

## Construction Project of Residential Building in 3-Tier City

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**Abstract**—In this project, we are going to study how the construction works are carried out, executed in the 3-tier city and what kind of problems are faced in the construction process. As a saturation has taken place in the constructions in important cities of India, a number of II-tier and III-tier cities have been found to give a successful growth in the construction field. As the real-estate sector of our country is moving higher, a several state capitals and smaller cities that have the relatively better infrastructure and are able to support higher growth in the economy are already into the limelight. These II-Tier and III-Tier cities are characterized by low costs in real estates, land availability for development, untouched manpower and increasing quality of life.

**Keywords**—Residential Construction, BIM Method (Building Information Modelling Method), Construction Saturation, Real Estate etc.

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### I. INTRODUCTION

An increase in the denseness of constructions in important and major cities i.e. Tier-1 cities can be seen with naked eyes. We cannot reduce this denseness of construction in tier-1 cities but we can definitely stop the further rise in the denseness on concrete jungles, by starting constructions in tier-3 and tier-2 cities of the country.

In India, the growth opportunities in the construction sectors are primarily due to the huge gap between availability and demand. The growth of these two and three tier cities towards a positive sign for the country with their efforts to transfer the pressure limited space, time and infrastructure. This offset of pressure will also facilitate an improved distribution of wealth, in due course increasing the status of rural India.

Real estate companies and IT companies are observing a shift to these cities for cheaper land rates and manpower. Apparently, there are many factors affecting the growth of real estate in these two tier cities - quality lifestyle, media exposure, the emergence of software companies and an increased affinity to retail, the concept of low-cost housing or affordable houses also works well.

As we can witness the denseness in the growth of construction in the important cities of our country (India). Simultaneously a number of II-tier and III-tier cities have been found good to give a successful growth in the of development economy. Due to huge constructions in tier-1 and tier-2 cities, these cities have reached to the limit of constructions. And hence tier-3 cities are best option for future development of companies, industries etc. also these cities are best for expansion of current industries and companies etc. also tier-3 cities are very very cheap in labors rate and in materials rate too. In tier-3

cities labors are very active and ready to do any type of construction work in cheaper rates. In tier-3 cities land rates are also cheaper. The spaces available for constructions are also in abundance

### II. OBJECTIVES.

- To gather information related to the construction project.
- To know finance availability.
- To know the land structure.
- To construct as per requirements of customers.
- To carry out a market survey.
- To find details regarding of materials to be procured.
- To carry out the survey regarding the availability of labors.
- To manage the construction project in the least possible funds.
- To appoint best engineering skills.
- To appoint best managerial skills.
- To supervise site for quality work.
- Use of BIM Method (Building Information Modelling Method)

Objectives of the project consist of gathering information for the construction project in general form. For any project to run smoothly economic condition should be strong therefore it is important to give special attention in finance management, money should be made available whenever required, in required amount.

Also before starting any construction project it is very important to know the land structure on which the building is to be constructed. The land should be dense, the pits should be dug near about 1.5 meters or they should be dug till the murum is seen.

The most important point in construction of any residential structure is to know the requirements of the customer. No matter how you construct the building, how much money you pour in constructing the building or how costly materials you use to construct the building. It is of no use, if it is not constructed as per the requirements of the customers.

Before starting any constructional activity, it is very important to carry out a market survey. Market survey gives a rough idea about the material costing, daily wages of the labors, condition of the construction industry in market, customer requirements, costing of machines which are needed to carry out construction. Market survey also gives a fair idea about land rates per sq.ft. so that one can calculate the rate for flat per sq.ft.

After this is it necessary to carry out another market survey regarding materials to be procured. During this market survey one can come to know the rates differences from different sellers and one can procure materials from appropriate seller. This helps in reducing the project cost per material. Also labors play an important role in the field of construction. Labor management should be proper for smooth running of the project, labors or mason or mistri should be skilled to give quality construction without reducing speed of construction.

From economical point of view, the project should be completed in least possible funds at the same time the quality and speed of the project should be maintained properly. This is necessary to gain maximum profit from the project. To execute the project in good quality and speed proper engineering skills are adopted in project. In engineering skills the project is supervised strictly with the person who is having best technical knowledge of each and every thing in the project. The person should supervise the work in engineering point of view.

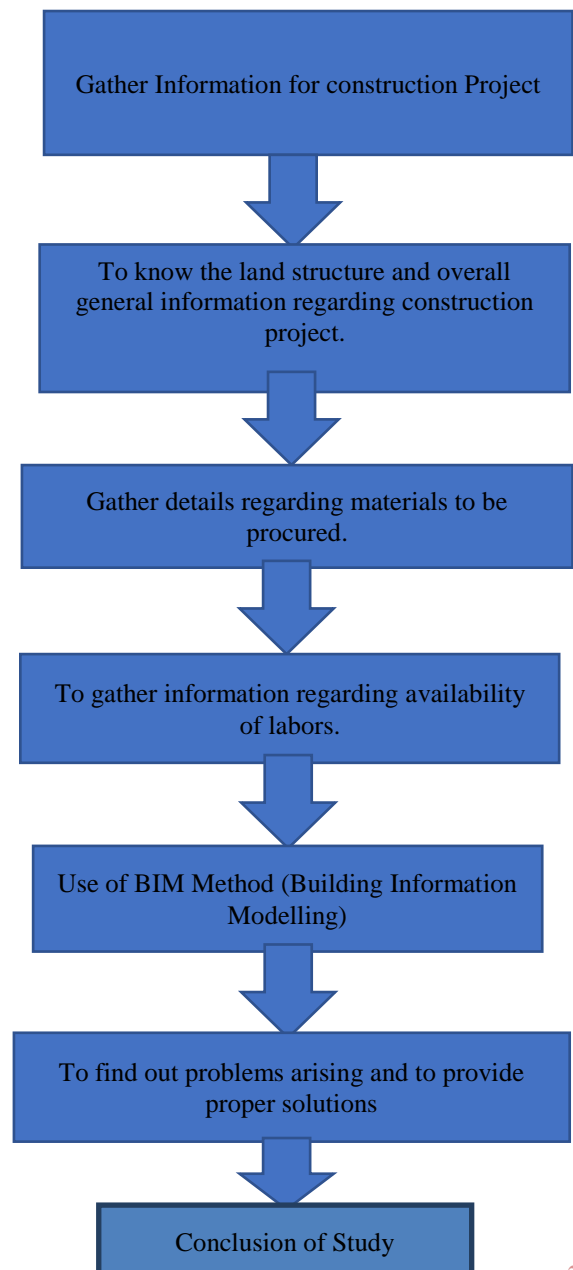
All the drawing and specifications are made available to execute the work as per drawings and according to specifications. The supervising person has the authority to stop the project work when it is not executed as per the drawing and according to specifications. With the appointment of best engineering skills, it is also necessary to appoint the best managerial skill at the project or at site. Management is crucial part of any activity in all the types of project. Without management, everything is waste. If the management is proper the project runs very smoothly without any delay and cost overruns. Management at the construction project clearly means management of labors, materials, constructional machines, constructional equipments etc.

At the same time quality of the work is maintained because quality is the priority of the firm. No matter in how much time the project is going to be completed, the project should be

great in quality. Quality is also an important the need of customers. Special supervision person is appointed at the project to maintain the quality of the work at the same time the speed of the work is also maintained.

BIM (Building Information Modelling) in this method the digital representation of physical and functional characteristics of the facility is made. Participants in the building process are constantly challenged to deliver successful projects despite tight budgets, limited manpower, accelerated schedules, and limited or conflicting information. The significant disciplines such as architectural, structural and MEP designs should be well coordinated, as two things can't take place at the same place and time. Building Information Modeling aids in collision detection at the initial stage, identifying the exact location of discrepancies

### III. METHODOLOGY



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#### IV. CONCLUSION

It is concluded that as the tier-I cities are getting saturated in the field of construction, there is a huge scope in development of construction industry in tier-II and tier-III cities of India.

As compared to I-tier and II-tier cities, III-tier cities are less costly. This is due to low transportation cost, less labour charges or wages and up to some extent less material and equipment costs.

Tier-III cities are less populated and have less traffic density as compared to tier-I and tier-II cities, this results in increase in construction speed.

The salary expectations of labour and other construction agencies are less in tier-III cities as compared to tier-I and tier-II cities this is also one of the important advantages of tier-III cities.

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