

RESEARCH ON VALUATION METHODOLOGIES FOR IMMOVABLE PROPERTIES: AGRICULTURAL LAND

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Abstract - Valuation is process of estimating value of the property being valued. The circumstances of the case and purpose that valuation is needed, at the given time, place and market condition can be different. The objective of this particular study is to spot the Methodologies for arriving at value of Agriculture land and guidelines to follow the calculation for land which is situated in semi urban and rural area of India. The study helps farmers to understand the particular condition of land and also the future scope of the land for Non Agricultural use. The valuation of Agricultural Land which is in the vicinity of growing city is required because it helps to plan the future growth of the city. This project examines the factors affecting the value and price of Agricultural Land which is near to the development of localities. It highlights the problems relevant to Agricultural Land value in an exceedingly market situation of competing use options.

1. INTRODUCTION

Agricultural Land valuation helps to plan the future growth of the city or to improve approach to the city.

Residential/ Commercial/Other Social Development may cause Agricultural Land to increase in value. If the land is located near to Town/ City limits, the land value increases with the potential to sell the land as development approaches near to the land. Much like in real estate, an investor can add value to their Agricultural property by making improvements to the land parcel.

There is Two Type of Agricultural Land:

- 1. Cultivated Land:** Arable land that's worked by plowing and sowing and raising crops is named as Cultivated Land. Example: Cropland.
- 2. Uncultivated Land:** Non-arable land that's not suitable for cultivation of crops is termed as an Uncultivated Land. Example: Barren land.

2. AIM OF STUDY

This study aims to assist the property owners, farmers to analyze the actual condition of land and future scope of the land use whether to stay it as an Agricultural Land or there are possibilities of increasing land valuation by converting

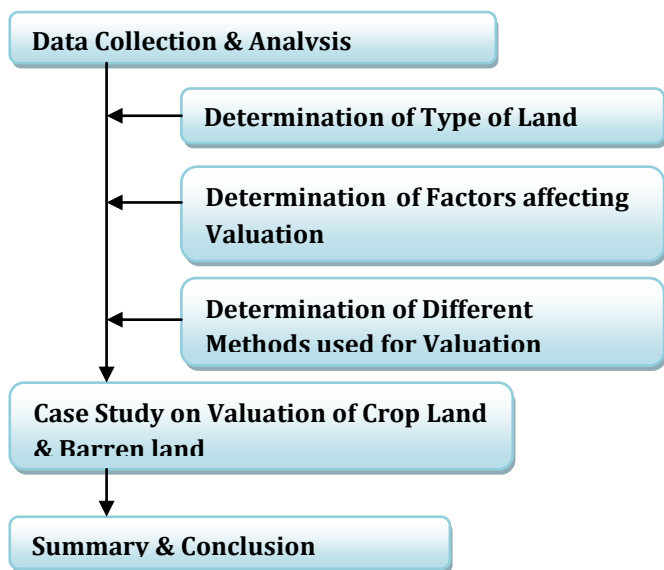
Land to Non-Agricultural purposes. It also helps the various Government Authority, Planner for cohesive/sustainable development considering coming 10 to 50 years of future Expansion and Planning. It also helps the Farmer to determine proactive futuristic approach towards his Farming/Agricultural Land.

3. OBJECTIVES

- To analyze Agricultural Land data and documents to produce land value information.
- To determine factors affecting valuation of Agricultural Land.
- To find special situations and their impact on valuation. (Upcoming major infrastructures like Highways/ Railways/Township.
- To find suitable methods and Instruments for valuation of Agricultural Land.
- To assess the fair value and distress value of Agricultural Land.

4. RESEARCH METHODOLOGY

The research work initiated with study of various valuation techniques and past valuation report data collected from government authorized valuer to find the market value of the land for bank finance purpose. Documents associated with property like sale deed, 7/12 extract, Gut No. and Survey No extract, declaration deed, etc. are studied. For our study of valuation of Agricultural Land, we have used the I) **SALE COMPARATIVE II) INCOME ANALYSIS III) RESIDUAL METHOD** for calculating the fair market price of Agricultural properties. The following represents, steps to be used for calculation of fair market value of Agricultural Land in practice,



RESEARCH METHODOLOGY DIAGRAM

4.1 Data Collection & Analysis

4.1.1 Determination of Type of Land

Cultivated Land has two types.

Irrigated Land: Irrigated cropland means any land that's customarily provided with water by artificial means.

Non-Irrigated Land: The Agricultural land where crops are taken only on the basis of natural rainfall during rainy season is called Non Irrigated Land.

Uncultivated Land has two types.

Barren Land: Barren Land describes an area of land where plant growth may be sparse, stunted, and/or contain limited biodiversity and has thin soil layer, sand or gravel.

Permanent Pastures: Land used to grow grass or other herbaceous forage naturally that is not included in the crop rotation holding for five years or longer.

4.1.2 Determination of Factors affecting Agricultural Land Valuation

1. Soil conditions with regards to Crop Production suitable in that area
2. Topography of Agricultural Land
3. Access to Infrastructure and other resources required for Agricultural Land
4. Availability of Irrigation
5. Availability of Labour
6. Availability of Electricity Network
7. Availability of Farm Machinery
8. Impact of Road Infrastructure on Agricultural land Development
9. Demarcation of Farm Boundary
10. Agricultural Land Conversion Potential

4.1.3 Determination of Different Methods used for Agricultural Land Valuation

1. Sale Comparative Method: It's the foremost popular method. In this method, value of land is estimated by analyzing recent sale prices of comparable land in the vicinity, adjusting the prices to account for any difference in size, shape, location and other features. The valuation expert must check average prices over the years and check for any volatility in prices

2. Income Analysis Method: The land residual method begins with an estimate of the income yielded by the developed property. The land value is then calculated, and from that the income attributable to the land is derived. Capitalizing the remaining income then provides a value for the land. However, even a cursory description of this method suggests the difficulties of its application. Specifically, the existence of depreciation, or any deviation from highest and best use that will distort the income available to the unimproved land, can leave the independent value of the improvements extremely uncertain.

3. Developmental Method: This method is used to estimate value of such land which may be developed to unlock its true value. In this land valuation method important factors to be considered are location, usage, FSI and nature of soil. This method is used for Lands having development potential strength which are yet to be developed to evaluate and appreciate to a considerable value if it is converted to residential/commercial or an industrial layout on the basis of physical characteristics like the location, size, shape, frontage & depth etc.

4. Belting Method: When a plot of big size is to be valued or when a plot with less frontages and more depth is to be valued, it is logical to adopt the method of belting. The plot of land to be valued is divided into three belts. The depth is suitably adjusted for first belt near the road. The depth of second belt and the third belt is maintained based on the first belt. For second belt 50% more depth than that of first belt and 50% more depth of third belt than that of second belt. Considering the size, shape, location and various other factors that affect the rate of land, a suitable rate of land is estimated accordingly and is taken for the first belt. For second belt, two-thirds of rate of first belt is taken and for third belt, one-half of rates of first belt are taken.

5. Residual Method: The residual method is applied for developing land or big projects or integrated townships to estimate the value of an undeveloped land. Residual method is mostly applied in the absence of comparable market prices for land under consideration. This is done by subtracting from the total value of a development, all costs associated with the development, including profit thus arriving at the cost of land.

4.2 Case Study I: Valuation of Agricultural land in Rural Area of Buldhana District

Location: The Land is at Gat No. 25, Village. Dadham, Taluka. Khamgaon, District. Buldhana 444303.

Description of Land: The land acquired under the canal of the project on Torna river, is an agriculture land located at village Dadham. Total area of land 5.73 Hectare out of which 0.7 Hectare land acquired under canal. The village Dadham is located 3 km south side having kaccha road approach. There is tar road for Lakhanwada village. The land under acquisition is situated on main canal started from Dam through village Dadham, and end at boarder of village Lakhanwada. The valuer visited the site on 3 October 1993 and observed the standing crop Hybrid jowar. The field is divided in to two parts due to canal. The soil was black clay, having good percolation property and suitable for irrigation as well intensive agricultural farming. Dryland farming was followed by the Owner on this land.

Identification of Property: Documents Made Available: 7/12 Extract – enclosed. Physical Identification: After studying the site survey sketch plan as per TLR, besides, being low lying land it was covered with dense thorny bushes which discouraged any survey work.

Valuation Method Adopted:

A) Sale Comparative Method:

Sr. No	Village	Gat No	Rent	Total area (Ha)	Out of which sold	Amount of Transaction	Date of Transaction	Index No.	Dist in Km from Dadham	Rate/ Ha in Rs.
1	Kanchanpur	312	-	2.31	2.31	61000	8/12/87	2230	7	26406.93
2	Assa	44	3.65	0.44	0.44	17000	17/9/87	1737	3	38636.36
3	Assa	26	1.95	0.19	0.19	35000	3/4/89	1093	3	184210
4	Pimpri gawali	446	22.5	4.82	1.21	60000	24/3/88	821	7	49586.78
5	Palashibk	53	9.35	2.02	0.08	20000	25/4/90	1117	9	250000
6	Pimpalgaoon Raja	1114	-	0.4	0.4	41000	3/3/88		15	102500
7	Pimpalgaoon Raja	882	-	1.56	1.56	48725	25/2/86		15	30849
8	Dhoragga	453	-	0.23	0.23	10000	29/11/88		18	43478
9	Januna	9/2	3.9	0.85	0.85	30000	11/1/91	193	13	149411
10	Januna	203	6.50	1.63	1.63	1.27 Lakh Govt.Price 13000 1.27 Lakh Govt.Price	3/9/91	2329	13	180000
11	Januna	310	8.17	1.75	1.75	150000.00	21/1/91	306	13	85714
12	Ghatpuri	9/1	38.75	7.97	2.36	240000.00	15/12/89	3947	12	101694
13	Ghatputi	56	24.0	9.35	0.84	83000.00	28/5/90	1368	12	98809
14	Parkhed	153	6.67	2.85	0.91	40000.00	27/1/90	2439	14	197740
15	Parkhed	484	12.0	3.54	1.77	350000.00	10/9/90	1873	14	100000
16	Parkhed	160	15.33	6.23	6.23	623000.00	1/8/90	1737	14	100000
17	Parkhed	213	9.0	4.15	4.15	415000.00	29/6/89	1970	14	100000

Table 1: Sale Analysis Method Calculation

As per sales transactions of above of nearby locality from the year 1989 to 1991 varies and found increasing trend. The average sale price observed Rs 1.0 lakh/Ha in the year 1991. The sale price for the year 1993-94 can be calculated by increasing 10 percent per year i.e. Rs. 1.20 lakh/Ha.

B) Income Analysis Method: Considering the cropping pattern of the locality the average net income per year from the land in the financial year 1993-94 were considered and the same verified from the prices of agricultural commodities from the Agricultural Produce Market Committee Khamgaon.

The general cropping pattern considered for working of analysis as under

1. Hybrid cotton mixed with Tur
2. Hybrid jowar in kharif season and Wheat in rabi season
3. Chilli in kharif season and Onion in Rabi season
4. Ground nut in kharif season and safflower in rabi season

Sr. No	Crops	Yield per Ha.	Average Rate in the Year 1993	Amount in Rupees	Total Amount in
1	Hybrid Cotton	14 Qtl	850.0 per Qtl	11900.00	
	Tur Mixed Crop	2 Qtl	977.0 per Qtl	1954.00	
	Fodder		Lumpsum	1500.00	15354.00
2	Hybrid Jowar	35 Qtl	233.0 per Qtl	8155.00	
	Wheat	30 Qtl	493.0 per Qtl	14790.00	
	Fodder		Both Crops	3000.00	25945.00
3	Chilli	10 Qtl	2131.0 per Qtl	21310.00	
	Onion in rabi	200 Qtl	186.0 per Qtl	37200.00	58510.00
4	Ground Nut	20 Qtl	1143.0 per Qtl	22860.00	
	Safflower	10 Qtl	823.0 per Qtl	8230.00	
	Fodder			2000.00	33090.00
				Average income per year	33225.00
			Deduct cost of cultivation 50%		16612.00
			Deduct losses caused by nature @ 10% per year		3322.00
			Net income per year per Ha		13291.00
			Value of land as per income Analysis worked out 10 times to net income	Rs. 132910 per Hectare	1,33,000.00 per Ha.

Table 2: Income Expenditure Statement

Unit Value adopted : Rs. 133000/ Ha

Value of The Land: The value of the land worked out as per income analysis and nearby sales transaction. As per income analysis the value derive Rs 1.33 L/ha and as per sales transaction average sale price derived Rs 1.2 L/ha. The sales transactions in most of cases were not found realistic. Hence adopted the value Rs 1.33 L/ha for valuation of the property as per income method.

Working of the valuation as under

Total area acquired from Gat no25 is 0.70 He

Value is worked as 0.70x1, 33,000.00=Rs. 93100.00

4.3 Case Study: II Valuation of Barren land in Urban Area of Thane District

Location: The Land is at Village Narhen, Taluka Ambernath, Dist. Thane 421501, having S. No. 80/1, 80/2, 81, 82, 83/3, 83/4, 43/1, 43/5, 44/1(p), 45/2A, 452B (p), 49/1, 49/2, 49/3, 49/5, 49/7, 49/4, 49/6(p), 49/8, 50/2/A, 50/2B(p), 50/3/A, 50/6, 50/9, 50/10, 66/4B, 66/5/1/B, 67/1, 67/3, 67/4, 67/5, 67/6, 67/7, 67/10, 67/12, 67/13, 74/1, 75/1A, 75/3/1(p), 75/4, 75/5, 75/6, 75/7, 75/8, 75/11, 77/1, 77/2,

77/3A, 77/3B, 77/4, 77/5, 87/1, 87/2A, 87/2B, 87/4, 87/5, 88/1, 88/2, 88/5(p), 89/2, 89/4, 89/5, 96/1, 97/1, 97/2, 97/3, 98/1/1, 98/1/2(p), 98/2, 86/4B, 86/1, 86/4A, 86/2, 86/3, 78/5, 78/3, 78/1, 78/6, 78/4, 78/2A, 90/3(p), 90/9, 91/1, 91/3, 79, 52

Description of Land: It is situated 20km away from sub-district headquarter Ambarnath and 55km away from district headquarter Thane. Narhen village a Gram Panchayat and it comes under Ambernath Municipal Council Kalyan-Dombivli is nearest town to Narhen which is approximately 16km away. Public Bus Service available within village, Railway Station available within 10+ km distance. It is an agricultural locality and facilities like pucca roads, street lights, School and hospital are not available in its vicinity. Total area of land 528998 Sq. Mtr

The Situation of the property is about 40- 45 minutes driving distance from Dombivli Railway Station. All the civic amenities like market, bank, hospital etc. are all little far away.

Identification of Property:

Documents Made Available

1. 7/12 Extract (Given by the Developer and confirmed by Bank)
2. Location Plan
3. Letter from MMRDA integrated Township Sanctioned by UD vide Letter No. TPS/1217/2374/File No. 252/18/UD-12 Dated 01-03-2019.

Physical Identification: We have inspected the TLR (Territory Land Records) and the Site Plan Sketch. As per actual site visit the land was low lying covered with dense thorny bushes.

Valuation Method Adopted:

The land is under integrated Township Sanctioned by UD vide Letter No. TPS/1217/2374/File No. 252/18/UD-12 Dated 01-03-201. Which increase the potential valuation of the land.

In Dombivli which is in the nearby vicinity the same builder has developed the integrated township called Palava an integrated smart city located near Thane in Maharashtra state. The rate available for integrated township developed by the same developer with all amenities and facilities in nearby area is already constructed and the ongoing rates range between Rs. 6500/- to 7500/- per Sq. Ft. As no comparable rates are available for this Land for Residual Method we have adopted rate of Rs. 6000/- Sq. Ft. as base rate and arrived at the Market Value as follows:

Residual method

The residual method is applied for developing land or big projects or integrated townships to estimate the value of an undeveloped land. This method is applied when there are no comparable market prices available. This is done by subtracting from the total value of a development, all costs associated with the development, including profit thus

arriving at the cost of land. As instances are not found for such large bunch of land parcel of area 60Acres in the nearby locality for comparison of the Fair Market Value.

Working out as per Residual Method since the rates available in nearby area of same developer where integrated township is already constructed and ongoing rates available are 6500/- to 7500/- per Sq. Ft

Sr.no	Particulars	Area Sq.Ft.
1	Total Plot Area	5694134
	Considering the same Construction Area with Basic FSI without any deduction or considering ancillary Area	5694134

Sr. No	Particulars	Area Sq. Ft.	Rate per Sq. Ft.	Amount (Rs.)
1	Total Free Sale Area	5694134.47	6000	34164806832
Less:				
1	Construction Cost	5694134.47	2500	14235336180
2	Escalation and Contingencies of Construction Cost (including stamp duty & registration of Land Development rights. @ 8.5% of Construction Cost	5694134.47	213	1210003575
3	Consultants Charges @ 4% of Construction Cost	5694134.47	100	569413447
4	Administrative and Marketing Charges @6% of Construction Charges	5694134.47	150	854120171
5	Construction Risks-non completion etc. 7% of Construction Cost	5694134.47	175	996473533
6	Integrated Township Amenities and Facilities Charges 12% of Construction Cost	5694134.47	300	1708240342
7	Developer's Profit 20% on 1	5694134.47		6832961366
8	Total Expenses			26406548614
9	Net Potential value			7758258218

Table 3: Residual Method Calculation

Value of the land as per Residual Method is Rs.7,75,82,58,218 /-

Value of the Land:

The value of the land worked out as per Market value and Residual Method. As per Residual Method cost of land is Rs.7, 75, 82, 58,218 /-.

5. RESULT AND DISCUSSION

This study aimed to calculate valuation of Cropland Land and Barren Land by conducting case studies in real life situation on the basis of its use. The results of this study are summarized below;

Cropland (Cultivated Land in Rural Area)

The total value of the Land is depending on Soil conditions, Topography of Agricultural Land, Access to Resources , Irrigation System, Labour Availability, Electricity, Farm Machinery, Impact of Road Infrastructure on Agricultural land Development, Demarcation of Farm Boundary, Agricultural Land Conversion Potential. Income Analysis Methods gives proper valuation approach. To cross check the valuation we have done exercise doing Sale Comparative

method. Valuation done by more than one method is beneficial to calculate accurate value of Land.

Barren Land (Uncultivated Land in Urban Area)

The total value of the Land is depending on expenditures incurred or to be incurred or spent on site preparation, land remediation, infrastructural cost, build-costs, professional fees etc. to achieve a profitable project outcome and utilization of its maximum potential. Residual Methods gives proper valuation approach for such land parcels. This Valuation method is adopted where instances are not available for comparison of similar site.

The purpose of this study is to give an overview of the groundwork, procedures and the derived results of identifying the determinants of farmland prices and their valuation. This study aims to help the property owners, farmers to analyze the actual condition of land and future scope of the land. The various determinants of agricultural land valuation observed in this study are soil type, topography, access to resources, irrigation system, availability of labour, electricity, farm machinery applied, road infrastructure, land conversion potential etc.

Discussion:

SDRR rates and market rates have limited impact on each other. The reckoner rate is always lower than the market rate but a noticeably higher variance between them shows a lag and is the prime reason for cash transactions in the Indian real estate domain in rural and semi urban areas. The value of the land put to agricultural or non-agricultural use is dependent on the development of surrounding area. The verification of data & documents of land with any special permission/reservation for the concerned site is very important.

6. CONCLUSION

Traditionally agricultural land was valued for its productive capacity, its extrinsic value as a production factor of generating income was the main determinant of its market value. Agricultural Land in the vicinity has a value addition when land is acquired partially or fully by the Government for infrastructural development of the nearby areas like dams, roads, agricultural produce market or any such other social purpose. The change in uses for agricultural properties makes rural and semi urban land valuations more demanding because uncertainty of the choice of the highest and best use (HABU) is heightened. Various methods both qualitative and quantitative help to provide comprehensive results for better decision making for valuation of Agricultural land. Such Valuation emphasizes the importance of research and analysis, provision of more information to face challenges of market behavior in valuation practice.

7. REFERENCES

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BIOGRAPHIES



Mr. Dinesh Warade he has completed his Architectural degree at Pune University having valuable and rich experience of over 25 years in various aspects of Valuation and Architectural Consultancy , presently perusing final year of his M.Tech-Valuation (Master of Technology Valuation Land & Building) at Sandip University.