CHAPTER - 6

SUMMARY OF FINDINGS, CONCLUSION AND SUGGESTIONS

6.0 Introduction

This final chapter of the research report is an attempt to comprehend the summary of research work carried out, the findings arrived through the analysis of data, conclusions drawn from those findings and the feasible suggestions proposed, based on the outcome of this research study.

The present study titled ‘Management of Cost effective construction with special reference to COSTFORD’ is an attempt to study the cost effective construction measures adopted by the organization COSTFORD and how to manage these construction activities in bringing about cost effectiveness. The statement of the problem, objectives of the study, hypothesis formulated and methodology used are narrated below.

6.1 Statement of the problem

The population of our country is increasing at a fast rate and sufficient infrastructure facilities have to be set up to keep pace with the population rise. As the standard of living increases, the cost of articles especially the materials of construction also seem to be in the increasing trend. Moreover, the construction materials like sand, rubble, broken stones and timber are becoming scarce these days and excessive procurement of these materials have a serious impact on our environmental system too.
Concepts of green buildings have also come into effect in the construction industry. The labour availability is also one of the problems construction industry is facing now.

Hence on the one side, the population and thereby the demand for construction activities are increasing and on the other side, the cost of the construction materials is increasing and the available materials are becoming scarce too. This gap is going to be increased in the near future. So it is high time to think of some cost effective construction methods and manage them with low input and better output. Apart from the conventional way of constructing buildings, the construction activities can be managed to a great extent through cost effective and environment friendly construction techniques.

6.2 Research Questions

On the basis of exploration of the research problem, the following questions were raised

viii. Is there any cost difference between the Costford construction and the conventional construction practices?
ix. What are the reasons for the cost difference between the Costford construction and ordinary construction practices?
x. Is there any relationship between the Cost effectiveness and Management practices in Construction works?
xi. Are the HR Management practices having an influence on the cost effectiveness in construction?
xii. Is there any relation between the Costford technology and cost effectiveness?

xiii. How far the Financial Management and Inventory management practices are influencing the Cost effectiveness of Costford?

xiv. What are the reasons for the client’s satisfaction towards the construction techniques followed by Costford?

6.3 Objectives of the study

The Objectives of the study are:

1. To identify the different factors contributing to the cost effective construction

2. To compare the cost effective construction techniques and the conventional method of construction

3. To assess the effect of Human Resource Management practices in achieving the Cost effectiveness in Costford

4. To assess the impact of Cost effective construction technology and Inventory management practices on the Cost effectiveness.

5. To assess the level of Financial Management practices by the Costford in achieving the cost effectiveness in construction

6. To study the factors influencing level of customer satisfaction of Costford clients

7. To suggest measures for further improvements needed if any, for the organization.
6.4 Hypotheses of the Study

H1. There is significant difference in cost between Costford construction and Conventional method of construction;

H2. Cost effectiveness in Costford construction is significantly related to the HR practices such as Training effectiveness, Job Environment and Job Satisfaction of employees.

H3. Cost effectiveness in Costford construction is significantly related to the Technological Management being practiced by the Costford.

H4. Cost effectiveness in Costford is significantly related to the Inventory Management practices followed.

H5. Cost effectiveness in Costford is significantly related to the Financial Management practices followed in the organization.

H7. Clients are significantly satisfied with the Costford construction.

6.5 Research Methodology

The study is basically empirical cum analytical in nature. The empirical research relies on experience or observation. It is a data based research coming up with conclusions. An analytical study is primarily concerned with testing hypothesis and specifying and interpreting relationships. It concentrates on analyzing data in depth and examining relationships from various angles by bringing in as many relevant variables as possible in the
analysis plan. It employs advanced statistical techniques. Personnel discussions held with the Engineers, supervisors and some of the clients of Costford helped to frame two sets of questionnaires: one for the Employees of COSTFORD and the other, for the clients of COSTFORD. Preliminary discussions with the experts in the industry and academicians helped to narrow down the study into the key aspects of cost effectiveness. The detailed review of literature enabled to gain familiarity with the theoretical perspectives of alternative technologies and construction aspects. The discussions, site visits and extensive literature reviews enabled the researcher to identify the relevant variables to be used in the study.

### 6.6 Summary of Findings

The major findings of the study are summarized under three separated heads such as Profile of employees in Costford, Profile of clients of Costford, Cost effectiveness and Management practices as follows:

#### 6.6.1 Profile of Employees in COSTFORD

1. The gender wise distribution of the employees in COSTFORD shows that 56.9 per cent of the population is male and the rest of 43.1 per cent come under the female category.

2. The age wise distribution of the employees of COSTFORD reveals that 38.9 per cent of the total population come under the 20-30 age group, 27.8 per cent come under the 31-40 age group, 22.2 per cent come under the 41-50 age group, 6.9 per cent are under the age group 51-60 and,
only 4.2 per cent come under the above 60 age group. It is revealed that nearly 70 per cent of the employees are under 40 and veteran categories of employees, who are above 50 years of age are about 10 per cent of total strength.

3. The income wise distribution while conducting the study shows that 15.3 per cent of the employees of COSTFORD are having a monthly income less than Rs. 7000, 48.6 per cent fall under the income group Rs. 7000 - 15000, 23.6 per cent come under the income group Rs. 15000-25000, and 12.5 per cent of the employees come under the income group Rs. 25000-45000. It is revealed that nearly 65% of the employees have income less than Rs. 15000/-which may be a source of dissatisfaction of employees to quit the job.

4. The study reveals that COSTFORD is having a well educated work force for its operations. 26.4 per cent of the total population is having a Degree or Post Graduation and 15.3 per cent of the populations are having the Professional Degree. Presence of this highly educated group is having an impact in the survival and growth of this Organisation.

5. The study shows that around 30 per cent of the staffs are freshers. Only 5.6 per cent of the population are having 7 to 10 years of service in costford and 12.5 per cent are having a service period of more than 10 years in Costford. This veteran group is actually leading the Costford to attain the set goals.
6.6.2 Profile of Clients of COSTFORD

1. The study shows that 32.3 per cent of the total population of clients of COSTFORD come under the age group of 31-40, 29 per cent come under age group of 41-50, 23 per cent come under 51-60 age group and 15.7 per cent of the clients come under the age group above 60. It reveals that almost all age groups of people approach COSTFORD for service.

2. The study shows that 0.8 per cent of the total respondents of clients are having a monthly income less than Rs.10000, 31.4 per cent fall under the income group Rs. 10000-20000, 46.4 per cent come under the income group Rs. 20000-35000, and 21.4 per cent of the respondents come under the income group Rs. 35000-60000. It is revealed that almost all income groups are the clients of COSTFORD.

3. The study reveals that 31.9 per cent of the total respondents of clients come under the educated group ‘Pre Degree’, 21.8 per cent fall under the Diploma group, 41.1 per cent come under the Degree/PG group, and only 5.2 per cent of the respondents come under the Professional Degree category. It is revealed that almost all groups of people are the clients of COSTFORD and even the professional degree holders too approach COSTFORD for service.

6.6.3 Cost effectiveness and Management practices

1. It is revealed that the employees of COSTFORD are getting training on all aspects, but the Mean score analysis and the Z test conducted on the
respondents opinion about the regularity of training shows that the regularity of training is only moderate and needs further improvement.

2. Most of the training schedule is for a period of 3 days or less. Around 22 per cent of the respondents opine that the training schedule lasts for 3 to 6 days and about 99 per cent of respondents says that they don’t get long term training.

3. The percentage analysis shows that more than 95 per cent of the population doesn’t feel monotony during training and they are interested in getting trained. About 96 per cent of the population is of the opinion that training is a must for improving the output.

4. Majority of the employees of COSTFORD are agreeing that labourers of COSTFORD are trained in all types of construction activities; especially, in cost effective construction techniques. The Mean score analysis and Z-test show that the respondents are highly agreeing that the Construction knowledge level imparted by training is good with 1 per cent level of significance.

5. The mean score analysis and the Z test conducted shows that the content of training imparted to the employees is only moderate which needs further improvement.

6. As far as the ‘Enhancement of efficiency level is concerned, the mean score analysis and the Z test shows that the employees are highly agreeing with this aspect with 1 per cent level of significance.
7. It is revealed that the peer group relationship with the co workers and supervisors in Costford is highly agreeable to the respondent. It is peculiar to note that none of the respondents have negatively responded to this aspect which is a proof for the existence of a good job environment. The mean score of 4.35 received reiterates this aspect.

8. The working time leniency in Costford is highly satisfactory as per the response of the employees. The respondents are highly agreeing with this aspect with 1 per cent level of significance.

9. The study shows that the employees of Costford are highly agreeing with 1 per cent level of significance that there is absence of labour problems like strikes in Costford sites.

10. The analysis result shows that the Employee-client relationship is highly agreeable to the staffs of Cosford. The mean score is obtained as 4.44 which reiterates this aspect. No negative responses from the part of employees regarding this aspect which proves about the degree of Job environment exists in the organization.

11. As far as employee turnover is concerned, the Mean Score obtained is 3.51 with 1 per cent level of significance which is just above average level. It is an aspect which needs attention so that quitting of job by the employees can be minimized.

12. The vertical flow of communication is highly agreeable to the employees of Costford which is having an impact in Good Job Environment. The Mean Score analysis result of 4.14 reiterates this aspect.
13. The study shows that the level of job security which exists in Costford is just above the average level and this is proved with the mean score of 3.54 received during the analysis.

14. As far as monetary benefits are concerned, the study shows that the agreement level of the employees is not up to the mark. The mean score of 2.93 received during the analysis reiterates this and this aspect needs to be improved for obtaining a good Job satisfaction level.

15. The employees are getting opportunities for the effective utilization of knowledge and abilities in Costford as revealed from the study. The mean score obtained for this aspect is 4.35 which shows that the respondents are significantly agreeing.

16. The study reveals that a proper inventory management is being practiced in Costford which is highly agreeable to the respondents with 1 per cent level of significance.

17. Most of the respondents are strongly agreeing that a proper estimate of the level of inventories is being made for each and every project.

18. The study shows that Just in Time inventory control system is being practiced in Costford as the organization is not having a warehouse or godown of its own.

19. The construction materials are always purchased based on the competitive prices offered by the panel of regular suppliers of materials based on the intent issued from the Organisation. The respondents are highly agreeing with this statement with 1 per cent level of significance.
20. It is revealed from the study that the respondents are highly agreeing with 1 per cent level of significance that the loss of materials due to deterioration, pilferage, wastage/damage is minimum at sites.

21. The study reveals that proper Financial management is being practiced in Costford which is generally agreeable to the respondents with 1 per cent level of significance.

22. It is revealed that the fund raising is done only through the advance receipt of project cost which is highly agreeing by the respondents at 1 per cent level of significance.

23. The respondents are highly agreeing with 1 per cent level of significance that the savings in material component is substantial as far as Technology Management is concerned. The mean value is obtained as 4.60 which reiterates this aspect.

24. As far as the time savings by adopting the cost effective construction technology is concerned, it is revealed that this aspect is below average which needs further improvement in the labour management. The mean value is obtained as 2.74 which reiterates this aspect.

25. The study shows that Assurance of durability, Acceptance of Technology and the savings in natural resources are highly agreeing by the respondents with respect to the Technological Management adopted by Costford. This is reiterated by the Mean Scores obtained as 4.10, 3.47 and 4.15 respectively.
6.7 Conclusion

The technocrats associated with the construction industry will have to formulate alternative and innovative technologies to overcome the challenges ahead. A lot of technology options may be available for cost effectiveness and through continuous research, arrays of new technologies can also be found out. But it is not as easy as developing a technology to make them practice in the real life. None of the technological alternatives could be affordable in practice, if it has not enough support and acceptance from the society. Hence dissemination of technological innovations is a must to make it acceptable, feasible and thereby affordable to the users.

There are notions among people that, the cost effective constructions are meant for poor people or they may compromise on quality. These misconceptions are to be rooted out at any cost. Scientists, engineers and policy makers should make all efforts whole-heartedly to popularise any new technology. Better and proper understanding of the various materials and technology options are to be ensured, their effectiveness and efficiencies are to be assessed and improved, and new methodologies for their implementation are to be sorted out. Unless sincere efforts are taken to propagate the new technologies from lab level to field level, no research work will be fruitful.
6.8 Suggestions

1. During the study, it is revealed that nearly 70% of the total employees of COSTFORD are less than 40 years of age. This youth force can be utilized more effectively. Veterans are also there who form about 10% of the total strength. Thus the youthforce can be more utilized with the added advantage of veteran leaders who can take the role of mentors and make way for the fresher.

2. It is revealed in the study that employees are expecting an income revision. Increasing the monetary benefits can be a good source of motivation for the employees.

3. Non monetary benefits like appreciation, recognition, family get together, tour packages and like others can be tried to motivate the employees further.

4. More than 95% of the employees are of the opinion that training is a must for improving the output. This is a good symptom that the employees are rightly oriented. This mindset of employees should be utilized by the COSTFORD.

5. Employees of COSTFORD are getting good training and a wonderful job experience. This Plus point should be more effectively utilized.

6. It is revealed in the study that the job turnover rate among the employees is high even when the there is a high degree of good job
environment and the job satisfaction. The reason for this should be analysed and rectification measures taken accordingly.

7. Inventory management can be modified by setting up warehoused for storage of materials. It is revealed that the delay occurring in the completion of projects is due to the non availability of good quality materials. This can be avoided to certain extent, if sufficient warehouses/godowns are set up accordingly.

8. The time saving factor in Technology Management is below average level and hence this aspect can be more improved by concentrating on the Labour management.

9. Just in Time ordering practice can be given more attention as far the Inventory Management practices are concerned.

10. As far as Financial Management is concerned, the main source of fund is the advance receipt of project cost. This orientation should be changed and other sources of funds need to be identified in order to avoid possible financial crisis.

6.9 Scope for further Study

The speed of inventions and innovations in the construction industry is accelerating. These changes combined with the new attitude of the new generations may be reflected in the construction cost also. These technical matters can very well be combined with the various management practices
in order to have better output. The study motivates and stimulates further researches in this field, opens new vistas of the research and new findings may be arrived from the untouched areas of the study. The following topics may be recommended for further research.

1. Cost effective construction and its impact in society

2. Management of construction activities and its implications in environmental depletion

3. Talent management and its strategic implications in Cost effective Construction sector