CHAPTER 7

FINDINGS, SUGGESTIONS AND CONCLUSIONS
Summary of findings, suggestions, Scope of further research and conclusion

7.1 Introduction

There has been a comprehensive survey of the present scenario of the HR practices in the small construction projects in India. This is confined to impact of training on skill development of the work force in small construction projects. During survey general information of the workforce has been taken into account.

Although the study has been confined to the above areas and aspects alone, owing to lack of time, resources, availability of data etc. it can be extended to sectors and areas of similar nature. In this chapter we summarize the findings along with suggestions and guidelines for further research and extension of the study.

7.2 Results Obtained before Training

A total of 17 parameters were chosen to get insight into the present working scenario in the Small Projects. The results are discussed below on the basis of each of the parameters used in the study:

i. Educational background of the workers

The number of workers who are illiterates was 10 percent, the number of workers having primary education was 62 percent, the number of workers having secondary education was 23 percent and the number of workers having Tertiary education was 05 percent. 60% to 64% of workers had only primary education.

ii. Level of Technical training / education

The number of workers who had undergone technical training at ITI/ITC was 02 percent, number of workers who had undergone technical training in private was 03 percent, the number of workers who had undergone technical training through professional, 02 percent, and the number of workers who have undergone technical training through work experience was 43 percent and other sources was 01 percent and untrained labor force was 49 percent. 53% of the workers got the training through work experience only.
iii. Work experience

The number of workers with prior work experience below 1 year was 18 percent, number of workers with prior work experience below 5 years was 34 percent, number of workers with prior work experience below 10 years was 28 percent, number of workers with prior work experience below 15 years was 11 percent and number of workers with prior work experience above 15 years was 09 percent.

iv. Frequency of Change in Job

The number of workers who had changed the jobs previously and their frequency of change below 01 years was 46%, their frequency of change below 03 years was 20%, their frequency of change below 06 years was 18%, the frequency of change below 09 years was 11%, and the frequency of change above 05 years was 05%.

About 61% of the workers left the job due to poor income.

v. Interest to undergo institutional training

The number of workers who were interested to undergo institutional training with fees was 02 percent, number of workers interested to undergo institutional training without fees was 04 percent, the number of workers interested to undergo institutional training with stipend was 09 percent, and the number of workers who were not interested to undergo institutional training was 85 percent.

vi. Interest in undergoing training at site

The number of workers who were interested to undergo training at site without wages was 02 percent, number of workers interested to undergo institutional training at site with 50% of wages was 14 percent, the number of workers interested to undergo institutional training with wages was 76 percent and the number of workers who were not interested to undergo training at site was 08 percent.

vii. Understanding of Technical Drawing

The number of workers having Good understanding of technical drawing was 6 percent, the number of workers having an Average understanding was 13 percent, the
number of workers having Poor understanding was 32 percent and the number of workers having negligible understanding was 49 percent.

**viii. Understanding Bar Diagram**

The number of workers having Good understanding of the bar diagram was 2 percent, the number of workers having an Average understanding was also 2 percent, the number of workers having Poor understanding was 10 percent and the number of worker having Negligible understanding was 86 percent.

**ix. Technical knowledge**

The number of workers having Good understanding of technical knowledge was 7 percent, number of workers having an Average understanding was 18 percent, the number of workers having Poor understanding was 40 percent and the number of worker having negligible understanding was 35 percent.

**x. Information about Latest Technology**

The number of workers having Good amount of familiarity with latest technology was 4 percent, number of worker having an Average familiarity was 9 percent, the number of workers having Poor familiarity was 10 percent and the number of worker having negligible familiarity was 47 percent.

**xi. Product knowledge**

The number of workers having Good understanding of product knowledge was 7 percent, the number of workers having an Average understanding was 18 percent, the number of workers having Poor understanding was 40 percent and the number of worker having negligible understanding was 35 percent.

**xii. Handling Tools and Machinery**

The number of workers having Good skill required to use the tools and machinery was 7 percent, the number of workers having an Average skill was 18 percent, the number of workers having Poor skill was 40 percent and the number of worker having Negligible skill was 35 percent.
xiii. Quality Awareness

The number of workers having Good amount of awareness regarding the quality of the construction was 2 percent, the number of workers having an Average awareness was 8 percent, the number of workers having Poor awareness was 30 percent and the number of worker having negligible awareness was 60 percent.

xiv. Wastage Control Techniques

The number of workers having Good amount of awareness regarding the wastage control techniques was 2 percent, the number of workers having an Average awareness was 8 percent, the number of workers having Poor awareness was 32 percent and the number of worker having negligible awareness was 58 percent.

xv. Time Management

The number of workers having Good amount of awareness regarding Time Management was 5 percent, the number of workers having an Average awareness was 15 percent, the number of workers having Poor awareness was 25 percent and the number of worker having negligible awareness was 55 percent.

xvi. Communication/transfer of information

The number of workers having Good ability to receive the information communicated/transferred to them was 2 percent, the number of workers having an Average ability was 6 percent, the number of workers having Poor ability level was 29 percent and the number of worker having negligible ability was 63 percent.

xvii. Fire & Electrical Hazards

The number of workers having Good amount of awareness regarding Fire & Electrical Hazards was 5 percent, the number of workers having an Average awareness was 25 percent, the number of workers having Poor awareness was 22 percent and the number of worker having negligible awareness was 48 percent.
xviii. Health and Safety Measures

The number of workers having Good amount of awareness regarding Health and Safety Measures was 10 percent, the number of workers having an Average awareness was 20 percent, the number of workers having Poor awareness was 30 percent and the number of worker having negligible awareness was 40 percent.

xix. Project/industrial Discipline and Law

The number of workers having Good amount of awareness regarding project discipline and laws was 1 percent, the number of workers having an Average awareness was 4 percent, the number of workers having Poor awareness was 27 percent and the number of worker having negligible awareness was 68 percent.

xx. Satisfaction Level

The number of workers having Good amount of satisfaction with present occupation was 8 percent, the number of workers having an Average awareness was 32 percent, the number of workers having Poor awareness was 25 percent and the number of worker having negligible awareness was 35 percent.

xxi. Self Assessment

The number of workers having Good ability of self-assessment was 2 percent, the number of workers having an Average ability was 17 percent, the number of workers having Poor ability was 29 percent and the number of worker having negligible ability was 52 percent.

xxii. Team work

The number of workers having Good level of participation in working with his coworkers was 8 percent, the number of workers having an Average level of participation was 32 percent, the number of workers having Poor level was 25 percent and the number of worker having negligible level was 35 percent
xxiii. Confidence Level

The number of workers having Good level of confidence on their job was 05 percent, the number of workers having an Average level of confidence was 11 percent, the number of workers having Poor confidence level was 25 percent and the number of worker having negligible confidence was 59 percent.

xxiv. Social Security

Only 348 workers out of 1000 have the idea about ESI (Those who have the idea about PF, accident benefit and Medical facilities definitely had the idea about ESI). Out of these 348 workers, only 198 workers have ESI.

xxv. Understanding the process of training programme.

The training programme conducted was easy for 56 percent of workers, moderate for 25 percent, difficult for 15 percent and very difficult for 4 percent of workers.

xxvi. Acceptance level of training programme

The number of workers having Good level of acceptance on their training programme was 58 percent, the number of workers having an Average level of acceptance on their training programme was 28 percent, the number of workers having Poor acceptance on their training programme was 10 percent and the number of worker having Negligible acceptance on their training programme was 04 percent.

xxvii. Satisfaction level of training programme

The number of workers having Good level of satisfaction with their training programme was 51% percent, the number of workers having an Average level of satisfaction with their training programme was 34 percent, the number of workers having Poor acceptance their training programme was 10 percent and the number of worker having Negligible acceptance with their training programme was 05 percent.

xxviii. Preference of such training programme in near future.

Preference of training programme in the near future, the number of workers who wanted the training programme was 72% percent, number of workers who did not
want the training programme was 11% percent and number of workers who were undecided on the training programme was 72% percent

**xxix. Analysis based on project cost, labour, and overhead cost.**

Through the survey conducted among selected 32 Small projects before training and specific 32 Small projects after training, it was observed that average material cost of the project was 57.4% before training and 55.6% after training. Average labour cost before training is 28.7% and after training is 20.9 %. Average overhead cost before training is 8.7 % and the average overhead cost is 6% after training.

**xxx. Regarding Understanding of Job**

The number of workers having Good understanding of the job was 11 percent, the number of workers having an Average understanding was 14 percent, the number of workers having Poor understanding was 20 percent and the number of worker having Negligible understanding was 55 percent.

**xxxi. HR Practices**

The number of workers who have ranked their preferences on the HR practices to followed in the organizations is as follows: number of workers who ranked fair wages are 339, number of workers who ranked bonus are 220, number of workers who ranked safety are 197, number of workers who ranked training are 70, number of workers who ranked induction are 60, number of workers who ranked performance appraisal are 58, number of workers who ranked knowledge sharing are 36 and number of workers who ranked Job rotation is 20,

The number of workers who have not experienced the below mentioned HR practices and are not followed in their organizations is as follows: number of workers who ranked fair wages are 270, number of workers who ranked bonus are 360, number of workers who ranked safety are 298, number of workers who ranked training are 300, number of workers who ranked induction are 674, number of workers who ranked performance appraisal are 440, number of workers who ranked knowledge sharing are 780 and number of workers who ranked Job rotation is 723.
7.3 Results obtained after Training

The same parameters were used to find the effects of training imparted on the basis of methodology developed in the by the researcher. The results are discussed below on the basis of each of the parameters used in the study:

i) Technical Drawing

The number of workers attained Good understanding of the technical drawing of the project work was 15 percent, the number of workers having an Average understanding was 27 percent, the number of workers having Poor understanding level was 28 percent and the number of worker having negligible understanding was 30 percent.

ii) Bar Diagram

The number of workers attained Good understanding of the Bar Diagram of the project work was 12 percent, the number of workers having an Average understanding was 11 percent, the number of workers having Poor understanding level was 12 percent and the number of worker having negligible understanding was 65 percent.

iii) Latest Technology

The number of workers having Good amount of familiarity with the latest technology regarding the project work was 14 percent, the number of workers having an Average understanding was 35 percent, the number of workers having Poor understanding level was 32 percent and the number of worker having Negligible understanding.

iv) Product Knowledge

The number of workers having Good understanding of the knowledge of the product used the project work was 18 percent, number of worker having an Average understanding was 30 percent, the number of workers having Poor understanding level was 31 percent, and the number of worker having Negligible understanding was 17 percent.
v) Handling Tools and Machinery

The number of workers having Good skill required for using the tools and machinery used the project work was 17 percent, the number of workers having an Average skill was 37 percent, the number of workers having Poor skill level was 27 percent and the number of worker having negligible understanding was 19 percent.

vi) Quality Awareness

The number of workers having Good amount of awareness regarding the Quality of the Construction was 18 percent, the number of workers having an Average awareness was 27 percent, the number of workers having Poor awareness level was 14 percent and the number of worker having negligible awareness was 14 percent.

vii) Wastage Control Techniques

The number of workers having Good amount of awareness regarding the wastage control techniques was 16 percent, the number of workers having an Average awareness was 23 percent, the number of workers having Poor awareness level was 8 percent and the number of worker having negligible awareness was 4 percent.

viii) Fire & Electrical Hazards

the number of workers having Good amount of awareness regarding Fire & Electrical Hazards was 17 percent, the number of workers having an Average awareness was 37 percent, the number of workers having Poor awareness was 12 percent and the number of worker having Negligible awareness was 34 percent.

ix) Health and Safety Measures

The number of workers having Good amount of awareness regarding Health and Safety Measures was 25 percent, the number of workers having an Average awareness was 35 percent, the number of workers having Poor awareness was 17 percent and the number of worker having negligible awareness was 23 percent.
x) Time Schedule

The number of workers having Good amount of awareness regarding Time Management was 5 percent, the number of workers having an Average awareness was 15 percent, the number of workers having Poor awareness was 25 percent and the number of worker having negligible awareness was 55 percent.

xi) Industrial Discipline and Law

The number of workers having Good amount of awareness regarding project discipline and laws was 16 percent, the number of workers having an Average awareness was 19 percent, the number of workers having Poor awareness was 17 percent and the number of worker having negligible awareness was 48 percent.

xii) Satisfaction Level

The number of workers having Good amount of satisfaction with present occupation was 17 percent, the number of workers having an Average awareness was 40 percent, the number of workers having Poor awareness was 18 percent and the number of worker having negligible awareness was 25 percent.

xiii) Self Assessment

The number of workers having Good ability of self-assessment was 14 percent, the number of workers having an Average ability was 49 percent, the number of workers having Poor ability was 18 percent and the number of worker having negligible ability was 19 percent.

xiv) Understanding of Job

The number of workers having Good understanding of the job was 18 percent, the number of workers having an Average understanding was 19 percent, the number of workers having Poor understanding was 25 percent and the number of worker having negligible understanding was 38 percent.
xv) Confidence Level

The number of workers having Good level of confidence on their job was 17 percent, the number of workers having an Average level of confidence was 36 percent, the number of workers having Poor confidence level was 11 percent and the number of worker having negligible confidence was 36 percent.

xvi) Communication/transfer of information

The number of workers having Good ability to receive the information communicated/transferred to them was 18 percent, the number of workers having an Average ability was 16 percent, the number of workers having Poor ability level was 30 percent and the number of worker having negligible ability was 36 percent.

7.4 Training Process

This particular section of questionnaire was designed to assess the effectiveness of the training process undertaken to observe the change in workers performances over the training period. A number of parameters were taken for this purpose also and the results are shown below:

i) Delivery Success of Training Programme to the Worker: Among 86 percent of worker the process was easy, for 21 percent workers it was moderate, 8 percent reported as difficult, and for 3 percent the delivery remained unattainable.

ii) Acceptance Level: Workers reported good acceptance was 65 percent, average 24 percent, poor 7 percent and negligible was 4 percent.

iii) Satisfaction Level among the Workers towards the Training: Good level of satisfaction was reported by 61 percent worker, average level was reported by 25 percent, poor level was reported by 11 percent, and negligible amount of satisfaction was reported by 3 percent workers.

iv) Interest in Participating Such Training Programme in the Future: A good 79 percent workers have shown strong interest in taking part in such training programme in the future, while 12 percent shown moderate level of interest, 9 percent shown no interest at all.
7.5 Findings of the Testing of Hypotheses

To understand the significant role of human resource involved in Small Projects the researcher formulated the following hypotheses which have been tested through the present study, by taking into account both secondary data and valid support from the survey:

i. Proportion of workers having the required Skills to handle the tools and machinery before and after training is increased from 20% to 28%.

ii. Proportion of workers having acquired the Product Knowledge after training is increased from 19% to 26%.

iii. Proportion of workers having acquired the quality awareness after training is increased from 22% to 28%.

iv. Proportion of workers satisfied with the present occupation after attending the training is increased from 16% to 20%.

v. Proportion of Workers who’s Level of Confidence after training is increased from 33.6% to 37%.

The Social security and skill development and productivity are independent.

The results of the research can be implemented in various fields like agriculture, manufacturing, services. Need to training of the existing unskilled workforce at their workplace is an urgent necessity. Considering the prevailing objective conditions it is not possible to train the workforce, especially in the unorganized sector outside the workplace. The study may serve as a guideline in this regard.
Summary

Research into construction industry, its development and sustainable efforts to implement training practices are necessary as evidently through the research findings. The increasing demand for enhanced productivity, quality levels, value for money and client satisfaction are constrained by the growing complexity of large and multidisciplinary management teams, multidimensional projects and multiple objectives.

The utilization of untrained and unskilled workers in country’s unorganized construction projects has resulted in the decrease in labour productivity.

The findings of this study, implies that there is a huge demand for India to respond with an appropriate HR planning practice for enjoying the robust economic growth and is a trial to find a technique which can bring about solution to the problem - providing training while working.

7.6 Suggestions and Implication for Need based training as HR Practices

On the basis of the above finding the present study has the potential of implementation in various sectors at national and international level covering both the Government and Private agencies. Some of the areas for such implementation are enumerated below:

The specific suggestions for various agencies at national level are the following.

i) Implication at the National Level

For Concerned Ministries in Govt. of India: A number of ministries dealing with the interests of unorganized labour fore and their skill development may take a note of findings and recommendation put forward by the preset study. To name a few are:

Ministry of Labour and Employment – the ministry is presently making some serious consideration of the labour productivity, skill development and employability of burgeoning number of young work force in the country to meet the challenges of keeping right pace of growth that is offered by construction sector.
Planning Commission of India – the planning commission doing every thing it can to make sure the potential invested that has been forecasted by various experts in the sector of construction and other service related projects. The commission has predicted an investment of $492 bn in the infrastructure sector for 11th FYP. They must find a solution the match the potential HR challenges to secure country’s immediate requirements and aspiration to lead the world economy by 2020.

National Productivity Council – A Govt. aided autonomous body trying to contribute in the quest of ways to meet the demand of country’s skilled work force for augmentation of national productivity may also take note of the present study’s suggestion of training procedure for huge unskilled work for today and tomorrow.

National Commission for Enterprise in the Unorganised Sector (NCEUS) – This is another initiative by the Govt. of India to recognize the challenges and prospects of country’s industries various unorganized sector which may consider the skill up gradation of the work force in this unprotected and often neglected sector.

National Sill Development Corporation (NSDC) – Union Finance Minister Mr. Pranab Mukherjee last year launched the NSDC which has been mandated to skill 30 percent of the overall target of 500 million people by the year 2022. It is unique Public Private Partnership (PPP) enterprise with CII, FICCI and ASSOCHAM. Let this organization fulfill the target and task entrusted. The findings and recommendation of the present study could be taken as source of idea and measure for organization like this.

Construction Industry Development Council (CIDC) – This autonomous organization has launched a programme called Holistic Human Resource Development (HHRD) which focuses on empowerment of individuals through training and skill up gradation leading to a trained, tested and certified individuals who is job ready for the Indian Construction Industry. It has serious goal of dealing with 83 percent workers unskilled workers among the present 31 million total workforce of the country. The organization may also consider the suggestion of the present study to materialize its goals.
Medium, Small and Small Enterprises (MSME) – A national organization engaged in developing and facilitating the medium to small level enterprises in various ways also can make use of the findings of this study.

Social Watch India – The organization recently underscored the need for skill development and can consider taking a look of this study to come up with some recommendation of its own.

Some national NGOs are engaged in developing some projects in unorganized sector for the benefit of poor section of the country’s population. There are some international philanthropic organizations working in India are trying to uplift the living conditions of deprived section of population. They are trying to find out and solve the problems that can effectively contribute to nation’s desperate attempt to eradicate poverty. Many suggested the skill formation is one of the way by which the young, unorganized labour force can gain access to improved wages and better life.

ii) Implication in the International Level

The present study can go on to suggest some international organizations like ILO to have a look at the findings and suggestions made by the present study while working with the uplift of labour productivity condition in developing and least developed countries. A good number of ILO literature are intended to address the present dismal condition of work force in such countries finding it difficult to cope with the present day challenges ahead of them to survive the and prosper. A number of ideas and recommendation have also been put forwarded in these works. However, the present study may add a very basic way to reach the very basis level of working atmosphere with an appropriate means of tackling the gap between demand and supply of skill workers.
7.7 Conclusion

The Research took up the study of small construction projects in India to assess the impact of HR Practices confined to training especially skill development of the workforce. The existing HR Practices as regards to training and also skill development scenario of workforce was assessed through appropriate sampling survey and statistical techniques pertaining analysis and implementation of data and test of hypothesis. The hypotheses were accepted.

On the basis of the above the concluding observations are put forward. Majority of the small construction projects in India belongs to the unorganized sector. The workforce belonging to this sector is mostly unskilled and migratory in nature and they lack proper education and technical training. Standard HR Practices, especially training for skill formation is almost absent.

Need-based onsite training enhances skill and productivity of the workers and results in cost reduction, quality improvement and time saving. This study emphasizes that need –based onsite training may be adopted as the standard HR Practice for skill development for not only the sector viewed by the study but various other sectors at international level. The study has a vast potential to serve as reference and guideline for further study and research.
7.8 Scope and Direction for Further Study

The present study created a potentially wide range of scopes and directions for further research and investigations in other fields and sectors. A few of such opportunities are enumerated here:

i. The present study demonstrated the scopes of further studies of similar nature in projects of different sizes like medium, big, and mega projects which are accomplished under turnkey constructional project segment.

ii. The study could be extended to other segments of construction works such as infrastructure, heavy engineering, etc.

iii. The present study opens wide rage of scopes in the field of HR planning and utilization in of Small Projects in the field of manufacturing, agriculture, and other service sectors.

iv. The study has revealed a good opportunity in development of skill and enhancement of employment in agriculture, manufacturing, and other similar sectors.

v. The study showed the scope in increasing productivity of the workers which eventually contributes to the national economic growth.

vi. The present study has remained confined to a limited area and therefore new research and studies has vast scope of exploring potential in areas not covered by this study.