

The Analysis of "Highest & Best Use" Government Land of Deli Serdang District

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Abstract: Government assets were very much in the public spotlight today due to the lack of optimal asset utilization, which was in accordance with Constitution of Indonesia 2004 No. 32 regarding to the Regional Government, where the Regional Governments are granted autonomy to regulate and manage government affairs and when necessary, to optimize the sources of Regional Original Income (PAD), particularly the revenues from government asset management sector. One of the vacant land owned by Deli Serdang regency of 22,802 M² located on Jalan Raya Medan - Lubuk Pakam KM 21.5 Tanjung Morawa needed to be optimized to increase the PAD of Deli Serdang Regency. The Highest and Best Use (HBU) analysis method was used to further identify the most optimal and beneficial use of the property for such vacant land. The results obtained in this research was the Product Promotion Center by generating Net Present Value of Rp. Rp38.142.832.106, - (thirty eight billion one hundred forty two million eight hundred thirty two thousand one hundred six Rupiah), Internal Rate of Return of 27.92%, Payback Period of 5 years 7 months and Benefit Cost Ratio of 7.67 and maximum productivity that provided an increase in the value of land from Rp. 1,003,000, - / M² up to Rp. Rp1,186,591, - / M² or Productivity increased 118%.

1 INTRODUCTION

Utilization of government assets that had not been optimal in most Regional Governments in Indonesia, which was in accordance with the Constitution of Indonesia 2004 No. 32 on Regional Government, where the Regional Government is given the autonomy to regulate and manage government affairs and is required to optimize the sources of Regional Original Income (PAD), particularly the revenues from the government asset management sector. Hence it was necessary to analyze the utilization and use of land to determine the optimal land use alternative before implementing the construction of property on the land, and supports sustainable properties that are actions and mitigate negative environmental impacts typically manifested in green buildings with eco-friendly design (Fachrudin, 2017).

The assessment use of the Highest and Best Use method (HBU Method) was the most feasible and permissible use of an established land or soil, which was physically feasible, legally permissible, and financially feasible (Hidayati and Harijanto, 2001).

The HBU analysis was one of the many methods in analyzing the optimal land use and had the highest value.

The research will be conducted on one of the assets owned by Deli Serdang Regency Government covering 22,802 M² located at Jalan Raya Medan - Lubuk Pakam KM 21,5 Tanjung Morawa. Currently, the land is still idle and had not been utilized optimally while located strategically in the strategic area of industrial and trading center area thus making it suitable to be developed into commercial property such as product promotion center, warehousing, offices, traditional market and business hotel . By using Highest and Best Use method (HBU Method) through physical aspect, legal aspect, financial aspect and maximum productivity will be determined land use. In AIREA (2008: 278) AIREA (2008) said that Highest and Best Use (HBU) was defined as the most reasonable, feasible, and legitimate use of vacant land or built-up land that was physically possible, appropriately supported, financially feasible, and produced the highest value of the land. Pratama (2011) also said that the Highest and Best Use (HBU) on

government-owned vacant land had been done several times, such as research conducted in North Jakarta area with the conclusion of the development of apartment project. A similar study was also conducted by Supit (2013) on land owned by the North Sulawesi Provincial Government with the conclusion of use as a hotel. Pradhani (2013) found the conclusion of HBU as a mix use of development on one parcel of vacant land in Mataram City. Then Manaf, et al. (2013) assessed the efficiency of property lands and the relationship between land availability and urban development where land was a key determinant of development success. The author also conducted studies of some literature related to HBU, such as Luce (2012) who examined a site and office building above it located in Arlington, Virginia, United States, using HBU analysis. Rattermann (2008) addressed the theme of the HBU issue in the assessment to generate market value.

2 METHODS

The research used Highest and Best Use (HBU) concept to determine what kind of property was the most optimum in the object of research by performing analysis based on physical aspect, legal aspect, and financial aspect and considering maximum productivity. The type of research conducted was quantitative research where phenomena could be classified relatively fixed, concrete, observed, measured and causal symptoms. The data that had been collected was analyzed in order to be concluded as the formulated hypothesis whether it was proven or not (Sugiono 2012).

Table 1: Research Variable

No.	Variable	Indicator
1.	Alternative Land Utilization	Alternative Land Utilization
2.	Legal	a. Zoning b. Building Code.
3.	Physical	a. Location & Accessibility b. State of Utility & Environmental Facility c. Land Tread Analysis (Shape and size of land)

No.	Variable	Indicator
4.	Financial	a. Investment Cost b. Income c. Expense d. Cash Flow
5.	Maximum Productivity	Land Value

Source : Data Processing, 2018

To facilitate in viewing the conceptual framework of the research, the researcher described it as followed:

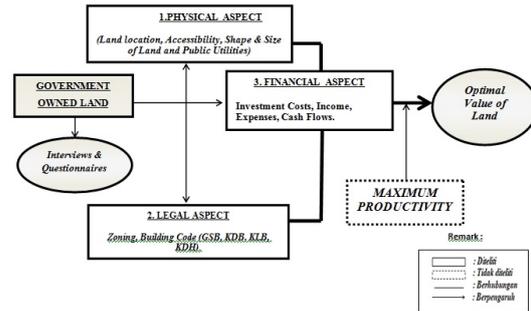


Figure 1: Conceptual Research Framework, 2018

3 RESULTS AND DISCUSSION

The results of land use research for the property that yielded the highest land value of the land area of 22,802 M² located on Jalan Raya Medan - Lubuk Pakam KM. 21.5, Tanjung Baru Village, Tanjung Morawa Sub-district, Deli Serdang District.

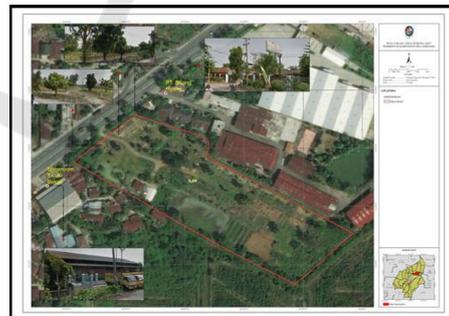


Figure 2: Research Object Location. Source: Google Earth & Field Survey, 2018

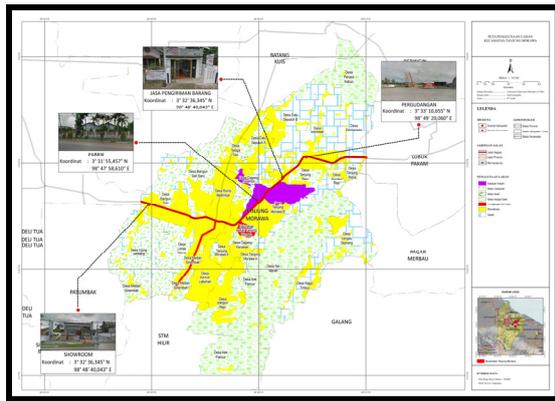


Figure 3: Orientation of Land Location in Tanjung Baru Village, Tanjung Morawa Sub District. Source : Field Survey & Peta Rupa Bumi 1:50.000, 2018

3.1 Determination of Alternative Use

The results obtained from the observation of buildings around the study site, interviews and delivery of questionnaires to relevant stakeholders will be studied to obtain the best alternative land use. The survey results stated that the land located on Jalan Raya Medan - Lubuk Pakam KM. 21.5, Tanjung Baru Village, Tanjung Morawa Sub-district was suitable for commercial property types such as product promotion center, warehousing and business hotel.

Table 2: Questionnaire Results Data

Alternative Land Utilization	Number of Respondents
Product Promotion Center	16
Warehousing	6
Business Hotel	4
Dry Port	1
One Stop Integrated Service Office (PTSP)	1
Commercial sports arena	1
Culinary Center	1
Total	30

Source : Data Processing Result, 2018

3.2 Physical Aspect Analysis

Subject to the analysis of physical aspects, there were several criterias that became used indicators. They were Location and accessibility, State of Utility And Environmental Facilities, Land Tread Analysis (shape and size of land).

3.3 Location and Accessibility

Based on the data, the land had a very convenient location for commercial property, and had a very strategic accessibility as it was very close to Tanjung Morawa Toll Gate, Kuala Namu Airport and the capital of Lubuk Pakam Regency. The land was also located at small trading centers and industrial areas and other commercial public facilities such as showrooms, shops, warehouses and others, and the availability of public transportation such as public transport routes, and other transportation passing through the land area. This supported the development of alternative land research objects.

3.4 State of Utilities and Environmental Facilities

Based on the data and field observations, the previous land location was for agricultural nursery and the land currently was idle. For the Utility facilities around the land, it was also complete and very adequate with the availability of electricity, water and telephone lines. The availability of existing utility facilities will facilitate the property owner for any activities used on the land.

3.5 Land Tread Analysis

Based on the data and size in the field, the land was an area of ± 22,802 m², land in the form of a plot of land with a parallelogram, where the front width facing Jalan Raya Medan - Lubuk Pakam ± 82 meters and extended to the rear for ± 278 meters. With the shape and size of existing land, it was very possible and suitable to use it as a building that had a wide and flexible space functions, besides the unique and strategic frontage. The overall object topography was relatively flat, with the elevation of the ground plane ± 0.2 meters higher than the road, where the research object currently was empty.

Table 3: Result of Land Physical Aspect Analysis

Physical Aspects of Land	Use As Product Promotion Center	Use as Warehouse	Use As Business Hotel
Size	Possible	Possible	Possible
Shape And Usefulness	Possible	Possible	Possible
Frontage	Possible	Possible	Possible
Ease of Access	Possible	Possible	Possible
Availability of	Possible	Possible	Possible

Utilities			
Locations in the Market area	Possible	Possible	Possible
Topography	Possible	Possible	Possible

Source : Data Processing Result, 2018

3.6 Legal Aspect Analysis

Legal aspect analysis was done to avoid the misuse of land use which had been stipulated in the rules and regulations that apply. To be legally permitted on the research field, referring to Constitution of Indonesia (2007) No. 26 on Spatial Planning, Government Regulation (2000) No.25 Concerning Government Authority and Provincial Authority as Regional Autonomy For land use (Zoning) in this area was planned as a mixed area between processed industries, trade, transportation services and warehousing, adjusted to Detailed Spatial Plan (RDTR), and City Space Engineering Plan (RTRK) which were derived from the National Spatial Plan. In general, some of the above planning were also supported by the Draft of Regional Spatial Planning (RTRW) of Deli Serdang 2017 and adjusted to the regulation stated in Presidential Regulation 62 (2011) regarding to Regional Spatial Plan (RTRW) Urban Area of Mebidangro which already had legal provisions. Based on land allocation (Zoning) from three alternative land uses that were:

- Product Promotion Center
- Warehousing
- Business

There were only two legally permitted land use alternatives. They were:

- Product Promotion Center
- Warehousing

For the Building Code regulation which took effect at the location of research objects, it was strengthened with observation of the surrounding land, which was as followed:

- Basic Building Coefficient (KDB) maximum: <60-70%
- Building Border Line (GSB) maximum: 12 m
- Green Basic Coefficient (KDH) minimum: > 30-40%
- Floor Coefficient of Building (KLB): 1.5
- Border Line Fence (GSP) Side: 0 - 3 m
- Border Line Fence (GSP) Rear: 0 - 3 m
- The height of the building was in accordance with the feasibility of building requirements.

(source: Kuala Namu Airport Authority).



Figure 4: Shape and Size of Field Research. Source: Housing and Settlement Area of Deli Serdang District 2018

With the analysis of legal aspects based on the description above, it could be summed up as followed:

a. Product promotion center

Total land area 22,802 M² with Building Area 60% from 22,802 M² area, that was ± 13,681 M², and based on Neufert Architect Standards, 15% of constructed land will be devoted to Circulation and Space. With a total area of 13,123.38 M² or about 57.55%, it was still below the Building Coverage Ratio (KDB) maximum 70%, while for the Green Coverage Area (KDH) of 9,678.62 M² or about 42.45% was considered appropriate with a minimum of 30% of the land area. The design of the Site Plan for utilization as an alternative to the Product Promotion Center met the applicable regulations.

b. Warehousing

With a total area of 13,613,00 M², or about 59,70% that was still below the Building Coverage Ratio (KDB) maximum 70%, while for the Green Coverage Area (KDH) it was 8,803 M² or about 40,30%, which was in accordance with the minimum terms of 30% of the land area. The site layout design for utilization as an alternative Warehouse also satisfied the regulatory requirements described above.

Table 4: Result of Analysis of Land Legal Aspects

Legal Aspects of Land	Use As Product Promotion Center	Use As Warehousing	Use As Business Hotel
Zoning	Permitted	Permitted	Not Permitted
Building Code	Permitted	Permitted	Not Permitted

Source : Data Processing Result, 2018

3.7 Financial Aspect Analysis

After performing analysis of physical aspect and legal aspect, the next step was to analyse the financial aspect. These financial aspect analysis included criterias, investment costs, revenues, expenses, and cash flows.

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3.7.2 Investment Costs Planning

Planning of the investment costs consisted of land expenses, consultant costs and construction costs. For investment cost of each alternative, it could be seen in Table 5.

Table 5: Investment Costs

Use As Product Promotion Center	Use As Warehousing
11.086.178.015,46	30.284.899.593,64

Source : Data Processing Result, 2018

3.7.3 Revenue Planning

The revenue planning for the alternative buildings were projected to come from the leasing of building function, service charge and parking revenue. The projected revenues could be seen in Table 6.

Table 6: Revenues

Year	Use As Product Promotion Center	Use As Warehousing
1	1.074.720.315	1.367.976.250,00
2	1.888.374.002	2.797.151.437,50
3	2.780.786.373	3.572.037.984,38
4	3.092.267.871	3.750.639.883,59
5	3.602.739.755	3.938.171.877,77
6	3.789.747.940	4.594.533.857,40
7	3.986.553.162	4.824.260.550,27
8	4.193.674.303	5.065.473.577,79
9	4.411.658.078	5.318.747.256,68
10	4.641.080.545	5.584.684.619,51

Source : Data Processing Result, 2018

3.7.4 Expenditure Planning

The revenue planning for the alternative buildings were projected to come from the leasing of building function, service charge and parking revenue. The projected expenditures could be seen in Table 7.

Table 7: Expenditures

Year	Use As Product Promotion Center	Use As Warehousing
1	260.594.853,00	6.130.350,00
2	547.249.191,30	12.534.952,50
3	861.917.476,30	16.007.473,13
4	946.904.112,29	16.652.218,57
5	1.118.530.482,64	17.484.829,50
6	1.174.457.006,77	20.398.967,75
7	1.209.160.418,92	21.218.739,35
8	1.269.618.439,86	22.279.676,32
9	1.333.099.361,86	23.393.660,13
10	1.399.754.329,95	24.563.343,14

Source : Data Processing Result, 2018

3.7.5 Capital Budgeting Analysis

The feasibility indicators of a project could be foreseen using the Capital Budgeting technique, as for the techniques in Capital Budgeting such as using NPV, IRR, Pay-back Period, and Benefit Cost Ratio. The analyses were used to determine the feasibility level of the project and to find out how substantial the alternative options were capable of creating a reasonable rate of return for the fund provider. The following was the result of financial feasibility analysis on the development of each alternative, which could be seen in Table 8.

Table 8: Financial Feasibility Alternative Development

Financial Indicators	Use Of Property	
	Product Promotion Center	Warehouse
Net Present Value (NPV)	38.142.832.106,81	22.924.450.185,16
Internal Rate of Return (IRR)	27.92 %	9.46 %
Payback Period (PBP)	5.75	8.25
Benefit Cost Ratio (BCR)	7.67	0.74

Source : Data Processing Result, 2018

3.7.5 Maximum Productivity for Alternative Use of Property

The highest land value indication or property choice that gave the maximum productivity was the use of Product Promotion Center with indication of land value post use was Rp.1.186.591, - (one million one hundred eighty six thousand five hundred ninety one Rupiah) or an increase of 118 percent. For warehouse use there was a 32 percent drop in land value.

Table 9: Indication of Land Value Based on Property Use

Use of property	Rp / Meter	
	Vacant Land Market Indicator	Warehouse
Product Promotion Center	Rp 1.003.000,00	Rp 1.186.591,27
Warehouse	Rp 1.003.000,00	Rp (322.798)

Source : Data Processing Result, 2018

4 CONCLUSION

Based on the results of the above comparison, the development of the Product Promotion Center met the 5 (Five) best eligibility criteria, namely NVP, IRR, BCR & Maximum Largest Productivity and Minimum Payback Period (PBP). Thus, the preferred alternative suggested to be developed on the land that belonged to the Government of Deli Serdang Regency located on Jalan Raya Medan - Lubuk Pakam KM. 21.5 Tanjung Baru Village, Tanjung Morawa Sub-district, Deli Serdang Regency, North Sumatera Province was the Product Promotion Center.

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