OBJECTIVES OF THE STUDY

1. Identification of major factors contributing to work-related injuries and health problems of construction workers by conducting survey & by questionnaire method.
2. Classification, Categorization and analysis of work related health issues
3. Reduction, and modification of worker-related health problems.
4. To find out, address and investigate current construction-related health issues, new challenges, and its relationships with working conditions

SCOPE OF THE STUDY

This work is a study of the Socio demographic dynamics of the unorganized construction workers in Afganistan. The nature of work and the opinion of the workers about their job in this sector have also been studied. The study is restricted to the issues in work place that lead to stress, its manifestations and outcomes.

Analysis

All the collected data was coded and entered in **Excel data sheet** and Statistical analysis was performed using the Statistical Package for Social Sciences (**SPSS 23.0**) program. The data analysis was performed Construction workers was done. **Mean**, **standard deviations** and **percentage**, were employed for most variables. Prevalence is reported in percentages(%). The differences in prevalence were analyzed using **chi-square tests** at statistical significance level of $P < 0.05$, and **95% confidence interval**.

Hypotheses:

H1: The awareness score of construction workers on occupational hazards and the rating on the use of safety measures will be significantly related.

H2. There will be direct relationships between "Occupational Health &Safety", and "working condition".

Note: The Analysis+Discussion chapter must be at least 30 pages.

Reports of Chapter 1, 3. If need can use it.

OCCUPATIONAL HEALTH AND SAFETY PROBLEMS OF CONSTRUCTION WORKERS IN AFGHANISTAN

MASTER OF TECHNOLOGY

In

CIVIL ENGINEERING

With specialization in Construction Management Engineering

Submitted

By

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CHAPTER 1

1 INTRODUCTION

1.1 INTRODUCTION

Construction sector is among the most crucial sector in any of the economy from both perspectives whether contribution in GDP of the economy or the employment generation for the economy. So is the case with Afghanistan economy too. But construction sector in Afghanistan has been understood in two different phases in the previous researches. One phase is that of before 2002. During the time of before 2002, the construction business was under the seizure of Afghanistan administration. During Afghan government tenure , hardly any construction organizations were built up by the help of government to execute infrastructural extends inside the nation. For example, the accompanying organizations can be referenced: Banai construction association, Afghani construction association, Helmand construction association, Tasadi Khanah Sazi Corporation in Kabul and some others. By and large, PPE were given to laborers, yet a total/standard wellbeing manual was not created to be utilized at construction destinations. Post 2002 is for the most part seen as takeoff from past stage. During Post 2002 we see the breakdown of Taliban system in Afghanistan in 2001 by the military help of USA, restoration and reconstruction of frameworks ventures restarted at 2002 by the national and universal networks' money related guides. Military powers from a few nations of NATO entered to Afghanistan and the Provincial Reconstruction Team (PRT) was set up at every area to control security of the nation. Other than dealing with the security issues, partaking in the reconstruction of foundations was another goal of the PRTs also. Besides, some different contributors, for example, World Bank, Asian improvement bank, USAID and others attempted to give budgetary guide to the restoration and reconstruction extends in the nation. Also, USA armed force apportioned a major measure of found for reconstruction of armed force bases for national police and national armed force of Afghanistan. These activities were actualized by security culture/standard of every benefactor.

1.2 RESEARCH BACKGROUND:

As a matter of fact if one looks back one will find that Labour market of Afghanistan has undergone incredible transformation. One come across deterioration in the quality of employment along with marked decline in social security. One probable reason could be the

growth of informal labour market leading to the growth of unorganized sector in Afghanistan (Niazi and Noel,2017).

(Rout and Lee, 2008, Khan et al. 2015) stated in their research, “Unfortunately, a great deal of information, resources and institutional capacity of accurate monitoring and reporting on natural resources statistics were lost during the years of conflict.”. Besides income inequality, lack of job security and unsafe working conditions tend to reduce individual well-being. Equitable access to paid employment with reasonable and safe working conditions is an essential element of any poverty reduction strategy.

Workers are classified into three segments dependent on the division of work. They are Primary Laborers, Secondary Laborers, and Tertiary Laborers. The essential area involves workers who develop. There is the subsequent one and that is the optional area who are engaged with mining quarrying. The third class is that of assembling and administration industry workers. They are from the tertiary area. From this order, Construction workers have a place with the administration area. That mean they have a place with the tertiary segment. There is one more division which depends on the working territory. Workers isolated organization into two large meetings meetings and small gatherings. Large gathering workers working in a large organization or MNC organization. They create a structure of multi-celebrated, shopping centers, etc. They are on the wrong division. Small meeting workers working in small purpose of structures such as houses or pads. They are specialists regularly (Tiwary and Gangopadhyay 2011). One difficulty in quantifying consider security in the construction business in Afghanistan is the absence of national welfare manual, accident information, unwavering low quality and accuracy of the accident database in the nation. "Unfortunately, a lot of information, resources and institutional capacities accurate monitoring and reporting of statistical natural resources lost during the years of conflict." (Rout and Lee, 2008)

Laborers in the unorganized sector have next to zero social security. They have small arranging force as far as decision of work. They are normally 'untalented' one. Simultaneously work in poor conditions. "Simple passage, nearby activities, uncertain lawful standing, prepared necessity of work, training and ability deficiency, nonappearance of fixed guidelines of working hours or installment, poor pace of reparation, numbness with respect to conceivable government mediation and help and absence of the equivalent portray this division."

Working in construction is usually interspersed with periods of unemployment of various durations, primarily due to fluctuations in labor requirements at each workplace. "The nature

of work is such that there are no days off" (NCL 2007). A healthy work environment is one in which there is not only the absence of a dangerous condition, but the abundance of health promoting. The World Health Organization reported that deaths globally account of work, illness, and disease for losses estimated at 4% of gross domestic product. construction workers are exposed to a wide variety of health hazards in the workplace (TIFAC, 2009). different exposures from job to job. "The danger for the construction workers are usually as follows:"

1. "Chemical hazards such as dust, smoke, fog, steam or gas. The greatest risk of construction labor force silicosis and asbestos "(NIOSH, 2002).
2. ergonomic problems and degenerative disorders.
3. Biological Hazards and Environment disease; Workers at risk of malaria, dengue, animal attacks and histoplasmosis (a lung infection caused by a common soil fungus) and other diseases due to poor sanitation and unsafe drinking water.
4. psychosocial hazards: The job is permanently temporary. employers and projects that require workers to stay in work camps away from one's home and family often changed, causing psychosocial hazards.

"These features of construction work, as well as the heavy workload, the possibility of workplace violence or community violence and limited social support are factors associated with an increased stress in the workforce. addictions related to alcohol, tobacco and smoking contribute to disease and suffering "(Kulkarni 2007).

1.3 STATEMENT OF THE PROBLEM

A significant feature of construction industry is that there is a short-lived relationship between the employer and the workers. Moreover the work is unstructured and the employers do not bother to retain the workers as most of the unskilled and semi-skilled workers are easily replaceable. The workers are mobile, that is, they move on once the construction activity gets over. Due to the short-lived relationship in most cases, the employers have no long-term interest in improving the styles of the working conditions of workers. Little research has been conducted into occupational stress in the construction industry, particularly among the unorganized workers. Further, there is no comprehensive study focusing on causes, impact and outcomes of occupational stress among the Construction workers.

An opportunity in multi paradigm Occupational stress research is visualized to expose the responsibility of all stakeholders, to unveil the factors that lead to occupational stress, the

way it manifests itself and the outcomes in reaction to occupational stress. This can unveil innovative ideas for interventions that can lastingly contribute to the well-being of the unorganized workers in general and construction workers in particular.

1.4 SIGNIFICANCE OF THE STUDY

The Construction business makes a significant positive commitment to the economy everything being equal. The yield of the business overall is evaluated at around $3,000 billion for each annum. The business makes work for in excess of 110 million individuals around the world. The arrangement of enormous quantities of employments at moderately low venture cost per work put is especially significant in the creating nations, where the construction business assumes a significant job in battling the elevated levels of joblessness and in engrossing surplus work from the country zones. (Wells,2001).

Construction laborers are presented with a ton of word related requests and weights. They need to work at colossal tallness, climb platform, work with power, unprotected lifts and utilize a wide range of materials, for example, asbestos, which are destructive for our wellbeing. Security apparatuses, for example, head protectors, boots, seat straps and so forth are not given as a rule. Inadvertent passings in construction enterprises is ascending at a disturbing rate and is considered as the second generally risky on the planet (17%). (Express India,2008)

It is discovered that in the Indian construction industry. The normal Fatal Accident Frequency Rate (FAFR) was 15.8 occurrences/1000 representatives/year and construction dangers are evaluated as multiple times progressively dangerous as those from the assembling part (Jain, 2007).

Counteractive action of wounds in the construction division has demonstrated compelling for business maintainability, and there are great works on showing how appropriately overseeing wellbeing and wellbeing from the structure stage all through an undertaking permits the conveyance of value construction works as per plan. Construction laborers are one of the most various and powerless portions of the chaotic work in Afghanistan.

An examination of the ownership of industry-wise aptitudes (as far as levels of training) among casual specialists shows that 98-99 percent of those occupied with farming, Construction and exchange works, are uneducated. Among different parts, 90 percent of the casual workforce is seen as unskilled (NSDC, 2007).

1.3 OBJECTIVES OF THE STUDY

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1.6 SCOPE OF THE STUDY

This work is a study of the Socio demographic dynamics of the unorganized construction workers in Afganistan. The nature of work and the opinion of the workers about their job in this sector have also been studied. The study is restricted to the issues in work place that lead to stress, its manifestations and outcomes.

1.7 OVERVIEW OF RESEARCH METHODOLOGY

This research is a cross-sectional study and uses a mixed design of Quantitative and Qualitative research. The study population comprised of male and female unskilled and semiskilled unorganized workers in the construction industry from Afghanistan. The questionnaire constructed based on the literature review and personal observations were distributed to a few construction workers in order to conduct a pilot survey.

Convenience sampling was adopted for this study. Primary data was collected from construction workers through personal interview with constructive structured questionnaire. Secondary data was collected from published articles, reports and theses related to objective of the study.

1.8 LIMITATIONS

The population for the study was large and indefinite due to the lack of statistical information on the unorganized sector and the construction workers. Migration and casual employment are the salient features of the sector. As the population was unknown, sampling was done based on the proportion arrived at during the pilot study. Interview method was adopted for data collection at the time convenient for the workers. Time constraint hampered collection of data from more respondents.

Due to cost and time constraints, geographical coverage of the study was limited to selected areas of Afghanistan where construction work was in progress during the period of the study. The study will capture the situation or response at a particular point of time. As the study is based on the primary data collected through interview schedule, the reliability of the data will dependent upon the earnestness with which the respondents offered their response though due diligence was exercised to elicit responses from the respondents.

The factors are pertinent to the construction workers in Afghanistan as they were derived from the informal surveys conducted among the workers working in the construction sites in Afghanistan. It is not necessary that only the factors portrayed in the model would account for occupational stress manifestations and outcomes. Further research studies can focus on other variables leading to occupational stress. The findings and recommendations of this study may not have a wide-ranging application to other occupations; therefore, one cannot generate axioms that are extensively valid to other occupations/locations. However, this study is sure to yield interesting insights into the unique nature of the problem of occupational stress among Construction workers Afghanistan.

2 LITERATURE REVIEW:

It keep secrete…….

3 RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter is all about the research methodology used in this thesis. Applied methodology is useful to achieve the research as well as design, population, questionnaire design, pilot study and statistical analysis tool for the questionnaire. Research is conducted in field of occupational health and safety of workers in construction industry. There are a number of models for the evaluation and assessments of occupational health and safety. These models are distinctive in their scope and focus and are often shaped by the changing nature of organizations and organization-specific characteristics. Despite differences, organizational culture models and tools do have some common elements.

3.2 RESEARCH METHODOLOGY

The research employs analytical descriptive methodology. Following terms will be commonly used in our research work.

3.2.1 PRIMARY DATA

Primary data is a first hand source data using structured questionnaire developed in this research. This questionnaires contain a well structured preformatted set of information bordering on workers health and safety knowledge, compliance and project performance. It will be helpful to look into the health risk factors and awareness of occupational health and safety at a construction site.

3.2.2 SECONDARY DATA

Secondary data is theoretical literature such as books, research papers, articles constants related to the study. In addition, research related web sites and links have been also used for the same purpose.

3.4. RESEARCH GEOGRAPHY AND ENVIRONMENT

The data has been collected from several construction projects like road, building, dam, bridge, steel structure, electrical substation, and tunnel which was located different provinces specially in (Kabul, Balth, Parvan, Kapisa, Baghlan, Badakhshan, Herat, Farah, Kandahar, Ghazni, Paktika, Faryab, Bamyan, Kunar, Khost, Logar, and Midan Wardak).

3.3 RESEARCH DURATION

The literature review was completed on the end of 15/nov/2019. Questionnaire design, pilot study, questionnaire distribution and data collection completed on the end of 18/oct/2019. The analysis and results were completed in the end of 30/march/2019.

3.4 POPULATION AND SAMPLE SIZE

To ensure geographical spread, five sites were selected from each zone of the city. The questionnaires were administered to 61 construction workers (artisans) of various trades who were randomly selected. Out of this total number, 148 questionnaires were retrieved and used for analysis. This represents a response rate of 77.89%. The questionnaire was distributed with a covering letter explaining the purpose of the research, the way of responding, the aim of the research and the security of the information in order to gain high response rate.

3.5 DATA MEASUREMENT AND ANALYSIS

Research methodology rely on the thorough investigation of data on the use of descriptive analysis. "Apart from the demographic information about the respondents, questionnaire contains thirteen (13) statements on health and safety knowledge, twelve (12) statements on compliance with health and safety rules, and eight (8) statements on the effects of health and safety knowledge and compliance on project performance. In each of the statements, respondents were required to express their opinion on a five point Likert-type scale, where 1 = very low, and 5 = very high. All the collected data coded and entered in **Excel data sheet** and Statistical analysis will perform using the Statistical Package for Social Sciences (**SPSS 23.0**) program. **Mean**, **standard deviations** and **percentage**, will employee for most variables. Prevalence is reported in percentages(%). The differences in prevalence analyze

using **chi-square tests** at statistical significance level of ***P* < 0.05** and**, 95% confidence interval** (C.I).

3.6 CONCLUSION

Research hypothesis and methodology provided in this chapter include understanding of the topic, research layout and design, list of questionnaire and required explanation and statistical tool (formulae). Next chapter will talk about data quantitative and qualitative analysis and discussion.

3.7 QUESTIONNAIRE:

Disclaimer:

Participation in the survey is completely voluntary. Questionnaire is only for research and academic purpose related to health risk factors and awareness of occupational health and safety of workers in construction industries.

ASSESSMENT OF THE HEALTH RISK FACTORS AND AWARENESS OF OCCUPATIONAL HEALTH AND SAFETY OF WORKERS						
Age						
Gender	O	Male	O	Female	O	Other
Education	O	No formal Education		Less than 6^{th} std.		10^{th} std
	O	12^{th} std.	O	Undergraduate	O	Postgraduate
Marital Status	O	Married	O	Unmarried		
Native State and District						
Nature of Family	O	Joint	O	Independent		
Dwelling	O	Own	O	Rented	O	
Family Size (No of dependent)	O	Less than 2	O	3-5	O	More than 5

Level of Health and Safety Knowledge of Construction Workers		Very low	Low	Average	High	Very high
1	Knowledge about house keeping of construction site (related to tools, waste and material containers)					
2	Knowledge about available first aid and welfare facilities at the site					
3	Knowledge of proper handling of scaffolding					
4	Knowledge of proper handling of ladder					
5	Knowledge of personal protective equipment and its application					
6	Knowledge about construction health and safety records, its access and availability					
7	Understanding of safety monitoring policy and safety records					
8	Knowledge of construction safety laws (e.g. rights for availing concerned safety features/equipment at construction site					
9	Worker having information about safety training and education available at construction site					
10	Knowledge about availing safety equipment and its maintenance/servicing					
11	Knowledge of positive safety attitudes and behavior e.g. responsibility, ownership, being careful, taking critical things very seriously					
12	Workers safety responsibilities e.g. how to help others in emergency situation, where to report for such situation, helping others to understand hazards at workplace etc.					
13	Understanding safety communication e.g. how to share of relevant safety information					

	Level of Health and Safety Compliance of Construction Workers	Very low	Low	Average	High	Very high
1	Health and safety plan availability before starting construction project					
2	Proper inspection of scaffolding assembly before use					
3	Proper inspection of ladders assembly before use					
4	Following compliance related to use of personal protective equipment (ppp)					
5	Keeping work environment clear and free from all objects that can cause harm or injury					
6	Strict monitoring of safety policy and proper keeping of safety records					
7	Observation of standing safety rules and regulation on site					
8	Safety briefing before commencement of any day work on site					
9	Construction equipment handled with utmost care					
10	Possession of basic safety training and education					
11	Prompt and adequate communication of safety issue to all concerned					
12	Availability of first aid and welfare facilities on site					

	Impact of Health and Safety Knowledge and Compliance on Project	Very	Low	Average	High	Very high
1	Overall reduction in construction site accidents					
2	Reduction in project cost after improving health and safety knowledge and compliance on project					
3	Reduced construction project delay					
4	Reduced claim and litigation					
5	Improvement in project quality					

6	Improved construction site work environmental					
7	Increase in productivity and efficiency at construction site					
8	Improved the industry's reputation					

Your Habits	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. You smoke cigarette or other smokers					
2. You use Tobacco					
3. You drink of Alcohol					

Potential Occupational Health Problems/Disease You have	**Very low**	**Low**	**Average**	**High**	**Very high**
1. Heat stress					
2. Stomach/bowel					
3. Kidney					
4. Heart					
5. Blood pressure					
6. Ears					
7. Eyes					
8. Nose or throat					
9. Lungs					
10. Tuberculosis					
11. Headaches/migraines					
12. Anxiety/stress					
13. Nervous disorder					

14. Allergies					
15. Abdominal problems					
16. Musculoskeletal disorders					
17. Skin					

Work activities that can affect your health	Very low	Low	Average	High	Very high
1. Vibration					
2. Dust					
3. Noise					
4. Cancer causing agents					
5. Radiation					
6. Hazardous chemicals					
7. Skin irritants					
8. Asbestos					
9. Manual handling					

4 CONCLUSIONS

This research through the literature review that was carried out has shown that very little work has been undertaken as concerns health and safety in Afghanistan, and no data to support the research was available, hence, the importance of the questionnaires and the interviews in shedding some light, however limited, on this new topic as far as the Afghanistan is concerned. It is hoped that this work has made a modest contribution to knowledge and would guide researchers in the future to expand on some of the aspects investigated by this research and look into other aspects.

This study helps us to identify common risky activities and associated occupation and also disease caused due to work place environment. Current fever, respiratory infections, lung diseases, eye disease, skin problems, tuberculosis, malaria, jaundice, typhoid, febrile illness, hypertension, pneumoconiosis, asbestosis, pesticide poisoning, hearing loss and muscular-skeletal problems such as: Pain in neck, shoulders, elbows, wrists, spine, hip, knees and ankle joint were the common occupational diseases; not using protective gears, frictional callosity, workers instincts, capabilities, condition of tools & equipment, safety culture, communication between the workers and between workers and supervisors, negligence and lack of priority, training, funds, capacity of regulatory and supervisory institutions, education of occupational health and safety within construction firms were the major occupational safety problems which identified through literature review.

REFERENCE

It will not be shared. It keep secretly…