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Integrating use of Microsoft excel for low cost housing and its estimation.

Sachin S Nalawade[1], Prathamesh D Sugate[2],Praveen N Yelavi[3],Priyanka Wagh[4]
[1](*Department of Civil Engineering, DYPIEMR,Akurdi Pune,India)*
[2](*Department of Civil Engineering, DYPIEMR,Akurdi Pune,India)*
[3](*Department of Civil Engineering, DYPIEMR,Akurdi Pune,India)*
[4](*Department of Civil Engineering, DYPIEMR,Akurdi Pune,India)*
Corresponding Auther: Sachin S Nalawade

Abstract : *Construction Is The Second Largest Industry In India Which Demand Rapid Growth In Various Domain Of It Estimation Is Inspirable Part Of It Estimation Is Inspirable Part Of Any Project. This Paper Throws A Light On Estimation Of A Tradition Residential Building With The Help Of Microsoft Excel Also It Shows An Effort Of Cost Reduction By Suggestion Replacement For Some Construction Material.*

Keywords – *Low Cost Housing, Microsoft Excel Estimation, Rate Analysis.*

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I. INTRODUCTION

Cost analysis is the integral part of a project work, there are various method that are been implemented in project work, however orthodox method like thumbs rules implemented on the site have variation in the result varying with the sites. Hence the paper focuses on the use of Microsoft excel in the cost analysis. The researches done on the site has concluded us with three major components which are important in project work they are brickwork and plastering. Hence this paper may form as a guideline use for estimation at various sites.

I. RATE ANALYSIS FOR CONSTRUCTION ELEMENTS OF LOW COST HOUSING.

As we know, Brick consumption of any construction project is a vital part of management. Any normal project requires thousands of brick unit as such unit price of it matters a lot in its selection. Keeping this aspect in view we propose following calculations and alternative to traditional brick work.

Table I: BRICK WORK MATERIAL ESTIMATION.

DESCRIPTION	UNIT	QTY	RATE	AMOUNT
BRICKS	UNITS	500	6	3000
CEMENT	KG	64	4.68	299.52
SAND	KG	420.8	1.55	652.24
WATER	LIT	175	0.005	0.875
CURING WATER	LIT	175	0.005	0.875
TOTAL:				3953.51

Table II: BRICK WORK MANPOWER ESTIMATION.

DESCRIPTION	UNIT(No.)	QTY(m^3)	RATE	AMOUNT
MASON	1	0.157	600	94.2
MAZDOOR	2	0.157	400	125.6
FEMALE HELPER	1	0.079	250	19.75
BHISTI	0.5	0.5	200	50
TOTAL:				289.55

Total :4243.06 Rs.(per cubic meter)

Table III: BRICK WORK MATERIAL ESTIMATION USING TERRACOTA BLOCK.

DESCRIPTION	UNIT	QTY	RATE	AMOUNT
BRICKS	UNITS	30	25	750
CEMENT	KG	28	4.68	131.04
SAND	KG	230.9	1.55	357.895
WATER	LIT	100	0.005	0.5
CURING WATER	LIT	100	0.005	0.5
TOTAL:				1239.935

Table IV: BRICK WORK ESTIMATION FOR MANPOWER.

DESCRIPTION	UNIT	QTY	RATE	AMOUNT
MASON	1	0.109	600	65.4
MAZDOOR	1	0.109	400	43.6
FEMALE HELPER	1	0.055	250	13.75
BHISTI	0.5	0.5	200	50
TOTAL:				172.75

Total: 1412.685 Rs.(per cubic meter)

Thus the above calculation clearly states that the cost of traditional brick work requires cost of 4243.06 Rs for one cubic meter of construction. Whereas the alternative to it which is terracotta block provides the cost of 1412.685 Rs per cubic meter

PLASTERING

Plastering plays important role in completing the brick work by providing a proper finishing layer to it. It also place a vital role in providing protection to the external face of the brick work which is been exposed to the environment condition thus. The role of plastering is significant and thus the following gives the calculation per meter square for traditional work and the alternative provided.

Table V: PLASTERING MATERIAL ESTIMATION.

DESCRIPTION	UNIT	QTY	RATE	AMOUNT (Rs.)
CEMENT	KG	3.79	5.2	19.708
SAND	KG	26.02	1.55	40.331
WATER	LIT	7.88	0.005	0.0394
CURING WATER	LIT	175	0.005	0.875
PLASTER OF PARIS	KG	9.6	4.8	46.08
TOTAL:				107.0334

Table VI: PLASTERING MANPOWER ESTIMATION.

DESCRIPTION	UNIT	QTY	RATE	AMOUNT (Rs.)
MASON	0.075	1	800	60
HELPER	0.075	1	400	30
BHISTI	0.5	1	200	100
TOTAL				190

Total: 297.0334 Rs.(per square meter)

Table VII: PLASTERING MATERIAL ESTIMATION FOR ALTERNATIVE MATERIAL**.**

DESCRIPTION	UNIT	QTY	RATE	AMOUNT (Rs.)
GYPROC ONE COAT ELITE	KG	12.82	6.4	82.048
WATER	LIT	2.56	0.005	0.0128
TOTAL:				82.0608

Table VIII: PLASTERING MANPOWER ESTIMATION FOR ALTERNATIVE MATERIAL.

DESCRIPTION	UNIT	QTY	RATE	AMOUNT (Rs.)
MASON	0.075	1	650	48.75
HELPER	0.075	1	300	22.5
BHISTI	0.5	1	200	100
TOTAL				**171.25**

Total: 253.3108 Rs.(per meter square)

Table IX: PLASTERING MATERIAL ESTIMATION FOR EXTERNAL PLASTER.

DESCRIPTION	UNIT	QTY	RATE	AMOUNT(Rs.)
CEMENT	KG	8.19	5.2	42.588
SAND	KG	56.29	1.55	87.2495
WATER	LIT	12.89	0.005	0.06445
CURING WATER	LIT	175	0.005	0.875
TOTAL:				130.77695

Table X: PLASTERING MANPOWER ESTIMATION FOR EXTERNAL PLASTER.

MANPOWER REQUIRED PER CUBIC METER (upto 8 meter)				
DESCRIPTION	UNIT	QTY	RATE	AMOUNT (Rs.)
MASON	0.075	1	800	60
HELPER	0.075	1	400	30
BHISTI	0.5	1	200	100

TOTAL				190

Total: 320.77 Rs(per meter square)

Table XI: PLASTERING MANPOWER ESTIMATION FOR EXTERNAL PLASTER.

MANPOWER REQUIRED PER CUBIC METER (8 meter & above)				
DESCRIPTION	UNIT	QTY	RATE	AMOUNT (Rs.)
MASON	0.075	1	850	63.75
HELPER	0.075	1	500	37.5
BHISTI	0.5	1	200	100
TOTAL				201.25

Total: 332.02 Rs.(per meter square)

The above proposed calculation states that the tradition plastering per meter square 297.033 Rs where as the alternative material that is gypsum plaster costs around 253.31 Rs. The external plaster costs around 320.77 for less than 8meters and 322.7 for more than 8 meters depending upon the thickness that is to be provided

II. CONCLUSION

After referring to various rate analysis and site visit, It could be conclude that low cost housing is an imperative concept for government schemes like PMAY, CIDCO, MAHADA Housing etc. We, through this paper tried to investigate two construction elements which could help to reduce the total cost of project. If these practice guidelines are handled carefully, it would definitely achieve economical goal of an organization.

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