Valuation of a Residential Building using Land and Building, Rental Income and Composite Rate Method

B. Prakash Rao

Abstract: The art of estimating the meaningful present worth of the commodity or property based on experience, logical approach, relevant statistical data etc. is termed as Valuation of properties such as buildings, factories, other engineering structures of various types, land etc. It determines the present value of properties. This study is focused on the valuation of a residential house of Ground plus one upper floor. The objective of this study is to compare the values obtained by three different methods of valuation and identifying the most appropriate one for the property under consideration. The methods of valuation that are used in the process are: Land and Building method, Rental method and Composite rate method. Depreciation is also given due importance in all the methods. In land and building method, the value of land and the value of the building are estimated independently to obtain the present value of the property. Rental method involved capitalizing the net annual rental income using a suitable rate of interest. Composite rate method is also employed to determine the present value based on the prevailing market rates. Breakup of composite rate for the building under valuation is calculated based on the breakup of composite rate of the building under comparison. For the independent residential house, it is observed that Land and Building method showed the least variation from the Fair Market value (INR 7500000 approximately). The value obtained by Land and Building method is INR 7700000. The value obtained through composite rate method is INR 8300000, whereas the value obtained using rental method of valuation is INR5500000.

Keywords: Valuation, Land and Building method; Rental method; Composite rate method; depreciation, Fair market value

I. INTRODUCTION

valuation is the process of estimating the fair price, based on the particular case and purpose for which valuation is needed. This depends on the material date of valuation, place and market condition.

The following are few of the purposes of valuation:
- Purchase for investment or for occupancy
- Tax fixation
- Sale of property
- Rent fixation
- Determine Insurance Premium
- Mortgage value or Security of loans
- Compulsory Acquisition
- Fixing Betterment charges

A. Process of valuation

In the valuation of buildings, the usual method employed is to ascertain the prime cost of a building and to account for depreciation to give the present day market value. The prime cost is the value a similar structure will cost to erect taking into account all the ornamental features which have a market value.

B. Depreciation

Depreciation is the decrease in value of the property due to wear, tear, decay and obsolescence

C. Approach

For valuation of buildings, generally, the cost approach is adopted. In cost approach, several engineering methods have been employed. In estimating the building cost such as unit in place methods or inventory of the quantities of material and labor, plinth area and cubical content methods, Land and building method, Rental income method and Composite rate method etc.

The value depend on original cost of construction of building, cost of major capital repairs carried out, the maintenance of the building, present condition of the building, general wear and tear of the building, cost of major immediate capital repairs required if any, efficiency of carpet area, parking facilities, general light and ventilation conditions of the building, the orientation with respect to windward direction, flow of natural air, quality of materials and workmanship and so on. It also depends on services available like water supply, drainage, electricity, underground water tank, pumps, provision of bore well, type of electrification, compound wall and gate, approach road, provision of lift, capacity to raise further floors over the existing buildings etc.

Factors on which value of Building depends are:
- The present depreciated value of the building, its age, and useful economic future life.
- The prevailing value of the land similarly situated round about this area.
- The situation, shape, size, topography, elevation and frontage of the plot of land.
- The extent of end use and utility. Services available such as schools, market, hospitals, recreation centres, parks etc.
II. LITERATURE REVIEW


III. METHODOLOGY

The following methodology is adopted:

- Collection of all the required plans and drawings
- Visit to the property under valuation and the property under comparison
- Application of Land and Building method
- Application of Rental Income method
- Application of Composite Rate method

A. Land and Building method

By this method, the value of the land and the value of Building are assessed separately and added to get the present value of the property. Later suitable depreciation is accounted.

B. Rental Income Method

Rental method of valuation consists in capitalizing the Net Annual Rental Income (NARI) at an appropriate rate of interest or rate of capitalization. Net annual rent income equals to Gross Annual Rental Income (GARI) minus outgoings like Property Tax, repairs, maintenance, Service Charges, Insurance.

C. Composite rate method

In this method, breakup of composite rate for the building under valuation is calculated based on the breakup of composite rate of the building under comparison. Using this composite rate, the value of the building is found

IV. VALUATION USING DIFFERENT METHODS AND RESULTS

A. General Details of the Building under valuation

| Land extent: 72.6 feet x 60 feet=4356 sft(10cents) | Plinth area constructed = 2521.23 sft |
| Ground Floor: 1629.55 sft; First Floor: 891.68 Sft | FSI allowed for the building to be valued is 1.50 |
| Construction year-2013, Monthly rent for a similar building in that locality=20000/month | Date of valuation: June 2019 |
| Location: Kundapura, Udupi District, Karnataka, India | Note: 1 Acre of land = 100 cents; 1 cent of land=435.6 square feet (sft), 1m = 3.28 feet 1sqm=10.76sft |

1 United States Dollar (USD) is nearly = 70 Indian Rupees (INR) as of June 2019

The figures are shown in Appendix

Figure 1 shows the Ground Floor plan of the Residential building under valuation

Figure 2 shows the First Floor plan of the Residential building under valuation

Figure 3 shows the Sectional Elevation of the Residential building under valuation

B. Land and Building Method

Value of Land:

| Land extent x Land rate= 4356 x 700=3049200 |

Value of Building:

| Total Plinth area x Rate of construction=2521.23 x 1800 |
| = 4538214 |

Depreciation:

| Age of the building=2019-2013= 6 Years |
| Considering a salvage value of 10% and assuming the building life of 60 years, |
| Depreciation= (6/60) x (100-10) = 9% |
| i.e. 9% of 4538214=408439.26 |

Depreciated value of the building=4129774.74

Total Value = Land value + Depreciated value of the building+ value of compound wall

3049200+4129774.74+500000=7678974.74 say INR 7700000
C. Rental Income Method
Monthly rent = INR 20000
Gross rent = 12 x 20000 = 240000
Allowing a nominal 15% deduction for annual repairs, maintenance etc. = 36000
Net rent = 204000
Rate of return is around 5% in that locality
Capitalizing @5% in perpetuity, Years Purchase (YP) = 1/0.05 = 20
Capitalized value = Net rent x YP
= 20 x 204000 = 4080000
FSI achieved = Total plinth area constructed/extent of land = 2521.23/4356 = 0.579
Load appurtenant = FSI allowed x Built up area in the Ground floor = 1.50 x 1629.55 = 2444.32 sft
Excess Land available = 4356 - 2444.32 = 1911.68 sft
Value of excess land = land rate x excess land
= 700 x 1911.68 = 1338176
Total Value = 4080000 + 1338176
= 5418176
say INR 5500000

D. Composite Rate Method
Total plinth area constructed = 2521.23 sft
Land extent = 4356 sft
FSI achieved = 2521.23/4356 = 0.579
FSI achieved by the building under comparison = 1.50
Composite rate of the building under comparison = 2500/sft
Break up of composite rate of the building under comparison with FSI achieved = 1.50
Value of Land component = Land Rate/ FSI achieved = 700/1.50 = 466.67/sft
Rate of building component = 2500 - 466.67
= 2033.33
Break up of composite rate for the building under valuation
FSI achieved = 2521.23/4356 = 0.579
Rate of land component = 700/0.579 = 1208.98
Rate of building component = 2033.33
Depreciation for 6 years = (6/60) x (100-10) = 9%
Depreciated rate of building component = 2033.33 x 9% = 185.33
Composite rate = 1850.33 + 1208.98 = 3059.31, say 3060/sft
Value of the property = 3060 x 2521.23 = 7714963.80
Total value = 7714963.80 + value of compound wall
(500000) = 8214963.80,
say INR 8300000

V. RESULT AND DISCUSSION
The three methods of valuation do not arrive at the same value.
It can be seen that, the value obtained by Land and Building method (INR 7700000) is nearer to the Fair Market value which is close to INR 7500000. This is due to the factor that the land is valued separately at its present market value and the building is also valued independently based on the amenities, size of rooms, quality of construction, quality of materials used and so on. In this study, the value obtained using Composite rate method (INR 8300000) is also fairly close to the fair market value wherein amenities, size of rooms, quality of construction, quality of materials used and so on are taken care off. However the Rental method of valuation arrives at a value much below the fair market value. This method depends on the rent, the building can attract and the various outgoings. This is very obvious that the property under valuation is situated in a small town Kundapura in Udupi District and hence the rents obtainable for buildings will be less in this locality, particularly for residential buildings. The rental method of valuation works out be close to fair market value in localities where there is a huge demand for rental buildings. This happens in big cities, particularly for commercial buildings.

VI. CONCLUSION
Through a comprehensive study over a period of four months, the following results are obtained:
The value arrived at using three different methods are:
Land and Building method—nearly INR 7700000
Composite Rate Method—nearly INR 8300000
Rental Income method—nearly INR 5500000

However the present fair market value of this property is observed to be nearly INR 7500000. The value obtained by Land and Building method is nearer to the Fair Market value for the building under consideration. This may vary depending on the type of property, location etc. It is also seen that the value found out using Rental Income method is far below the Fair Market value.
APPENDIX

Fig.1. Ground Floor Plan
Fig. 2. First Floor Plan
Fig. 3. Sectional Elevation
REFERENCES


AUTHORS PROFILE

Prof. B. Prakash Rao
Associate Professor(Senior Scale), Dept. of Civil Engineering, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, India has published 21 papers in International Journals, 5 papers in National Journals, 11 papers in International Conferences and 21 papers in National(Indian) Conferences till date. He has visited 27 Countries till date of which 9 are for presenting papers in International Conferences.