

Highest and Best Usage (HABU) analysis on vacant land

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ABSTRACT: Highest and best usage analysis plays vital role to predict the performance of the property to get maximum revenue. The basic market analysis like demand and supply of the properties shows the market variations will come into picture. The main purpose of HABU analysis is investing economically with in legal premises, around physically possible margin and exploring highest returns (Revenue) from that property. The relevant surveys and analysis from existing data by practicing appraiser will support the analysis on vacant land or developed property. Suitable assumptions, Surveys, database etc. are the main keywords for the HABU Analysis.

KEYWORDS: Highest and best usage, Real estate, Immovable property valuation, Feasibility study, Valuation of piece and parcel of land.

I. INTRODUCTION

Highest and best usage analysis is defined as “Reasonably probable, legal use of vacant land or an improved property, that is physically possible, appropriately supported and financially feasible and that results in the highest value”. In practicing the highest and best usage theoretically, we consider the potential usage of land but, in the reality we have to consider many things such that appraiser must have knowledge about real estate market variations, supply and demand in the market, future developments etc.

While analyzing the marketability of the property, the appraiser must have the over view on the probable use of the property in future, as conducting the highest and best usage analysis, the property must pass four tests, and they are as follows.

- 1) Legally permissible
- 2) Physically possible
- 3) Financially feasible
- 4) Maximum productivity

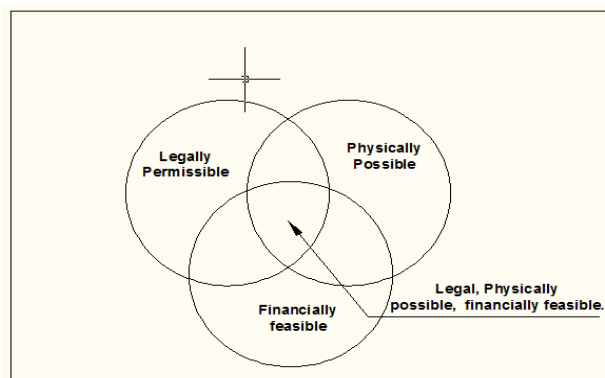


Figure: 1 Venn diagram representation of HABU Analysis

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The Venn diagram clearly says highest a return of revenue is compulsorily satisfies the legal permissibility, physical possibility and financial feasibility that means before analysing maximal productivity; the property must satisfy all three tests. If the single test in the three tests failed then the property not eligible for the maximum returns.

II. CASE STUDY

The scope of this exercise is to furnish opinion on the following:

- Setbacks to be left from the Raja Kaluve (Nala).
- Regular set back based on the balance land area after deducting setbacks for Raja kaluve.
- Eligible FAR.
- Ground Coverage, Possibility of development – commercial/residential etc., Height restriction.



Figure: 2- Google map shows the property

There are three land portions. Two land portions which are to the North of 100 Ft ring road and measures 11615 Sq.Ft (under Sy. No.14 & 16) and 34101 Sft (under Sy No. 14) are adjoining each other totally measure 45716 Sft. A Rajakaluve runs along the eastern boundary of the land.

Another land portion which is to the south of 100 Ft inner ring road and measures 9520 Sq.Ft and forms land of Sy. No. 16 and a Rajakaluve run along the eastern boundary of the land. An inner ring road runs dividing the larger land parcel (45716 Sft) and smaller land parcel (9520 Sft).

These three land parcels are located in one of the well-developed commercial area of Bengaluru. Inner ring road which is extension of Indiranagar 100 Ft road (Which is one of the high streets of Bengaluru) connects Koramangala area and south and south eastern suburbs. A good number of commercial establishments such as “The Oasis Centre”, Taco Bell, KFC, Pantaloons, Marks & Spencer’s, Naveen Terraces, Sapphire toys forms immediate neighbourhood.

This is regarded as one of the high streets of Bengaluru connecting two important high end residential areas such as Koramangala & Indiranagar.

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III. COMPLIANCE TO THE SCOPE OF THE WORK

a) Setbacks to be left from the Raja Kaluve (Nala)

During the site visit it was observed that a Raja kaluve (big drain now: earlier it was a water channel connecting different lakes) runs adjacent to eastern portion of both the lands. The lands are separated by the 100 Ft Inner ring road and cutting across the lands from east to west. The Raja kaluve has a width of about 50 Ft as per the physical measurements taken from the road side. To the east of Rajakaluve a small 30 Ft road runs along North to south. To the west of Rajakaluve, the subject lands are situated. As per the conditions imposed by Storm Water Drainage Department (SWD) Government of Karnataka, it is given to understand that in city areas and core areas, the setbacks to be left is 3-5 Mtrs from the edge of the Rajakaluve depending up on width of the Rajakaluve. This being a 50 Ft wide drain, the setback of 5 Meters is to be left.

In respect of outskirt areas, the setback rules are as follows.

The drains has categorized into 3 types – primary, secondary and tertiary.

- In case of Primary drains the width of the drain will be more than 15 Meters and the buffer distance will be 50 M from centre of the drain.
- In case of Secondary drains the drain width will vary from 3M to 15 M and the buffer distance will be 25 M from centre of the drain.
- In case of the Tertiary drains the drain width will vary from 0 to 3 M and the buffer distance will be 15 M from centre of the drain.

Further, Bengaluru Water supply & Sewerage Department (BWS & SB), Government of Karnataka while issuing No objection Certificates (NOCs) in respect of lands/projects falling under BBMP & BDA areas, stipulates that, a setback of 5.00 Meters are to be left adjacent to Storm water drain, Nala, Rajakaluve & valleys and no buildings or any permanent structures to be constructed in this set back area.

b) Quote:

Buildings or any permanent structure should not be constructed for a minimum distance of width of 5.00 Meters adjacent to storm water drain, Nala, Raja kaluve & valleys.

c) Unquote:

The below table shows land extent survey number, original land extent and land area after set back from the rajakaluve to make the given land legally permissible.

Table No: 1- land areas after considering the setbacks for Rajakaluve

Sl	Sy. No.	Original land Area(Sft)	Set back area for Rajakaluve (Sft)	Balance land area (Sft)
Plot No.1 and 3	14 &16	(34101 + 11615) = 45716	5601	40115
Plot No.2	16	9520	2005	7515

d) Regular set back based on the balance land area after deducting setbacks for Raja kaluve.

As per the Zoning Regulation (Revised Master plan 2015) issued by Bengaluru Development Authority (BDA) , the setbacks to be left after deducting setbacks for Raja kaluve depends up on the height of the building proposed to be constructed.

For plot over size of 4000 Sq. Mtrs, a minimum set back of 5.00 Meter on all sides to be left. Setback is the one more criteria to make land legally permissible.

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Table No: 2- Minimum setbacks for building height up to 11.5 Mtrs and plot size up to 4000 Sq. Mtrs.

Sl	Width/Depth of site	Width of site(In Mtrs)		Depth of site(In Mtrs)	
		Right side	Left side	Front side	Rear side
1	Up to 6.0 Meters	1.00	0.00	1.00	0.00
2	Above 6.0 & up to 9.0	1.00	1.00	1.00	1.00
3	Above 9.00 Meters	8.00%	8.00%	12.00%	12.00%

e) Minimum setbacks for building height above 11.5 Mtrs

The minimum setback to be left depends up on the height of the building. The height of the building in turn depends up on the eligible FAR (including TDR wherever applicable) and ground coverage stipulations.

Table No: 3- Minimum setbacks for building height above 11.5 Mtrs

Sl.	Height of the building in Meter	Setbacks on all sides in Meters
1	Above 11.5 M & up to 15 M	5.00
2	Above 15.0 M & up to 18 M	6.00
3	Above 18.0 M & up to 21 M	7.00
4	Above 21.0 M & up to 24 M	8.00
5	Above 24.0 M & up to 27 M	9.00
6	Above 27.0 M & up to 30 M	10.00
7	Above 30.0 M & up to 35M	11.00
8	Above 35.0 M & up to 40 M	12.00
9	Above 40.0 M & up to 45 M	13.00
10	Above 45.0 M & up to 50 M	14.00
11	Above 50 M	16.00

f) Eligible Floor Space Index (FSI) or Floor area ratio (FAR):

The subject lands which are located on either side of 100 Ft inner ring road (IRR) abuts the IRR. The width of the road is 100 Ft (30.49 Meters). Further, as per the Comprehensive Development Plan (CDP) -2015, the area falls under "Mutation Corridor". The radial corridors and main arteries/corridors of the city are designated as Mutation corridor zones. It may be noted that on mutation corridor commercial structures are allowed.

The subject plots are situated in close proximity to HAL airport and are subject to height restrictions.

Table No: 4- FAR and ground coverage in Mutation corridors (Commercial)

Sl.	Plot size	FAR	Ground coverage	Road width
1	All plot sizes up to	2.75	55%	Up to 30 M
2	12000 Sq. Mts	3.25	50%	Above 30 M

The subject plots are abutting the 30.49 meter width inner ring road and the eligible FAR is 3.25 times. Apart from this TDR of 0.60 times of eligible FAR is also permitted subject to restrictions on height by Airport Authority of India/ HAL Airport authority and ground coverage.

g) Ground Coverage, Possibility of development commercial/residential etc., Height restriction

- a. Possibility of development.
- b. As the properties are on mutation corridor commercial development is possible.

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- c. Potentiality for the smaller land (Sy No.16) is developments such as car showroom/service center, fine dining restaurants etc.

In respect of smaller property with usable area of about 7500 Sq.Ft. (after leaving 5 Mtrs for Nala) adjacent to Salarpuria building, there is no scope for high vertical development. The height is restricted to 11.50 Meters. Any higher floors with height of more than 11.50 Meters, the setback regulation for buildings of height of 11.50 Meter and above will be a constraint. Though the ground coverage of 50% is permitted, because of setback restriction the effective ground coverage may be around 30-35% and this has impact on the height also. While FSI prescribed for the mutation corridor is 3.25 for a road width of more than 30 M in the subject case the complete FSI cannot be due to the site constraints and height restriction. Since the Ground coverage cannot be more than 35% after leaving reasonable setbacks to utilize a complete FSI almost 10 floors have to be built which is practically impossible (in fact 10 floors constitute about 30 Meters in height). A five storey (Stilt, GF plus 4 upper floors) building can be built including a floor reserved for Stilt. The construction in each floor can vary from 2300 Sft at stilt/ GF level and a maximum of 2600 Sft in the upper floors. Considering the above factors the maximum FSI that may be practically utilized is around 1.25 to 1.40 times (approximately) the land area. Kindly note this FSI is based on the residual land area of 7500 Sft.

The land has a lower construction potentiality.

- h) For the larger property (Sy No. 14 and Sy No.16) the ideal development is for an Office space, Retail outlets like big bazaar etc.**

In respect of bigger property with usable area of 40115 Sq.Ft (after leaving 5 Mtrs for Nala), higher development is possible. However, due to shape of the land which is irregular, the shape of the building may undergo a change from regular rectangular shape, if optimum development is chosen. The maximum development that can be envisaged is Basement/ Stilt, Ground floor plus five upper floors. Each floor the built up area can be to a maximum of 20000 Sft. The maximum number of stories that can be built is 6 stories building resulting in an FSI of 2.99 (about 120000 Sft of construction as against 130373 Sft). The Ground coverage is around 49%. The average set back varies from 6M to 7M maximum. Considering a GF plus five upper floor structure the maximum that can be built is about 18.29 M.

In view of the foregoing, it is opined that FAR up to 5.20 times (Regular FAR of 3.25 + TDR of 1.95) can be used subject to the following:

- a) Restrictions on height of the buildings by HAL Airport authority.
- b) Ground coverage.

V. CONCLUSIONS ON SCOPE OF WORKS

- a) Setbacks to be left from the Raja Kaluve (Nala).**

It is opined that a setback of 5 Meters from the edge of the Rajakaluve is to be left.

- b) Regular set back based on the balance land area after deducting setbacks for Raja kaluve.**

It is opined that the required setbacks depends up on the proposed height of the building which in turn is impacted by available FSI (including TDR) and ground coverage. Since, it is only a land and the type of development is yet to be decided, the user may be guided by the tables mentioned in this report.

- c) Eligible Floor Space Index (FSI) or Floor area ratio (FAR) - General**

It is opined that FAR up to 5.20 times (Regular FAR of 3.25 + TDR of 1.95) can be used subject to the following:

- Restrictions on height of the buildings by HAL Airport authority/ Airport Authorities of India.
- Ground coverage rules by the sanctioning authority.

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d) Eligible construction, Ground coverage and FAR (practically estimated) – Specific to the land parcels

i) For the smaller land (Sy No.16)

Possible development : Commercial space such as car showroom.

Table No: 5- Table showing factors on legal permissibility for smaller extent of land.

Factors	Result
Ground coverage	Maximum 35%.
FAR	Can vary from 1.25 to 1.40.
No of floors	Stilt/ Basement, GF + 4 upper floors.

ii) For the Larger land (Sy No.14 and16)

Possible development: Partly commercial office spaces such as office space and partly retail outlets such as big bazaar etc.

Table No: 6- Table showing factors on legal permissibility for larger extent of land.

Factors	Result
Ground coverage	Maximum 49%
FAR	2.99
No of floors	Stilt/ Basement, GF + 5 upper floors)

REFERENCES

- [1]. **Assignment of appraiser institute**, “Land/Site consideration for highest and best use”, Appraiser institute, pp. 3-8, 2011,
- [2]. **Camillus o’ Kane**, “Plan 4132-Thesis project”, University Of New South Wales, an investigation into spot rezoning and reform New South Wales, 2008
- [3]. **Delahooke appraisal company**, “Highest And Best Usage Analysis, Delahooke”, An overview case study on Highest and best use in appraisal valuation, 2013.
- [4]. **Delta associates**, “Highest And Best Usage Analysis”, Highest And Best Use Analysis big k site 2200 block of Martin Luther king, Jr. Avenue, se Washington, DC, 2013.
- [5]. **Dr. Alan Schlothmann & Bob Cooper**, “Mohave Lands Highest & Best Use Analysis”, Opportunities for Improvements through automation, 2014.
- [6]. **GOK 1995 BIAAPA**, “BIAAPA Bye laws”, change of zoning due construction of international airport, 1995.
- [7]. **Internship report of appraisal institute**, “Highest and best use example”, internship work for achieving HABU, 2002.
- [8]. **Jim A Morin, MAI, SRA**, “General appraiser market analysis and Highest and best use- Summary version”, Appraiser institute, 2009.
- [9]. **John pebbles**, “Highest and best use”, advisory journal to real estate professionals, 2005.
- [10]. **Joseph S Rabianski, PhD, CRE**, “Focus on real estate analysis”, Comments on the concept and definition of highest and best use, 2007.