A Comparative Analysis of Valuation Techniques for Residential Properties in Karad City

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Abstract

Real Estate Valutaion is a field which mainly include economics, law-building construction, study of human behavior, social customs, and study of government policy. Some valuers call it an 'Art' and some others call it a 'science'. To find a property's fair market value, one must look at the owner's rights and how much they hold. Determining the property's highest and best use is also a critical factor in accurately estimating its value. Several valuation methods are available, each offering a distinct perspective and set of principles. It is essential to apply the most appropriate approach based on the specific characteristics and intended use of the property. Over time, three primary methods for property valuation have emerged, tailored to suit various types of real estate: the Income Approach**,** the Cost Approach**,** and the Market Approach**.**

Key Words: Market value, Approach, Residential, Income, Cost, Depreciation, Replacement cost.

1. INTRODUCTION

The value of a property is influenced by several key factors, including economic, social, legal, and technical considerations[a,b]. The interplay between these aspects of valuation plays a crucial role in determining the property's fair market value. The valuation of land and building assets depends largely on the purpose of the valuation and the stake or interest of the individual in the property. Only by considering the property's highest and best legal use can an accurate fair market value be established.

Property valuation is a very major practice in real estate that serves multiple purposes. Firstly it is used for purchases and investments, and it determines fair market value, it also supporting construction progress tracking and land acquisition compensation. Valuation is vital for tax assessments across various categories which maily include income, property, wealth, gift, and capital gains taxes. Apart from this valuation also plays a crucial role in transactions like sales, mortgages, insurance, legal duties, and rent setting[f]. The choice of valuation method depends on the property's unique features and the intended purpose of the assessment, ensuring accurate and relevant results for each specific situation

Property valuation methods must align with the asset's specific characteristics and market dynamics to

determine accurate fair market value. In India, the Cost Approach predominates, based on the Substitution Principle which

states that buyers won't pay more than the cost of acquiring a comparable property offering similar benefits. This method helps establish realistic market values for properties.

The research required for method to calculate fair Market value is proposed in the same research work[f].

In India the Popular Approach for Valuation is Cost Approach which is based on the "Principle of Substitution".

This study addresses the critical need for accurate property valuation in Karad City, a rapidly developing semi-urban area in Maharashtra, India. Semi-urban markets like Karad present unique valuation challenges due to data scarcity, informal transactions, and rapid development, requiring a suitable approach to determine fair market value[a,i]. This research aims to compare the effectiveness of the Income, Market, and Cost Approaches

The primary objective is to estimate the fair market value of residential properties in Karad City. It aims to compare the outcomes obtained through different valuation methods, namely the Income Approach, Market Approach, and Cost Approach[f,g,h]. Additionally, the study seeks to identify the key factors that influence property valuation in semi-urban areas such as Karad. These factors may include location, property size, age, condition, amenities, infrastructure development, and local economic conditions. Ultimately, the goal is to determine the most appropriate and reliable valuation method for assessing residential properties in this region. This research will contribute to a more transparent and efficient real estate market in Karad and potentially serve as a model for similar semi-urban areas in India.

2. LITERATURE REVIEW

i) Sanjeev Pareek, et al. (2024)

Examined the factors that influence landvalues in urban voids, or underutilized areas, within the city of Jaipur, India. The study employs advanced modeling techniques to analyze property values, socioeconomic data, and geospatial information using Geographic Information Systems (GIS). The key findings indicate that factors such as proximity to major highways, schools, railway lines, and availability of infrastructure significantly impact land values. Interestingly, variables like slum areas, landfills, and proximity to certain communities exhibit aninverse relationship with land values. This micro-level analysis provides valuable insights for policymakers, urban planners, and stakeholders to identify critical zones and refine policies and strategies for sustainable development of These urban voids.

ii) TH Root, et al. (2023)

The author mainly focuses on the use of machine learning (ML) techniques for real estate valuation over the past two decades. Real estate valuation is a crucial task that involves analyzing property

characteristics, market conditions, and buyer preferences to estimate the fair market value of a property. Traditional valuation methods, such as the sales comparison approach, income approach, and cost approach, have limitations in consistently and objectively evaluating properties, especially when accounting for locational differences. The authors suggest that ML technologies can help in improving the existing valuation methods by processing vast amounts of data and uncovering intricate patterns that may be difficult to detect using conventional methods. The paper develops a framework to critically evaluate the performance of ML-based valuation systems across data, reasoning, and usefulness criteria. The review aims to identify the current state of research in this domain and provide insights into the theoretical and practical implications for adopting ML in real estate valuation.

iii) Carlos L.A. et al. (2022)

In this report Carlos mainly studied how much real estate professionals know about different ways to value property and how often they use these methods in their work. Practitioners frequently applied traditional methods in their daily work as compared to the advanced valuation techniques due to lack of training and access to relevant tools. Government practitioners and those with shorter length of practice had slightly higher knowledge levels. The study also revealed an inverse relationship between knowledge and practice, with practitioners facing challenges such as the influence of property owners in fixing property values, which hinders fair and accurate valuation.

iv) Anil Kumar, et al. (2024)

While studying this research paper I came across words like automated valuation model (AVMs) which is widely used in the real estate industry. AVMs help make property valuation more accurate and clearer in today's fast-changing market. The report mainly explains how AVM helps in strategic choices, the benefits and problems they bring, and how they help make valuation faster, improve market flow, and guide decisions with data. The findings highlight the broad contributions of AVMs across real estate subsectors like development, investment, land administration, and taxation. It also points out future research needs like better data use, ethical issues, and combining AVMs with other methods to improve results and solve new problems..

v) Vrushabh Kale, et al. (2023)

Examined the suitability of different valuation approaches for residential properties in Nashik City, India. The authors compare techniques and approaches
for valuing land and buildings, including the income approach, cost approach, and market approach. The study involves a case study analysis of two residential properties, where the fair market value is calculated using these different valuation methods. The key findings highlight the importance of selecting the most appropriate valuation approach based on the property's financial potential and price equilibrium.

vi) Nacy B. (2021)

Investigated an overview of modern methods for real estate valuation. It discusses the importance of

accurate real estate valuation, which is crucial for various purposes such as mortgage Tending, purchase-sale transactions, expropriation, and company valuation. The document explains that real estate is seen as an investment tool globally, and it is vital to determine the market values of real estate accurately and reliably. It highlights that real estate valuation is an important area of expertise for both the public and private sectors. The document also notes that real estate appraisals should be carried out by qualified real estate appraisers, as each real estate asset is unique and heterogeneous. The document then goes on to discuss traditional valuation methods as well as advanced statistical and multi-criteria decision-making methods for real estate valuation.

3. METHODOLOGY

Steps Before Assigning Fair Market Value:

i)   Gather all relevant documents from the client, such as title deeds, previous valuations, and any other supporting materials related to the property.

ii)   Thoroughly examine the collected documents to ensure they are accurate, complete, and legally authorized. This could include checking the legitimacy of ownership and any encumbrances.

iii)   Conduct a physical inspection of the property to confirm its condition, dimensions, boundaries, and other relevant characteristics.

iv)   Clearly mark and demarcate the boundaries of the property as part of the verification process. This ensures that there are no discrepancies in terms of the land area being evaluated.

v)   Create a detailed valuation report, taking into consideration the specific purpose of the valuation (e.g., sale, mortgage, tax assessment) and the requirements of the bank or other institution requesting the valuation.

vi)   Choose the right approach for valuation based on the nature of the property. This could include the cost approach, sales comparison approach, or income approach, depending on the circumstances.

vii)   Calculate the fair market value of the property using the appropriate valuation method. This should reflect the price that the property would reasonably fetch on the open market.

viii)   Note any potential violations or discrepancies with local zoning laws, building codes, or other legal regulations related to the property. This is important for ensuring that the property's value is not compromised by legal issues.

3.1 Valuation Approaches & Methods

INCOME APPROACH:-

The income approach to valuation is mainly based on investment theory. The term 'Income Approach to Valuation' suggests that the income from a property is the basis for estimating the property's value. Income is the legitimate expectation derived from present investment or flow of cash received from specified property. Income to the lessor is the lease for the unexpired period and after such period the reversion of the total market rent and appreciation in rate of return. Income can be annual profit rent i.e. market rent less rent received under lease. When this income is accumulated with the desire to accrue right for benefit or receivable profit in future in context of no of years or certain period as per market situation is term as capital investment. And the expected amount to be invested to receive annual income of Rs. 1 for specified period of time at specified rate of return resulted as defined capitalized value.

To explain the income approach to valuation simplistically, net income from a property is considered interest yielded at a specific rate based on the amount of capital invested in purchasing that property.

In mathematical form, it is stated as follows:
Capital Value = Net Income x Y.P. (Year Purchase)
Whereas,
Net Income = Total Income annually - Outgoings of property
Y.P. = Year's Purchase is defined as capitalized value required to be paid once and for all to receive an annual income of Rs.1 for the specified time

The Main Steps in Income Capitalisation Method :-

i.   To collect data from market and other sources like records of Registrar of documents, genuine instances of rentals, of comparable properties, in the nearby locality.
ii.   To inspect property to be valued and properties involved in instances of rentals and also to make local inquiry of prevalent rentals.
iii.   To calculate gross rent obtained from property.
iv.   Adopt a proper rate of interest.
v.   Deduct all expenses.
vi.   Capitalize the net operating income using the selected rate to determine value.
vii.   Derive the capitalized value of fair market value of the property.

COST APPROACH:-

The cost approach is very useful in evaluating nonmarketable properties in Real Estate. It is also useful in estimating the values of assets for an enterprise's financial statements. This method is invariably adopted in determining the cost of construction of a building, viz investments made by the assess in real estate, for the purposes of the Income Tax Act.

The values also adopt the cost approach while estimating the cost of construction of the building under construction, for which the owner has asked for a loan from the financial institution. This method is used even

to evaluate owner-occupied bungalows, which are offered as security to the banks for mortgages.

The cost approach is one of the basic approaches to valuation, with the help of which we can work out the 'cost' and 'Value' of certain types of assets.

There are mainly two methods under this approach

•   Book Value Method.
•   Land and Building Method. (Depreciated cost method)

In the Book Value method, the historical cost of the asset in the year of acquisition is taken as the basis, and with the help of cost index figures, Multiplying factors for different years, indicating price rises in

the market due to inflation and other factors like variation in the cost of materials and labor, replacement costs, and value of the asset, are determined for the relevant year of valuation.

The land and Building Method is also known as the Contractor's method, the Physical method, or the Depreciated cost method. This method helps estimate the cost or value of structures like Temples, Churches, Museums, Schools, and Colleges. Bungalows and factories can also be valued by this method. This depreciated cost valuation method is also used to estimate the present-day value of plants and machinery

MARKET APPROACH :-

Market Approach is the most common and important method basically used to find out the actual worth of the property. It can be used for many things like goods, stocks, machines, or property such as land or buildings. This method works for anything that can be bought or sold in the market, as long as there are similar items to compare it with. This approach can value all these assets, provided they are marketable.

We also know about the haggling and bargaining system prevalent at such marketplaces and how deals are finalized. The Real Estate Market also has most of these phenomena, except that it does not have a shared marketplace like we do in consumer goods.

However, the principles operating in the consumer goods Market are also practical in the Real Estate Market. Demand and supply factors and the quality of the product are equally important in determining the exchange value of assets in both markets.

Similarly, the concept "Market is Supreme" applies to both markets, as buyers and sellers consider all appurtenant factors while settling the final price of the asset. The Market Approach to valuation is the most critical and favoured approach by Valuers and Courts.

Under this approach, there are two principle methods of

valuation.
(a) Sale Comparison Method
(b) Development Method or Residual Method.

Different techniques under each method are as follows:

(A) Sales Comparison Method : (Direct Market Comparison Method)
1. Adhoc Comparison Technique.
2. Adjustment Grid Model.
3. Price Quality Regression Technique.
4. Weightage Score System.

(B) Development Method: (Residual Method/ Indirect Comparison)
1. Actual Sales Basis (Owner occupied).
2. Actual Sales Basis (Tenants occupied).
3. Hypothetical Building Scheme (Ownership concept).

4. Hypothetical Building (Income concept).

4. CASE STUDY:-

The main objective of this case study is to calculate the fair market value of a residential property located in Karad city by applying various valuation approaches. The review of document, physical property inspection, and compilation of observations and relevant circumstances were carried out by Mr. Dilip P. Kushire, under the supervision of a government-registered valuer.

4.1 Case Study 1:-

Property Specification:-
- Property Location:- Flat no B-402, 4th Floor

A/P. Karad. Tal. Karad

Dist. Satara
- Sale Deed No:- 5246/2016
- 7/12 utara Gat no. 6/2A
- Building age :- 20 years
- Builtup area:- 113.23 SQ.M (parking area = 42.83 SQ.M)

Valuation through Income approach:-

Capitalized value = Net Annual income x Years
Purchase Capitalized value = {(30,000-6000) x 12} x {1/0.03} Capitalized value = ₹ 96,00,000

The property's calculated value under the Income Approach is ₹ 96,00,000

Valuation through Market Approach :-

Based on the comparison of recent property sales, the prevailing market rates are adopted for valuation under the Market Approach.

S. No	Particulars	Built Up area	Rate/ SQ.M	Valuation
1	Flat no. B-402	113.23 SQ.M	₹ 51,300	₹58,08,699.00
2	Parking area	42.83 SQ.M	₹ 8,500	₹3,64,055.00
			Total	₹61,72,754.00

Valuation through cost Approach :-

Land Value = Prevalent market rate of land x Area of land

= ₹ 31,320/SQ.M x (113.23 + 42.83 SQ.M)

= ₹ 48,87,799.

Reinstatement cost of building = (Reinstatement rate x Builtup area)

= 21,520/SQ.M x 113.20

= ₹ 24,36,064

Total amount of depreciation of building =
(Depreciation / year x Building age)
= 35895.36 x 20

= 7,17,907

Valuation of property = [Land Value + Reinstatement

Cost of building – Depreciation]

= ₹ 48,87,799.2 + ₹ 24,36,064.00 - 7,17,907.2

= ₹ 80,41,770.4

The property's calculated value under the Cost Approach is approximately ₹ 80,50,000

4.2 Case Study 2 :-

Property Specification:-
• Property Location :- Plot & Construction,
"A/p. Karad,
Tal. Karad,
Dist. Satara
• Property No :- 681
• Gat No :- 130 / 27
• Building age :- 6 years
• Plot Area :- 210.34 SQ.M
• Builtup area :- 194.58 SQ.M

Valuation through Income Approach:-

Capitalized value = Net Annual income x Years purchase Capitalized value = {(20000-5000) x 12} x {1/0.025} Capitalized value = ₹ 72,00,000

The property's calculated value under the Income Approach is ₹ 72,00,000

Valuation through Market Approach:-

Based on the comparison of recent property sales, the prevailing market rates are adopted for valuation under the Market Approach.

S. No	Particulars	Area	Rate/ SQ.M	Valuation
1	Plot	210.34 SQ.M	₹27,500.00	₹57,84,350.00
2	Construction	194.58 SQ.M	₹10,760.00	₹20,93,680.8
			Total	₹78,78,030.8

Valuation through Cost Approach :-

Valuation of property = (Land Value + Reinstatement cost

of Building - Depreciation)

= ₹ 58,97,415 + 43,30,705 - 19,96,845

= ₹ 82,31,275

The property's calculated value under the Cost Approach is approximately ₹ 82,31,000

4.3 Case Study 3:-

Property Specification :-

- Property Location :- Row House No. 03,

 A/P. Karad Tal. Karad,

Dist. Satara

- Property No :- 3/1799

- Gat No :- 146/1

- Building age :- 03 years

- Builtup area :- 78.36 SQ.M

Valuation through Income approach :-

Capitalized value = Net Annual income x Years purchase

 Capitalized value = {(15000 – 4000) x 12} x {1/0.035} Capitalized value = ₹ 37,71,428

The property's calculated value under the Income

Approach is ₹ 37,71,428

Valuation through Market Approach:-

Based on the comparison of recent property sales, the prevailing market rates are adopted for valuation under the Market Approach.

S. No	Particulars	Builtup Area	Rate/SQ.M	Valuation
1	Row House No.03	75.12 SQ.M	₹43,000.00	₹32,30,160.00
			Total	₹32,30,160.00

Valuation through Cost Approach :-

Land Value = Prevalent rate x Land Area

= ₹ 22,500/SQ.M x (68.20 SQ.M)

= ₹ 15,34,500

Reinstatement cost = Reinstatement rate x Builtup area of building
= 22,000/SQ.M x 75.12

= ₹ 16,52,640

Total Depreciation = Depreciation/year x Building age

= 23,400 x 03

= 70,200

Valuation of property = [Land value + Reinstatement

Cost of building – Depreciation]

= ₹ 15,34,500 + ₹ 16,52,640 - ₹ 70,200
= ₹ 31,16,940

The property's calculated value under the Cost Approach is approximately ₹ 31,17,000

5. CONCLUSIONS

This study aimed to evaluate the effectiveness of various property valuation methods for residential properties in Karad City. There search highlighted significant gaps in understanding how local economic factors influence property values and the perceptions of stakeholders involved in the valuation process. By addressing these issues, the study emphasizes the need for tailored valuation practices that suit the unique dynamics of smaller urban markets. Improved methodologies can enhance the reliability of property assessments, aiding better decision-making for buyers, sellers, and investors in Karad City. Ultimately, this research advocates for further exploration of localized valuation methods to foster growth and stability in the real estate market. It is observed from the results that the average difference between the approaches ranges from 15% to 20%.

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