

## **Challenges and Remedies of second largest activity in INDIA.**

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**Abstract**—Construction is second largest economic activity in India it is play very critical role in all developing sectors like, Irrigation, Energy, Transportation, Communication, Housing, Civil Infrastructure and Social services. Day by day increase in population the need for housing and infrastructure also increases. For all this reason we can say that National development is directly linked with development through construction. The aim of the study of this paper is to guide that construction should be sustainable, and to this end, it is the policy of each party in the construction process should be committed to satisfying its obligations in respect to achieving Quality of Construction.

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**Keywords**— Quality of Construction, Total Quality Management, Continuous Improvement, Quality Control, Obligation in Construction, Quality Characteristics, Quality Design, Quality of Conformance.

### **I. INRODUCTION**

The change in potential, economical, social and other condition makes different demands for construction sector .Construction being critical to improve standards of living of the people; there is a need it to be more active, faster, quality conscious. Construction activity has increase demands and become more progressively complex.

Before Earth quake most of the big projects run by government sectors, now a day a privet firms are also come in to picture and they are interested to develop and earn from projects like roads ,shopping complexes ,and education institutes. In India where the population growth is more as a result the demands also increase for residential and commercial buildings.

The density of people in city area increases day by day, the space avability is limited so the expected growth of construction activity demands active managerial talent to properly manage these big projects and progressive use of the scientific techniques for building planning, monitoring and controlling of projects activity become more important.

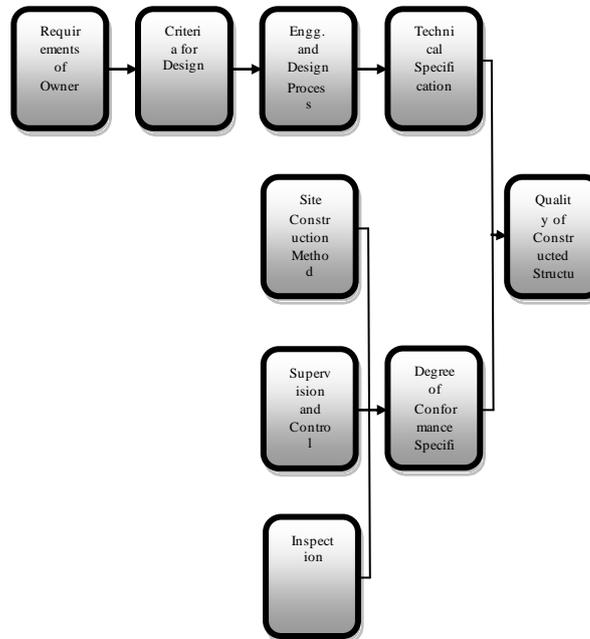
### **II. IMPORTANCE OF QUALITY CONTROL**

In all construction projects, proper inspection and quality control become very important so that the construction is carried out in accordance with the plans and specifications this will result in good quality construction at a reasonable cost. In many construction projects, a good and safe design can be spoiled by careless execution. Therefore, inspection and quality control are as important as investigation and design. Once the project is completed, it is very difficult and costly to later on modify and carry out changes to rectify any defects. During the inspection of works, materials and other products, it is always necessary to compare them with the predetermined standards These standards lay down the limits of permissible variation Hence the purpose of inspection is to find through observation and testing whether the quality of the works and materials are within the acceptable limits of variability or not In any construction project quality control is an important function of the management so that it is ensured that the project work is carried out in accordance with the

specifications and this quality control is carried out through proper inspection at various stages of the project.

### III. ELEMENTS AND ASSURANCE TECHNIQUES OF QUALITY CONTROL

a. **Elements:** The three basic elements of quality are quality characteristics, quality design and quality of conformance.



b. **Assurance Techniques:**

#### 1. **INSPACTION**

This consists of: Receiving inspection, In-process inspection and the final inspection before accepting the constructed structure. First of all, inspection is to be carried out for the materials of construction about their quality and acceptability. Then comes the inspection during the process of construction For doing this, a check list has to be prepared In many construction projects, the important items of to be inspected during the construction are ; Masonry, Concreting work, Structural steelwork, Water supply and sanitary works and providing electrical services. The important considerations during inspection of these works are as follows.

#### 2. **TESTING**

This means the examination of a material or product to check its conformance to the specified performance standards testing can be destructive or non-destructive It may take place on the site or in the special laboratories. In destructive testing, the element is tested intentionally to failure as in the case of concrete cube testing. Sometimes, a full scale load test is resorted to as in the case of suspended slabs and beams including the supporting columns; this is-very costly and time consuming and should be carried out only when all other means of testing fail to give the desired results regarding the structural soundness of the structure

In concreting works, the coarse aggregate, fine aggregate, water and cement, steel are all to be tested for quality, Non-destructive tests for completed concrete structures can be carried out by using many of the methods available such as: Schmidt Rebound Hammer test, Ultrasonic Pulse Velocity Test, Gamma Radiography and others.

### **3. SAMPLING.**

A sampling is the process of evaluating a portion of product / material in lot for the purpose of accepting or rejecting the lot as either confirming or not conforming to a quality specification.

### **III. What is Total Quality Management ?**

TQM is a management philosophy, a *paradigm*, a continuous improvement approach to doing business through a new management model. The TQM philosophy evolved from the continuous improvement philosophy with a focus on quality as the main dimension of business. Under TQM, emphasizing the quality of the product or service predominates. TQM expands beyond statistical process control to embrace a wider scope of management activities of how we manage people and organizations by focusing on the entire process, not just simple measurements.

TQM is a comprehensive management system which:

- ◆ Focuses on meeting owners'/customers' needs by providing quality services at a cost that provides value to the owners/customers
- ◆ Is driven by the quest for continuous improvement in all operations.
- ◆ Recognizes that everyone in the organization has owners/customers who are either internal or external.
- ◆ Views an organization as an internal system with a common aim rather than as individual departments acting to maximize their own performances.
- ◆ Focuses on the way tasks are accomplished rather than simply what tasks are accomplished.
- ◆ Emphasizes teamwork and a high level of participation by all employees.

### **IV. Characteristics of Successful TQM Companies.**

The construction industry has arrived late to TQM, probably due to the tendency to easily brush aside anything in management that is new, or to dismiss TQM as a fad. Continuous improvement is not a fad but a necessary part of management's obligation to properly run its company. Gone are the boom days when quality did not matter due to the volume of work available and the ease of obtaining work. The attitude of construction managers and contractors was simply to add it to the bill, because the owner will pay for it. In other words, in those boom days Cost plus Profit equalled Price. Now, however, the new attitude is Price minus Cost equals Profit. Owners are now demanding higher quality work, and at a lower cost. In attempting to keep pace with the new attitude, a quality management system that helps keep costs down is well worth implementing.

The characteristics that are common to companies that successfully implement TQM in their daily operations are listed here.

- ◆ Strive for owner/customer satisfaction and employee satisfaction.
- ◆ Strive for accident-free jobsites.
- ◆ Recognize that the owner/customer provides the revenue while the employees are responsible for the profit.
- ◆ Recognize the need for measurement and fact-based decision making..
- ◆ Arrange for employees to become involved in helping the company improve.
- ◆ Train extensively.

- ◆ Work hard at improving communication inside and outside the company.
- ◆ Use teams of employees to improve processes.
- ◆ Place a strong emphasis on the right kind of leadership, and provide supervisors with a significant amount of leadership training.
- ◆ Involve subcontractors and suppliers, requiring them to adopt TQM.
- ◆ Strive for continuous improvement.

## V. CONCLUSION

The Indian construction sector is the second largest employer after agriculture. The positive outlook of the Indian government is the key factor behind the sudden rise of the Indian construction industries.

The boom in the construction sector that began in the late nineteen is still showing phenomenal growth across the country and very prominently in the state of Gujarat strong economical growth, rising income level urbanization and improving transparency has made for a robust Gujarat construction sector.

The favourable government initiative “The end user has been assured of quality realty at affordable prices.” The government is proactively promoting the revenue laws and introducing sector friendly policies on infrastructure development.

- ◆ Having a reliable supervision mechanism for ensuring good quality of works and also having checking systems for the same.
- ◆ Adequate staffing for effective supervision to ensure excellent quality of construction.
- ◆ Preparing a unique method to assessment of site survey & implementation.
- ◆ Creation of suitable new committees & structures at village level for sound implementation of procedures as well as maximizing involvement of local community for school construction.
- ◆ Finalization of Sites as per organization rules, regulation and guidelines for all the structures.
- ◆ Formation of New team structures & their capacity building through systemized training.
- ◆ Evaluation of methodology for Training needs for Engineers.

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