Integrated area based on highest and best use in Puri Indah West Jakarta

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Abstract. The land price and demand in Puri Indah is very high. Therefore this study will advise to the future of development on the site to obtain the maximum value of land and building, which count The Highest and The Best Use of the site. The methods done by approach costs, where to analysis first market, a unit of which deportment in the area and how the odds, competitors. To tread in analysis potential on tread, training of tread. Analysis were based on aspects highest and best use but coupled with analysis architecture. The purpose of this research is to know what product will be built and how design in tread, and then functions in the area applied in the design overall with taking into account various aspects an architectural.

Keywords: architecture, function, Highest and Best Use, intensity.

1. Introduction
The rate of population increase is increasing in number, especially in urban areas, causing increased land demand such as DKI Jakarta. But the fact availability land in the capital is increasingly limited. To improve the efficiency of the limited land need optimization. Optimization is felt to answer the problem of land efficiency because it reduces the unnecessary or loss due to lack of knowledge in property development. Many such examples of development in the capital are not suitable between functions that have been constructed at land price per square meter in the area, where the land price has been very high but the existing building function is not able to give more value the land. Then another example is the construction of properties that are not reviewed in advance about the proper or the absence of the project, so that when construction is completed no added value from the property and it is possible to Landlords and the property. With this optimization solution of landowners can minimize the risk of loss to the development of less precise property [1,2,3,4,5].

In this study, a derivative of the optimization solution used is the Highest and the Best use. In this solution, there are 4 main analyses: physical analysis, Legal analysis, financial analysis, and maximum productivity analysis. The objective of the Highest and the best Use is to know the best type of property on the land being researched. Therefore, land owners will get the best profit on the property to be built.

This research land was raised on a land on Jl. the West outer ring of Puri Kembangan, RT. 5/RW. 1, North Kembangan, Kembangan, West Jakarta, special Capital Region of Jakarta, where in the area still empty is not done development. While the price of land on the beautiful castle is very high.
Therefore, this research will advise the development of future development on the land to obtain maximum value from land and building.

**Highest and Best Use** (HBU) is the most possible and permitted use of an empty land or already constructed land, which is physically possible, endorsed or justified by regulations, financially viable and yield the highest value [1, 2, 3, 4, 5]. In an HBU assessment there are four criteria or requirements that must be met, among others:

1) **possible physically (physically possible) or physical aspects.**
   In the physical aspects of things to be reviewed for vacant land is the size, soil shape, area, altitude as well as the contours of the soil. While on land that has existing properties on it depends on the broad consideration, design and condition of the property. At locations that have a soil shape, irregular contours will complicate the planning of building property development. The size, shape, area, slope, assessment and natural risks of disaster areas such as floods or earthquakes will have an impact on the use of such land.

2) **permitted by existing regulations (legal permissible)**
   Things to be examined in the legal aspects are allocation (zoning), rules on buildings, historical buildings. and regulations pertaining to the environment. If there is no private Restrictions, the usability of the property is usually determined by its zits associated with the land use options set by the government. Building regulations that need to be considered are the boundaries of building height, boundary lines, land area ratio that can be established buildings.

3) **financially viable (well feasible)**
   This financial feasibility analysis is done by observing the level of vacancy, operating cost, net income and return rate.

4) **Generate maximum income (maximally productive)**
   Once the finance is reviewed, the use of the highest value of the residual land that is consistent with the rate of return is guaranteed by the market.

Based on the comparison of the 6-journal location, it is known that their research was conducted in the same city of Surabaya. With the differences from each of them is the area taken from the different areas of Surabaya city. The existing soil condition, whether still empty or already awakened. Therefore, newness of the final task is to collect data related to the **Highest and the Best Use** of the 2 zoning functions (commercial, residential). These 2 zones are calculated with the **Highest and the Best Use** variables. Further results of the interpretation of previous data will be used as Foundation/Foundation held firmly in entering the TGA ie the design process to be further planned in the world of architecture.

The newness element is located in the final task site with previous journals where done in DKI Jakarta, Jl. Lingkar Luar Barat of Puri Kembangan, RT. 5/RW. 1, North Kembangan, Kembangan, West Jakarta. The current state of land is still not awakened. The problem of how-to setup property areas based on the **Highest and the Best Use** that have been reviewed. The research objective is to design the property area based on the **Highest and the Best Use** that has been studied.

### 2. Methodology

This method of research begins with the search definition of Highest and Best Use (HBU) where in the search process is found criteria of the HBU and what are the requirements of the HBU. Once acquired the definition is continued to search the land or site away from the Highest and Best Use. The value of the land [1,5].

It was then found the untapped vacant land to soon be known the greatest potential of the land. After the vacant land in the outer circumference area, the next is sought to know the potential properties and competitors on the site, data collection will be easier if assisted by the table.

Data retrieval for its own site of potential sites, SWOT, and analysis of the Highest and Best Use are physical aspects such as analysis (site analysis, accessibility, utilities, sewage lines, etc.), Legal analysis, Finance analysis. Finance analysis is simply to calculate how much capital is needed and what the selling value will then make a profit how big.
Comparison used should be more than 2 to assure that the property is profitable in this final task is used 3 methods (NPV, ROI, IRR) but before doing a simulated cashflow per month from the concept stage to the sales, so it will be easier to see the timeline of the sale. Once counted from all aspects of it is only referred to as the Highest, for The Best use itself is a property that is assessed not from the value of the property rather than the large property Interest in the area. The conclusion is carried out as the foundation of masterplan design.

3. Result and Discussion

3.1. Analyze SWOT

Product recommendation (Property type & function)

Temporary conclusions of the physical aspects:

- Environmental profile: Decent
- The accessibility of existing environments and plans: decent
- Macro Neighbor Analysis: decent
- Micro Neighbor Analysis: Conditional fit
- Potential road around the tread: conditional viable
- Circulation around sites and achievements: good
- Tread Achievement: Good
- Site Characteristics: Decent
- View: Good
- Area Utilities
  - Waste and waste: decent
  - Drainage and drinking water: decent
  - Space and Evacuation path: Worth It
  - Mass public transport plan: decent
  - Movement Infrastructure Plan: decent
  - Energy and telecommunications infrastructure: decent

| Analysis                  | Product recommendations | Reason                                                                 |
|----------------------------|-------------------------|------------------------------------------------------------------------|
| Land allocation            | Residence               | Zoning on site consists of commercial and residential.                  |
|                            | Commercial              |                                                                          |
| Accessibility              | Residence               | The existence of a site that is easily accessible by vehicles from various locations, making the match of residential and commercial functions to be made in the area. |
|                            | Commercial              |                                                                          |
| Area characteristics       | Residence               | Puri Indah is a lot of residential, and still in development. Commercial areas suitable also built due to facilitate the function of existing residential. |
|                            | Commercial              |                                                                          |

3.2. Legal Aspect Analysis

KDB: 55, KLB: 3, KB: 8, KDH: 25, KTB: 60. Type: Single. Consideration of the property to be built: Commercial = Mall, Hotel, shop, office. Occupancy = Apartment.

3.3 Financial aspects

Attached to the financial calculations in the appendix of this final task are not listed in this chapter of analysis and discussion. But in the outline of the financial aspect. All functions are set such as apartment, office rental, office of strata title, Shophouse, mall.
All work is done to the handover in 3 years, for some functions such as apartment, office and shop. A unit sale can be done first before construction is done, meaning the developer sells Brossur to gain additional capital in building its property unit.

Cost of each property is as follows:
- Apartment of Rp 3,815,313,330,000,
- Shop house of Rp 479,298,685,000,
- Strata title office Rp 858,359,234,000,
- Rental Office Rp 858,359,234,000,

As for NPV, ROI and IRR.

For Capital Apartments = Rp 2,375,729,250,000, -. Personal Capital = Rp 1,187,864,625,000, -. Capital loans from banks = Rp 1,187,864,625,000, -. This means that the percentage between personal capital and loan capital is 50%: 50%. Loan interest is 10%. Refund in 2 years. The loan begins in the 10th quarter to the 4th. Considered the inflation value of 6.50%.

NPV = Rp 2,519,309,471,000, -
ROI - 159.40%
IRR = 520%

For shop capital = Rp 463,747,545,000, -. Personal Capital = Rp 463,747,545,000, -. Considered the inflation value of 6.50%.

NPV = Rp 264,602,952,000-
ROI - 113.35%
IRR = 165%

For Capital offices = Rp 881,518,095,000, -. Personal Capital = Rp 881,518,095,000, -. Considered the inflation value of 6.50%.

NPV = Rp 998,976,290,000-
ROI - 113.32%
IRR = 749%

This appendix is included on the timeline of the project itself and initial capital calculation of the property's development.

Table 2. Product recommendations based on maximum Financial analysis and productivity.

| Analysis | Product recommendations | Reason |
|----------|-------------------------|--------|
| -NPV -KING -IRR | - Apartments - Office - Office house | Because the highest value of the results calculated based on this financial analysis is in all three functions beside. |
3.4. Building comparison
3.4.1. Apartment 100% (residential), Office 100% (commercial)

In this comparison apartment occupies 100% in zoning occupancy which is 8 towers with 4 medium towers and 4 luxury towers. For Office 100% in zoning commercial with 3 towers as high as 8 floors.

If with a percentage of this one of the benefits gained from the apartment is Rp. 3,787,020,000,- while for office is Rp 1,013,158,861,000,-. Therefore, the total profit is Rp. 4,800,178,861,000,-. But for aspects of market consideration this percentage function is not good because office in beautiful castle area in the form of tower is less desirable so that the sales time takes a long time to be able to sell.

If you look back to the percentage of 100% office in a commercial area it means sales of commercial zoning rests 100% on sales office. Therefore, this percentage is considered less attractive.

3.4.2. Apartment 100% (residential), Shophouse 100% (commercial)

In this comparison apartment occupies 100% in zoning occupancy which is 8 towers with 4 medium towers and 4 luxury towers. To shop 100% in commercial zoning with 105 units as high as 4 floors. If with a percentage of this one of the benefits gained from the apartment is Rp. 3,787,020,000,- while for shop is Rp 557,643,860,000,-.

Therefore, the total profit is Rp. 4,344,663,860,000,-. But for the consideration aspect of the market percentage of this function shophouse is in demand by the market in the area of Puri Indah because at the shop every owner is free to list their own company name in front of the shop building. But to reach 100% it takes quite a long time.
3.4.3. *Apartment 100% (residential), shop 50% (commercial), Office 50% (commercial)*

![Figure 3](image3.png)

In this comparison apartment occupies 100% in zoning occupancy which is 8 towers with 4 medium towers and 4 luxury towers. To shop 50% in commercial zoning with 52 units as high as 4 floors. As well as 50% office with 1 Tower representative. If with a percentage of this one of the benefits gained from the apartment is Rp. 3,787,020,000.000, while for shop is Rp 278,821,930,000, - and for Office Rp. 506,579,430,500, - then the total of the profit is Rp. 4,572,421,360,500, -.

But in this percentage occurs problems at the height of the office building that cannot reach the maximum height of 8 floors because the meat of the office is very wide so that the buildings made will be more elongated and do not create a landmark for motorists who go through the main road.

3.4.4. *Apartment 100% (residential), shop 70% (commercial), Office 30% (commercial)*

![Figure 4](image4.png)

In this comparison apartment occupies 100% in zoning occupancy which is 8 towers with 4 medium towers and 4 luxury towers. To shop 70% in commercial zoning with 63 units as high as 4 floors. As well as 30% office with 1 Tower representative. If with a percentage of this one of the benefits gained from the apartment is Rp. 3,787,020,000.000, - while for shop is Rp 278,821,930,000, - and for Office Rp 303,947,658,300, - then the total of such profit is Rp. 4,481,318,360,300, -.

With this percentage in the commercial area there is a good division, especially in office. Office occupies a land of 1875 M². So, it will get the floor height 8 floors, the skyline will be better.

Based on the Highest and Best Use analysis it is determined that the apartment 100% (residential), shop 70% (commercial), Office 30% (commercial) is the best decision. If the above review is actually
the highest profit in the apartment 100% (occupancy), Office 100% (commercial) is Rp. 4,800,178,861,000. -

But it cannot be said the best because there are other aspects that should be considered Best Use. Definition of Best Use is from the land is the most suitable to be used. Based on the analysis, the buyer skew buying shophouse property because they can list their own company name and it becomes the advantage of Shophouse with Office.

For Office itself the 4th choice is best because in terms of KLB and height of office building can reach the maximum floor is 8 floors. And shop alone by route colliers. The unit sales at 70% were reasonably good where the probability of a pending sale was 10%. As for-profit profits amounting to Rp. 4,481,318,360,300, -.  

Set to 3 and not much different from the income on the option number 2 Rp. 4,572,421,360,500, -.  

Therefore, the development of Masterplan in the region Jl. West Outer ring of Puri Kembangan, RT. 5/RW. 1, North Kembangan, Kembangan, West Jakarta, Special Capital Region of Jakarta is as follows:

In the commercial zone planned:

- 70% shophouse with representatives of 63 shop units, 4 floors,
- 30% Office with leasing space 1875 M². Assuming the distribution of tenants ranging from 1 tenant to 4 tenants. The division is 4 floors of the rental system and 4 floors of strata title system.

The residential zone is planned 100% Apartments with:

- 50% of the apartment's intermediate, represented by 4 towers, each tower consists of 8 floors. And on 1 floor there are 3 studio units, 3 1-bedroom units, 9 units of 2-bedroom.
- 50% luxury apartment, represented by 4 towers, each tower consists of 8 floors. And on 1 floor there are 8 units of 3 bedroom, 8 units 4 bedroom.

4. Conclusion

In the introduction of this final task is expected to be able to provide the best property solution for the outer ring area, therefore chosen Highest and Best Use analysis as a solution.

Therefore, the analysis and discussion has been examined data based on the Highest and Best Use analysis and has resulted in a product recommendation along with the percentage (%). So, this is a guide for designers designing masterplan based on the property guidelines that have been concluded for Jl. West Outer ring of Puri Kembangan, RT. 5/RW. 1, North Kembangan, Kembangan, West Jakarta, Special Capital Region of Jakarta is as follows: in the commercial zone planned 70% shophouse; 30% Office with leasing space 1875 M². Assuming the distribution of tenants ranging from 1 tenant to 4 tenants. The division is 4 floors of the rental system and 4 floors of strata title system. The residential zone is planned 100% Apartments with 50% of the apartment's intermediate and 50% luxury apartment.

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