

MANAGEMENT AND MAINTENANCE OF THE WELFARE
FACILITIES AT CONSTRUCTION SITES IN IRAQ

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ABSTRACT

Employees play an important role in the industrial production of a nation. Construction industry employs a larger number of laborers which reflect ongoing accident, health and welfare issues. The welfare facilities issues are to be considered right from the design stage till the completion and handing over of the project. Management commitment and proper coordination between contractors, clients, and workforce is needed for safe work conditions seem very much lacking in the Iraqi construction sites. Though labor safety laws are available, the numerous problems regarding welfare facilities on the construction sites are still reported. The objectives of the study were to identify the factors that leads to poor site welfare facilities implementation, to assess the current condition of welfare facilities, and to examine the management and maintenance of welfare facilities in the Iraqi construction sites. The study administered (35) set of structured survey questionnaire from random construction sites managed by various contractors in Iraq. The collected data was then analyzed using frequency distribution analysis and Average Index method. The results are categorized according to the level of satisfactory or agreement and presented in the tables and figures for easy interpretation. The findings showed that, the factors that lead to poor welfare facilities were in the category of moderately important according to the analysis of the average index. Furthermore, the most important factors that was noticed were from the aspects of financial, management and practice of rules and regulations on the construction project. Also, the results showed that the management and maintenance were mostly classified as moderately satisfied, which indicate that the role of the top management could use some more improvement and solution especially in term of the implementation of regulations and laws concerning the welfare facilities. Finally, the results also showed that current condition of welfare facilities were classified as moderately satisfied, which indicate a lot more efforts are needed to fulfill the gap between code of practice and current site practices of welfare facilities.

ABSTRAK

Pekerja memainkan peranan penting dalam pengeluaran industri sebuah negara. Industri pembinaan menggunakan lebih banyak buruh yang mencerminkan isu kemalangan, kesihatan dan kebajikan yang berterusan. Isu kemudahan kebajikan perlu dipertimbangkan dari peringkat reka bentuk sehingga penyiapan dan penyerahan projek. Komitmen pihak pengurusan dan penyelarasan yang sesuai antara kontraktor, pelanggan, dan tenaga kerja diperlukan untuk keadaan kerja yang selamat dilihat sangat kurang di tapak bina di Iraq. Walaupun undang-undang keselamatan buruh tersedia, banyak masalah berkaitan kemudahan kebajikan di tapak bina masih dilaporkan. Objektif kajian ini adalah untuk mengenal pasti faktor kepada kelemahan pelaksanaan kemudahan kebajikan, untuk menilai keadaan semasa kemudahan kebajikan, dan untuk meneliti pengurusan dan penyelenggaraan kemudahan kebajikan di tapak pembinaan di Iraq. Sebanyak 35 set borang soal selidik berstruktur dikumpul dari pelbagai tapak pembinaan yang diuruskan oleh kontraktor di Iraq. Data yang dikumpul kemudian dianalisis dengan menggunakan analisis kekerapan frekuensi dan kaedah Indeks Purata. Hasilnya dikategorikan mengikut tahap kepuasan atau kepentingan dan dibentangkan dalam jadual dan rajah untuk memudahkan kefahaman. Penemuan menunjukkan bahawa, faktor yang membawa kepada kelemahan pelaksanaan kemudahan kebajikan kebanyakannya berada dalam kategori sederhana penting berdasarkan analisis indeks purata. Tambahan pula, faktor yang paling penting yang diperhatikan adalah berkaitan aspek kewangan, pengurusan dan amalan undang-undang dan peraturan dalam projek pembinaan. Hasilnya juga menunjukkan bahawa pengurusan dan penyelenggaraan kebanyakannya diklasifikasikan sebagai sederhana berpuashati, yang menunjukkan bahawa peranan pengurusan atasan dapat menggunakan beberapa penambahbaikan dan penyelesaian terutama dari segi pelaksanaan peraturan dan undang-undang mengenai kemudahan kebajikan. Akhir sekali, keadaan semasa kemudahan kebajikan dikelaskan secara sederhana berpuashati, yang menggambarkan usaha yang banyak di perlukan untuk memenuhi jurang antara kod amalan dan amalan semasa berkaitan kebajikan di tapak pembinaan.

TABLE OF CONTENTS

	TITLE	PAGE
	DECLARATION	iii
	DEDICATION	iv
	ACKNOWLEDGEMENT	v
	ABSTRACT	vi
	ABSTRAK	vii
	TABLE OF CONTENTS	viii
	LIST OF TABLES	xiii
	LIST OF FIGURES	xiv
	LIST OF ABBREVIATIONS	xvi
	LIST OF SYMBOLS	xvii
	LIST OF APPENDICES	xviii
CHAPTER 1	INTRODUCTION	1
	1.1 Background	1
	1.2 Problem statement	3
	1.3 Aims and objectives of the study	6
	1.4 Scope of the study	6
	1.5 Methodology of the study	7
	1.6 Significance of the study	8
	1.7 Structure of the Report	8
CHAPTER 2	LITERATURE REVIEW	11
	2.1 Introduction	11
	2.2 Welfare facilities importance	11
	2.3 Welfare facilitates planning	12

2.4	Types of Welfare Facilities	13
2.5	Drinking water	13
2.6	Sanitary facilities	14
2.7	Rest area	14
2.8	Changing rooms and Lockers	15
2.9	Canteens and eating area	15
2.10	Factors that leads to poor welfare facilities on the construction site	15
2.11	Satisfaction of construction workers	19
2.12	International code of practice related to welfare facilities	19
2.13	Standard Welfare, Health and Safety Regulations on a construction site	20
2.13.1	Toilets	21
2.13.2	Washing facilities	23
2.13.3	Drinking water	24
2.13.4	Rest facilities	25
2.13.5	Smoking	25
2.13.6	Canteen and cooking facilities	27
2.13.7	First aid	28
2.14	Safety Measures when working in sunny condition	29
2.15	The management and maintenance	31
2.16	Conclusion	32
CHAPTER 3	RESEARCH METHODOLOGY	35
3.1	Introduction	35
3.2	Design of the Research	35
3.3	Data collection method	36
3.4	The process of the research methodology	37
3.5	Data collection and instruments	38
3.6	Questionnaires	39
3.7	The structure of the questionnaires	39

3.8	Target research	41
3.9	Data Analysis	41
3.10	Conclusion	43
CHAPTER 4	RESULTS AND DISCUSSION	45
4.1	Introduction	45
4.2	Section one: Respondents' profile and general information	45
4.2.1	Respondents Profile	45
4.2.2	Company's name and address	46
4.2.3	Respondent Name	46
4.2.4	Type of project	46
4.2.5	Designation of the Respondent	47
4.2.6	Respondent Highest Level of Education	48
4.2.7	Years of experience	49
4.2.8	Age of the organization	50
4.3	Section two: Objective one: the factors that leads to poor welfare facilities	51
4.3.1	Cost factors	52
4.3.2	Time factors	57
4.3.3	Quality factors	59
4.3.4	Productivity factors	61
4.3.5	Rules and regulations factors	63
4.3.6	People factors	65
4.3.7	Health and safety factors	67
4.3.8	Nature of the project factors	69
4.3.9	Environmental factors	71
4.3.10	Planning and Designing	73
4.4	Section three: Objective two: the satisfactory level of workers amenities and accommodation for the construction sites in Iraq	77
4.4.1	Building	78
4.4.2	Bedroom/Dormitory	81

4.4.3	Sanitary facilities	85
4.4.4	Cooking and dining	92
4.4.5	Utility	97
4.4.6	First aid and medical facilities	100
4.4.7	Fire safety, protection and evacuation	102
4.4.8	Signage	107
4.4.9	Leisure and social facilities	110
4.4.10	Interfaith facilities	112
4.4.11	Canteen	114
4.4.12	Induction of workers upon arrival at workers' amenities and accommodation	116
4.5	Section four: Objective three: the management and maintenance effect on the welfare facilities at construction sites	119
4.5.1	Management Team	119
4.5.2	Workers Right, Rules and Regulation On Workers Amenities	121
4.5.3	Safety and Health	124
4.5.4	Security	129
4.5.5	Consultation and Grievance Mechanism	131
4.5.6	Inspection and Maintenance of Buildings and facilities	133
CHAPTER 5	CONCLUSION AND RECOMMENDATIONS	139
5.1	Introduction	139
5.2	Conclusion on the objectives	139
5.2.1	Objective 1	139
5.2.2	Objective 2	140
5.2.3	Objective 3	141
5.3	Recommendations	141
REFERENCES		143

LIST OF TABLES

TABLE NO.	TITLE	PAGE
Table 2.1	Required number of urinals needed per number of men at workplace	22
Table 2.2	Standard bathroom to workers ratios	23
Table 2.3	Industry / Occupation with highest and lowest smoking rates	26
Table 2.4	Problems and Symptoms caused by hot temperatures	30
Table 2.5	The major effect role of maintenance and management	32
Table 3.1	Likert scales used in sections of the questionnaires	39
Table 3.2	Rating Scale for Average Index	42
Table 4.1	Respondents Profile	45
Table 4.2	Types of the project	47
Table 4.3	Designation of the respondents	48
Table 4.4	Respondents Highest Level of Education	49
Table 4.5	Years of experience	50
Table 4.6	Age of the organization	51
Table 4.7	Costs	53
Table 4.8	Time factors	57
Table 4.9	Quality factors	60
Table 4.10	Productivity factors	62
Table 4.11	Rules and regulations factors	64
Table 4.12	People factors	67
Table 4.13	Health and safety factors	69
Table 4.14	Nature of the project factors	72

Table 4.15	Environmental factors	74
Table 4.16	Planning and Designing factors	76
Table 4.17	Building condition	79
Table 4.18	Bedroom/Dormitory	84
Table 4.19	Sanitary facilities	87
Table 4.20	Cooking and dining	94
Table 4.21	Utility	98
Table 4.22	First aid and medical facilities	101
Table 4.23	Fire safety, protection and evacuation	105
Table 4.24	Signage	109
Table 4.25	Leisure and social facilities	111
Table 4.26	Interfaith facilities	114
Table 4.27	Canteen	115
Table 4.28	Induction of workers upon arrival at workers' amenities and accommodation	118
Table 4.29	Management team	121
Table 4.30	Workers Right, Rules and Regulation On Workers Amenities	124
Table 4.31	Safety and Health	126
Table 4.32	Security	130
Table 4.33	Consultation and Grievance Mechanism	132
Table 4.34	Inspection and Maintenance of Buildings and facilities	136

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE
Figure 2.1	Different mobile portable toilets	2
Figure 2.2	Approved water sources.	24
Figure 2.3	Example on organized canteen and cooking area	27
Figure 2.4	Portable construction first aid kit	28
Figure 3.1	Methodology flow chart	38
Figure 4.1	Companies names	46
Figure 4.2	Types of the project	47
Figure 4.3	Designation of the respondents	48
Figure 4.4	Respondents Highest Level of Education	49
Figure 4.5	Years of Experience	50
Figure 4.6	Age of the organization	51
Figure 4.7	Average Index Value for Costs	55
Figure 4.8	Average Index Value for Time factors	58
Figure 4.9	Average Index Value for Quality factors	61
Figure 4.10	Average Index Value for Productivity factors	62
Figure 4.11	Average Index Value for Rules and regulations factors	65
Figure 4.12	Average Index Value for People factors	68
Figure 4.13	Average Index Value for Health and safety factors	70
Figure 4.14	Average Index Value for Nature of the project factors	73
Figure 4.15	Average Index Value for Environmental factors	75
Figure 4.16	Average Index Value for Planning and Designing factors	77

Figure 4.17	Average Index Value for Building condition	81
Figure 4.18	Average Index Value for Bedroom/Dormitory	85
Figure 4.19	Average Index Value for Sanitary facilities	91
Figure 4.20	Average Index Value for Cooking and dining	95
Figure 4.21	Average Index Value for Utility	100
Figure 4.22	Average Index Value for First aid and medical facilities	103
Figure 4.23	Average Index Value for Fire safety, protection and evacuation	107
Figure 4.24	Average Index Value for Signage	109
Figure 4.25	Average Index Value for Leisure and social facilities	111
Figure 4.26	Average Index Value for Interfaith facilities	113
Figure 4.27	Average Index Value for Canteen	116
Figure 4.28	Average Index Value for Induction of workers upon arrival at workers' amenities and accommodation	119
Figure 4.29	Average Index Value for Management Team	121
Figure 4.30	Average Index Value for Workers Right, Rules and Regulation On Workers Amenities	125
Figure 4.31	Average Index Value for Safety and Health	128
Figure 4.32	Average Index Value for Security	131
Figure 4.33	Average Index Value for Consultation and Grievance Mechanism	133
Figure 4.34	Average Index Value for Inspection and Maintenance of Buildings and facilities	137

LIST OF ABBREVIATIONS

NCC	National Council for Construction
CDM	Construction Design and Management
OSH	Occupational Safety and Health
DOSH	Department of Occupational safety and health
OSHA	Occupational safety and health act
GDP	Gross domestic product
H&S	Health and safety
HSE	Health and safety executives
HSW	Health, safety and welfare
ILO	International labour organization
PPE	Personal Protective Equipment
IFC	International Finance Corporation
ICC	International Construction Consortium

LIST OF SYMBOLS

Σ	-	Summation
x_i	-	Frequency of response
a_i	-	Index of a class

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
Appendix A	Questionnaire on the management and maintenance on the welfare facilities in Iraq	145

CHAPTER 1

INTRODUCTION

1.1 Background

Construction is one of the important tool or a way for a nation or country to rise and improve its economy and industry by beginning from the start in its infrastructure (Chitkara, 1998) .Construction as an industry comprises a huge effect which ranges five to 10 percent of the gross domestic product of the economy for developed countries. Construction starts with consulting, planning, design, executing and financing; it continues from the start until the end of the project (Merriam-Webster, 2016).

Big-size construction calls for association more furtherer than one developments. A challenge construction manager normally manages and operate the process, and a construction supervisor, design engineer, civil engineer or architect will supervise it in every phase of its process. The ones concerned with the accurate and good design and execution must bear in mind the necessities effect of the process, planning, budgeting, production-site protection and transportation of constructing materials, inconvenience to the general interest because of production delays and bidding. big construction tasks are every now and then referred to as megaprojects (Daniel, 2017).

One of the most influential investment in the world are in construction projects which are the of the fundamental for all developing communities, where construction projects is constantly in requirement and desired, also construction projects are one of major profit resource of money in many countries and Iraq is particular of this commonwealth.

The construction industry assisted boost to 11% of the gross domestic product (GDP) in many flourishing commonwealths such as Malaysia (Giang & Pheng, 2011). So, this can be seen that this investment is remarkable as all alternative investment in the county because of its humongous revenue income to the economy and its part in advancing the infrastructure of the country (Monetary, 2018).

Construction projects have repeatedly set qualifications for objectives and restraints such as a mandatory time period for achievement and delays, most of the projects fail to accomplish deadlines, cost and quality marks within the main development. This is not modern for the industry analyzing that there are not at all recognized as perfect construction executives, any more than there is perfect layout for an outstanding projects and set of practice or that the forces of environment behave in a completely anticipate way (Smith & Jobling, 2014).

Welfare is a well-known as social assistance where it all joins together to solve problems of urban, industrial market and help the society to overcome poverty by providing basic necessities. However, Oxford Dictionary defined welfare as the health, happiness, safety and fortune of a person or group in a society. On the other hand, basic welfare was begun at 1930's in United State of America due to great depression face by local people where these people seeking difficulties for basic facilities.

Throughout planning and preparedness phase and steps of all construction projects, the presence of welfare facilities, where they are located on site and maintained must be taken into consideration earlier before works begins which include demolition (HSE, 2010) Occupational safety and health practice vary amongst countries with specific procedures to regulation, law, enforcement, and incentives for compliance, for example:

Australia-Commonwealth Work Health and Safety Act 2011, Canada-The Canadian Centre for Occupational Health and Safety (CCOHS), European Union-European Agency for Safety and Health at Work, United Kingdom- Health and Safety at Work etc. Act 1974, Malaysia- Occupational Safety and Health Act 1994, United

States-Occupational Safety and Health Administration, United Arab Emirates-Abu Dhabi Occupational Safety and Health Center (OSHAD).

1.2 Problem statement

Despite its importance, the construction sector is unfortunately notorious for being one of the most hazardous industries along with transportation, mining and agricultural sectors (Lew, & Lentz, 2010). The work in construction sector is most hazardous and vulnerable because of poor employment conditions described by its spontaneous personality, short-live relationship between management and employee, undetermined working hours, lack of basic amenities and insufficiency of welfare facilities. The basic requirements for welfare facilities are often neglected by contractors (HSE, 2010). These unique characteristics of the construction industry make it difficult to implement labour welfare measures compared to other industries (Nasar, 2013). The construction industry is an important industry and sector in every country; where the employees transport from site toward site, performing in severe statuses and living in unhygienic conditions through; suffering from sincere job-relate health problems and are expose to diseases (Kumar & Abdullah, 2013). In Iraq, with unique cultural practices and perceptions, engineering companies' policies drive certain approaches and satisfaction (Echezona, 2011). In another word, Iraq doesn't have its own specific code of practise and regulations, so for the most of the construction companies uses other countries code of practise especially foreign companies working in the construction industry for example the impanation of Occupational Safety and Health Administration (OSHA), Health and Safety Executive (HSE) and International Labour Organization (ILO).

Contractors are mostly tribal inheritances and adhere strongly to ethnic principles. They contribute to disregard administrations and regulations as man-made ethics and practices. Al-Zwainy *et al.* (2016) mentioned that the most and highest percent of the professionals in Iraq said that the main reason for the lack and absence of a project management methodology in the construction companies and sectors is due to the lack of conviction and lack of interest of top management in project

management methodology. This has resulted in poor construction site management especially with regard to the provision, management and maintenance of the welfare facilities, which is having a major impact and effect on the construction efficient of the project. A general survey on construction sites reveal that most construction sites in Iraq has either some of these facilities or some have but they are not in suitable conditions. However, little research has been done in Iraq to find out the level of satisfaction with site welfare facilities provided including the management and maintenance aspects. This research will tend to investigate the level of satisfaction with construction site welfare provisions towards addressing the problem of poor welfare facilities on Iraqi construction sites.

A negligence of work-force labour can result in many downsides such as:

- Illness
- Theft, vandalism
- Electrical accident
- Falling material and collapses
- Noise and vibration pollution

Limited and constraints space, especially in urban working construction sites, are almost usually the most important limiting aspect and a layout which caters satisfactory for the safety and health of people may additionally seem like tough to reconcile with productivity. Proper making plans with the aid of management is a crucial part of preparation and budgeting for the secure and efficient running of a production operation”. Welfare facilities turn to have negative impact on work-force if they are not adequately provided and maintained in appropriate state. Failure to plan the required and necessary site welfare facilities in advance is a top reason of operational inefficiency, and might affect the overall cost of a project notably. Inside the absence of a precise site welfare layout plan, the subsequent issues may additionally effect:

- Satisfaction of construction workers
- Efficiency of the construction process
- The time of finishing the project
- Safety of the health of workers
- Legislation and regulations

The need for welfare in the construction site is one of the primary resources available to the contractor or site manager. In fact, the site becomes crucial and important part for the production of the building project. The aim of the welfare facilities in the construction is to maximize the production and optimize time, cost and minimize accident, illness of the workforce by giving priority and importance to their safety and well-being and all of this can be satisfy their basic requirements needs during the construction process due to these reasons (Elbeltagi, 1998):

- The welfare facilities are an important ‘resource’, so it must be managed considered thoroughly because its major effect on the productive of the construction workers,
- No construction project site can be one-hundred percent safe unless the welfare facilities are taken in considered carefully and thoroughly
- Some important factors need to be considered if the site and the welfare facilities are to be planned carefully
- The site will be home and rest area for a long time to many people during their working hours
- All construction involved must be suitably competent and fitted in their jobs

1.3 Aim and objectives of the study

The aim of the study is to explore the management and maintenance practices of the welfare facilities at the construction sites in Iraq.

To achieve the goals of the study, the following objectives are considered:

1. To identify the factors that leads to poor welfare facilities implementation at construction sites in Iraq,
2. To assess the current condition of welfare facilities available in the Iraqi construction sites.
3. To examine the management and maintenance of welfare facilities in the Iraqi construction sites.

1.4 Scope of the Study

The study evaluated the current provision of employees' welfare facilities on the construction worksites and how it impacts based on the standards that are enlisted in the code of practice 2015 -Temporary construction site workers' amenities and accommodation (MS, 2015) as a benchmark. The study mainly focuses on different location in Iraq such as: Baghdad, Basraa, Mosul and Irbil. there are mainly different construction sectors some of them are public and private international companies for example: Inpex, Shell, China National Offshore Oil Corporation (CNOOC) and their main interest is in oil, gas industry and the infrastructure of the country, the research mainly focuses on the response of professional expert's personals in the construction site, which they are the top management of the construction project having direct effect and responsibility on the site,

The research considered welfare facilities such as the provision of drinking-water, washing, sanitary and changing accommodation, rest-rooms and shelter,

facilities for producing and eating meals, short-live house, and service in transportation from site of residence to the work site furthermore back. It further focused on the condition, adequacy and management that are enforced by law according to the codes of practices (MS, 2015) to protect the workers wellbeing on construction work sites. Lastly, the research identified the challenges affecting workers due to lack or poor provision of workers welfare facilities. Appropriate research methodological procedures and relevant techniques were adopted. The current research study was limited to the provision of welfare facilities, the factors that affect the welfare provision and the role of management effect on the construction workers in the building construction in Iraq.

1.5 Methodology of the study

This study employed a descriptive study design, employing self-administration of structured questionnaire to collect the study data, and at least a number of 35 professionals in the construction site were given the questionnaires to collect data, in short, to obtain adequate facts (Daniel, 2017). Also, this section clarifies the methodology and design that was utilized to lead this research. Deciding on a good research methodology be the procedure and management of data to answer and solve the question including hypothesis testing then will reach a beneficial conclusion. Research methodology function is a guideline to implement this research. This chapter will describe the research design and methodology used to achieve this research (Babbie, 2007).

Questionnaires are selected as the primary tool for data collection, as this is one of the effective mechanisms in data assortments. The questionnaire was chosen as the main research tool for this study because of its high level of reliability. This questionnaire was developed by the researcher with reference to the journal, past research, and books related to this research.

The study administered (35) set of structured survey questionnaire from random construction sites managed by various contractors in Iraq. The collected data

was then analyzed using frequency distribution analysis and Average Index method. The results are categorized according to the level of satisfactory or agreement and presented in the tables and figures for easy interpretation.

1.6 Significance of the study

This study was to assist construction companies to completely recognize the significance or role of welfare facilities and its impact on people. This could allow them to offer and maintain good welfare facilities for their work-force or laborers at their various construction sites. People may even feel safe and secure when the use of those welfare facilities on construction sites. The concern of discomfort and getting infections when the usage of these welfare facilities could be cleared.

1.7 Structure of the Report

This research work is composed of five chapters which cover the general introduction, literature review, research methodology, data presentation and analysis, and conclusion and recommendations.

The various chapters have been briefly highlighted as follows:

Chapter One: This chapter presented the general introduction of the study. This included the problem statement, the aim, and objectives, and the methodology of the research.

Chapter Two: This chapter comprised a historical and relevant literature review from previous studies on welfare provisions.

Chapter Three: This chapter generally presented and justified the research strategy and data collection techniques. It covered a discussion of the research methods used in this study, and data analysis techniques that will be used.

Chapter Four: This chapter discusses and analysis the findings in relation with the existing body of knowledge on the subject matter of provision of employees' welfare facilities relative to its effects on the welfare facilities.

Chapter Five: This chapter provides the conclusion and recommendations of the research based on the literature review, findings and analysis in sync with the research questions and objectives.

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