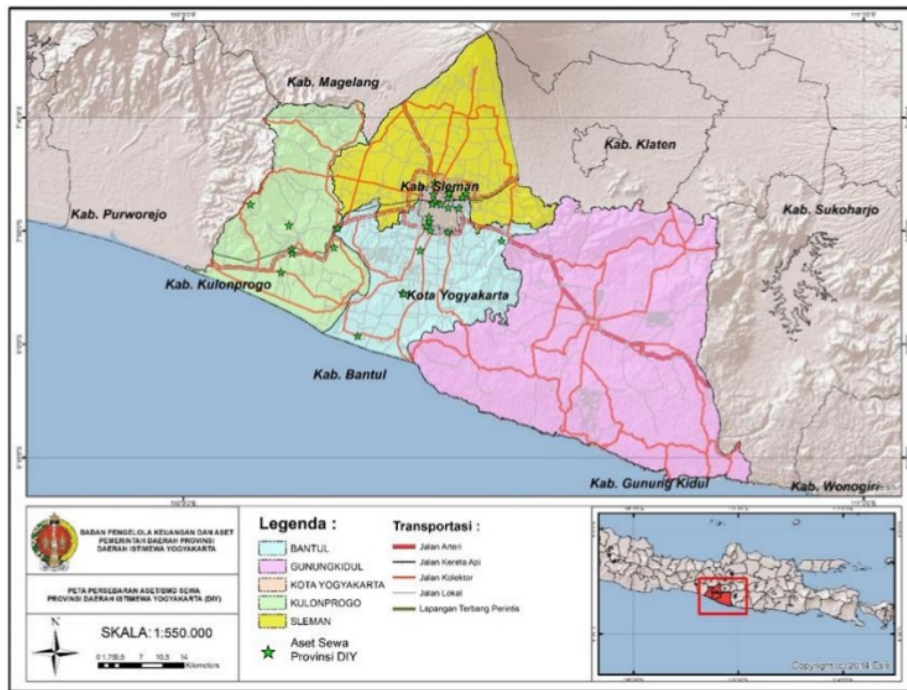
which enables the integration of spatial data from various sources. In this study, a spatial analysis was used to identify the distribution patterns of BMD in Yogyakarta Province through the analysis of the maps produced.

## RESULT AND DISCUSSION

Inventorization of regional asset or BMD is one of many stages in asset management that is carried out in the context of BMD data gathering, recording, and registration. BMD inventorization consists of two aspects, physical and legal. Physical aspects consist of shape, area, location, number, type, address, and others. While the legal aspects are the status of mastery, proprietorship issue, the deadline of mastery and others. Based on the BMD

database of BKAD of Yogyakarta, there are two types of BMD that are recorded, namely Rent-BMD and Loan-BMD. The BMD distribution data that will be presented in the form of land and/or buildings is based on the location as depicted in the BPKAD Province database.

BMD leases are assets owned by a region that are used by other parties for a certain period, the agency receives cash advance compensation from other parties that renting out. Based on the database of BKAD Yogyakarta, there are 11 BMDs in the form of land and/or buildings with leases, that are spread all over Yogyakarta City, Sleman Regency, Bantul Regency, Kulon Progo Regency, and Gunung Kidul Regency. The following map presents the distribution of BMD in Yogyakarta.



**Figure 3.** Map of leased-BMD Distribution of the Province of Yogyakarta

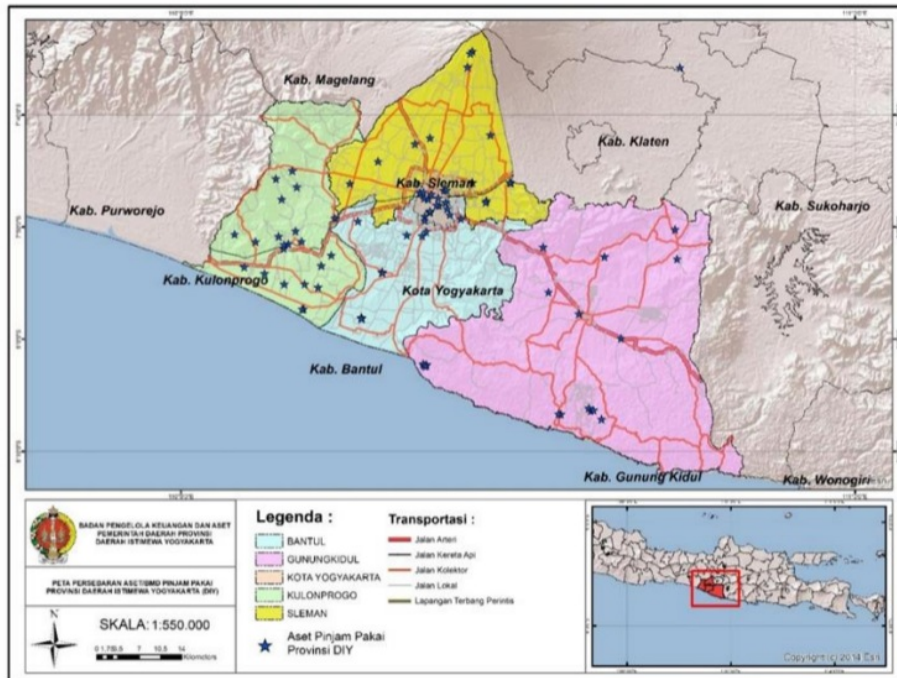
Based on the picture 3, the BMD distribution in Yogyakarta is spread all over Yogyakarta Province, with the highest assets numbers in the city of Yogyakarta (6

units). Bantul and Kulon Progo Regencies are in the next rank of assets number (2 units each), while Sleman Regency is in the third level (1 unit) and lastly, Gunung

Kidul Regency (0 unit).

Lend-use-BMD is a term to referred the use of goods between the central government and regional governments or between regional governments within a certain period of time without receiving compensation, after the period ends, the asset is returned to the

property manager. Based on the database of BKAD of Yogyakarta, there are 87 BMDs in the form of land and/or buildings with the lend-use, they are spread throughout the Regency / City in the Province of Yogyakarta. The following map depicts the distribution of lend-use-BMD the Province of Yogyakarta.



**Figure 4.** Map of lend-used-BMD Distribution in the Province of Yogyakarta. place with 11 Units.

Based on the picture 4, the highest distribution of lend-used-BMD the Province of Yogyakarta is in Kulon Progo Regency with 24 units, followed by the city of Yogyakarta, with 20 units. The third rank is Gunung Kidul Regency with 17 units, and the fourth is Sleman Regency with 15 units. Bantul Regency is in the last

Based on the database of BKAD Yogyakarta, number of properties owned by regional government that are utilized in the form of lease are spread throughout the regencies in Yogyakarta Province. Table 1 presents the number of leased-BMD in Yogyakarta Province.



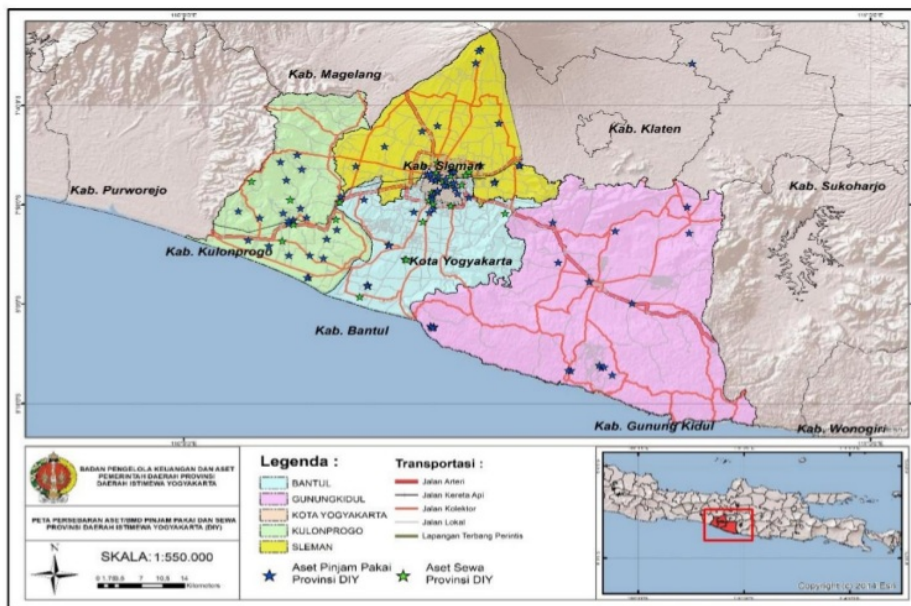
**Table 1.** The Amount of BMD for Lease and Lend-used in the Province of Yogyakarta

Regency/City	Number of Rental Asset	Loan Asset Amount	Total
Yogyakarta	6	20	26
Kulonprogo	2	24	26
Gunungkidul	-	17	17
Sleman	1	15	16
Bantul	2	11	13
<b>Total</b>	<b>11</b>	<b>87</b>	<b>98</b>

Source: DIY Province BPKA Database, 2019.

8 Total number of BMDs distribution in the Province of Yogyakarta is concentrated in the the City of Yogyakarta and Kulon Progo Regency with total of 26 units, each. The second total number is reported in Gunung Kidul Regency, with

17 units – all is in the form of lend-used. The next concentrated regency is Sleman with 16 units, and the last concentrated regency is Bantul with 13 units. Picture 5 depicts the map of the distribution of BMD in Yogyakarta Province for both leasing and lend-used categories.



**Figure 5.** Map of BMD Distribution of Lease and Lend-used in the Province of Yogyakarta.

## CONCLUSION AND RECOMMENDATION

We find that the distribution of assets in the Province of Yogyakarta was mostly in the City of Yogyakarta and Kulon Progo. Based on the results of ssets distribution in Yogyakarta Province, it is

expected that the optimization of asset management and its utilization can be carried out. Mapping the distribution of assets using a geospatial information system supports the data-based asset management process, thereby increasing the accuracy and ease of accessing the asset's data.

Mapping the distribution of assets could become a reference in the asset valuation, as location is the important determinant in the valuation. With innovations in asset management, we expect that the optimization of asset utilization and asset valuation are developed accordingly, to improve the regional economy.

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