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"Determination of land rates using Value per unit score"

Introduction: Use of sales comparison method needs consideration ofseveral Physical, social and economic factors. Rates of plots/ Lands available in the sales instances cannot be applied directlyto another plots, even in the nearby locations Use of Grid adjustment method involves percentage wise addition or subtractionfor evaluation of rates, but in this method of grid adjustment, valuer has to useonly his experience to add or subtract some percentage e.g., if the property "A" is facing the main road of 24 meters, having rate of rs. 10000/- per sqm,

but Property "B" lying in the nearby location, whose rate is to be determined faces the 9.0m wide internal residential colony road, valuer has to subtract the rate by 30 to 40%, but along with road frontage, shape, size etc. there are many no. of factors which are tobe enlisted, So, if "Value per unit score is determined" , it can be used more scientifically , because value or Score of eachfactor is calculated scientifically.

List of factors affecting the land values is as given below:

1) **Amenities available** (no. in bracket indicates the weightage allotted to the amenity)
   - I. School (6.5)
   - II. Collage (4.5)
   - III. Hospital (3)
   - IV. Vegetable market (6)
   - V. Shopping centers (6)
   - VI. Malls (2)
   - VII. Cinema Theatre (2)
   - VIII. Petrol Pump (5)
   - IX. Banks/ Atm (5)

The Rate of valuation is found to be inversely proportional to square of the distance Hence score for the amenities can be expresses as summation of the ratio of weightagesto square of the distance of each amenity as listed above

If d is the distance in km (should not be less than 0.3 km) , & k is the weightage allottedto each amenity , then

S1 = Score for Amenities available =

$$\Sigma \quad \{\_ k\_\}$$
$$d^2$$

2) Accessibility – Type & Width of the road to which the land is attached can beexpressed by considering hierarchy of road i.e., Classification of roads as –

I. Arterial or main spine road (18 to 36 m width) (level =1)

II. Sub arterial road (15 to 18 m width) (level =2)

III. Collector road (12 to 15 m width) (level =3)

IV. Access road (3 to 6 m width) (level =4)

V. Lanes – 3 m width (level =5)

The Rate of valuation increases with width & level of the roadS2 = Score for

Accessibility = 1 / level of road

3) Population Density – It can be expressed as no. of persons per hectare, usually thepopulation density in newly developed residential area is 250 persons per hectare.

The Rate of valuation increases with increase in population density

If the population density is expressed as no. of persons per hectare, then S3 = score for

population density = 1 + (population density x 1.5 / 100)

4) % Increase in population per year – The Rate of valuation increases with % increase inpopulation per year.

S4 = 1+ (% increase in population per decade / 100)

5) Average per capita income of the city in the particular locality to be considered –

The Rate of valuation increases with increase in Average per capita income in theparticular locality to be considered

S5 = Score for the average per capita income in the particular locality

= income in Rs. per family per month / (35000)

6) Size of the plot – plots having length equal to 1.5 times its width is considered to bethe best, the rate of valuation reduces if the ratio of length to width is more or less than 1.5

i.e Rate of valuation is directly proportional to Score S6 = $\frac{1.5}{1.5 + |(1.5 - \text{length/width})|}$

7) Shape of the plot – Rates of valuation of plots having unequal width at front & rear sides need to be reduced in proportion to the ratio of the widths at front & rear side.

8) Plots located at corner (Having access from two adjacent sides) have 10 to 15 %more rates of valuation.

9) Orientation of the plot – Plot facing east or west have 5 to 10 % higher rates than thosefacing north or South

All the values calculated above are multiplied to get the final score, and thenvalue per unit score for that particular zone or location is calculated.

similarly, score for the plot under evaluation is worked out and multiplied by thevalue per unit score to get the rate of valuation

B] Application and Case study:

Valuation report of the property in year 2001, for capital gain taxdetermination:

Smt. Rameelaben Indasan Tiwari needed valuation report of her property (13-year-old Residential building) in year 2001 for the purpose of "capital gain tax".

The property was at plot no 15, s.no. 167/ parts Facing 18.0m wide road,
Sales instance of 11 years old residential building in year 1999 at plot no 4 lyingwithin 1.0 km distance of the property in adjacent layout bearing s.no. 2957/1 was available; hence the rate of plot valuation was worked out in following stages ofevaluation.

1. Rate of plot valuation of the property whose sales instance was availablewas worked out using Residual plot value method
2. Rate was projected for next two years (1999 to 2001) with 12% averagerise in land rates (see the table no 1)
3. Value per unit score was determined as shown in the table by inputing thedata of year 2001(see the table no 2)
4. And Rate per unit score was multiplied by score of the plot underevaluation.
5. Final FMV was calculated with deprecated value of building + Land valuein year 2001(see the table no 3)

Table no 1

Rate calculation of plot in year 1999

As per the sale deed of the property dated 15-Jul-1999 plot no. 4, S.no. 2957 / 1, Aadeshwar Nagar purchased by Gautam Chand Shankar Lal Jain, sold by Balchand Mukundchand Jain inNandurbar Dist. Nandurbar, Valuation ofbuilding is as given below

A	VALUATION OF BUILDING			
SR.NO.	DISCRIPTION	BUILT UP AREA	RATE OF CONSTRUCTION in2001 (RS. PER SQM)	AMOUNT OF VALUATION RS.
1	Ground Floor	90	3000	270000.00
2	First floor	0	0	0.00
3	Second Floor	0	0	0.00
4	Tube well	0	0	0.00
5	Boundary wall	0	0	0.00
Total valuation of building = Rs. 270000				
GENERAL LIFE OF BUILDINGS =			65	YEARS
AGE OF BUILDINGS =			11	YEARS
DEPRICIATION OF THE BUILDINGS =			16	%

Total amount at which the property was sold = Rs.	333000
Value of plot = Total value of property - Value of building in year 1999 = Rs.106200	

VALUATION OF THE BUILDINGS AFTER DEPRICIATION = RS.226800

Calculation Rate of land valuation in year 1999

SR.NO	P.NO.	AREA OF PLOT	Valuation of plot =Rs.	Rate of valuation per sqm = Amount of valuation / Area of plot
1	4, 2957 / 1, Aadeshwar nagar	198	106200	536.36
RATE OF VALUATION OF LAND = RS 536.36 Per sqm				

Projection of rate of valuation of land in year 2001		
Rate available in year1999	536.36	PER SQM
No. of years for which the rate is to be discounted = 2001 - 1999	2.00	YEARS
Rate of increase in the area =	12.00	%
DIFFERED RATE OF LAND VALUATION FOR 2 YEARS. = 536.36x(1 + 12 / 100) ^2	**672.81**	**PER SQM**

Table no 2

As per the sale deed of the property dated 15-Jul-1999 plot no. 4, S.no. 2957 / 1, Aadeshwar nagar purchased by Gautamchand Shankarlal Jain , sold by Balchand Mukundchand Jain In Nandurbar Dist. Nandurbar , following data is available to determine the value per unit score

Physical , Socio-economic factors for the plot of which , the rate is available

1 Amenities

Amenity	Distance in Km (d)	Weightage (K)	k x 1/ d^2
SCHOOL	1	6.5	6.5
COLLAGE	1.5	4.5	2
HOSPITAL	0.5	3	12
VEGETABLE MARKET	0.5	6	24
SHOPPING CENTRE	0.5	6	24
MALL		2	
CINEMA THEATRE	2	2	0.5
PETROL PUMP	2	5	1.25
BANKS / ATM	0.5	5	20

S1 = $\Sigma \kappa \times (1 / d^2) =$ **90.25**

2 Accessibility

Type of road

4 Access Road (6 to 9 m width) Road level mark = **4**

Score = 2.5/Road Level mark = **S2 =** 0.625

3	**Population density in the area under considerati on including floating population =**	75	persons per hectare	Score **S3** = 1+ population Density x 1.5 / 100 =	2.125
4	**% Increase in Population per year**	10	%	score **S4** = (1+% increase /100)	1.1
5	**Average Per family income of the area under considerati on = rs.**	25000	per family	Score **S5** = 0.1+ { income per family / 35000 }	0.814286

6	**Size of The Plot**		
	Length =	18	m
	Width =	11	m
	Length to width Ratio =	1.636363636	
score **S6** =	$\frac{1.5}{1.5 + \lvert (1.5 - \text{length/width}) \rvert}$	0.92	

7	**Shape factor for the plot, If the plot is of Bad Shape , put the Value of the Score S7 = 0.96 to 0.99 otherwise put the value = 1**	1

8	**Corner plot - If the plot is located at corner, Put the value of score S8 = 1.05, otherwise, put**	1

the value = 1

9	**Orientation of The Plot,** For the plots having east - west orientation, Put the value of score **S9** = 1, otherwise put the value from 0.97 to 0.99	Score = **1**

Land value as per available sales instances=	**672.81** per sqm

Total score after multiplication of all scores s1 to s9 =	**98**	**value per unit score= (672.81/ 98) =**	**6.87**

Determination of rate of plot valuation of plot no. 15, s.no. 167 / A/2/1A , owned by Rameelaben Indasan Tiwari , A/p Nandurbar , Dist. Nandurbar

		Amenity	Distance in Km (d)	Weightage (K)	k x 1/ d^2
1	**Amenities**	SCHOOL	**1**	6.5	6.5
		COLLAGE	**1.5**	4.5	2
		HOSPITAL	**0.5**	3	12
		VEGETABLE MARKET	**0.5**	6	24
		SHOPPING CENTRE	**0.5**	6	24
		MALL		2	
		CINEMA THEATRE	**2**	2	0.5
		PETROL PUMP	**2**	5	1.25
		BANKS / ATM	**0.5**	5	20
S1 =	$\Sigma \kappa \times (1 / d^2) =$				**90.25**

2	**Accessibility**	**Type of road** **2 Sub arterial Road (18 to 24 m width)** Score = 2.5/Road Level mark =		Road level mark = **2** **S2 =**	1.25
3	**Population density in the area under consideration including floating population =**	**250**	persons per hectare	Score **S3** = 1+ population Density x 1.5 / 100 =	4.75
4	**% Increase in Population per year**	**20**	%	score **S4** = (1+% increase /100)	1.2
5	**Average Per family income of the area under consideration = rs.**	**25000**	per family	Score **S5** = 0.1+ { income per family / 35000 }	0.814286
6	**Size of The Plot** **Length =** **Width =** **Length to width Ratio =** score **S6** = $\frac{1.5}{1.5 + \lvert (1.5 - \text{length/width}) \rvert}$	**20** m **15** m **1.333333333** **0.90**			
7	**Shape factor for the plot, If the plot is of Bad Shape, put the Value of the Score S7 = 0.96 to 0.99 otherwise put the value = 1**	**1**			
8	**Corner plot - If the plot is located at corner, Put the value of score S8 = 1.05 , otherwise, put the value = 1**	**1**			

9	**Orientation of The Plot,** For the plots having east - west orientation, Put the value of score **S9** = 1, otherwise put the value from 0.97 to 0.99	
	Score =	**1**

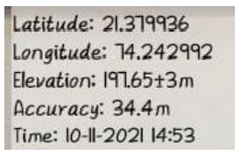
Multiplication score of all factors S1 to S9 =	**471**	**Rate of Plot valuation = score x value per unit score= 471x6.87**	**3235.77**
		say rs.	3240.00 per sqm

Table no 3

A	VALUATION OF BUILDING in yr 2001			
SR.NO.	DISCRIPTION	BUILT UP AREA	RATE OF CONSTRUCTION (RS. PER SQM)	AMOUNT OF VALUATION RS.
1	Ground Floor	103.7	4500	466650
2	First floor	0	0	0
3	Second Floor	0	0	0
4	Tube well	0	0	0
5	Boundary wall	67	1700	113900
Total valuation of buildings = Rs. 580550				
GENERAL LIFE OF BUILDINGS =			65	YEARS
AGE OF BUILDING in YEAR 2001 =			13	YEARS
DEPRICIATION OF THE BUILDING from 1988 to 2001 =			20	%
VALUATION OF THE BUILDINGS AFTER DEPRICIATION FROM YEAR 1975 TO 2001 = RS.464440				

VALUATION OF LAND				
SR.NO	c.S.NO.2957/1	AREA OF PLOT	RATE OF VALUATION (rs.Per SQM)	AMOUNT OF VALUATION IN RS.
1	plot no 15	279.07	3240.00	904186.8
TOTAL VALUATION OF LAND = RS 904186.8				

FAIR MARKET VALUE OF THE PROPERTY IN YEAR 2001 (LAND + BUILDING) = RS.1368626/---



Google location

Front view photo