Occupational Safety and Health Implementation: Between Policy and Practice in Lebanon

Manal Maroun Azzi
B.Sc, PG Dip., M.Sc.

THESIS
Submitted for the degree of Doctor of Philosophy

Faculty of Health and Medical Sciences
Division of Health and Social Care

University of Surrey

August 2009
Statement of Originality

This thesis and the work to which it refers are the results of my own efforts. Any ideas, data, images or text resulting from the work of others (whether published or unpublished) are fully identified as such within the work and attributed to their originator in the reference/bibliography or in footnotes. This thesis has not been submitted in whole or in part for any other academic degree or professional qualification.
Do not count the *number* of policies you have, count who is *implementing* them...

and then ask *why*?

Manal Azzi
Acknowledgements

This was a difficult process which has no doubt affected other areas of my life, but nevertheless, it was worth it. I want to thank all those people who have crossed my path throughout these few years and have affected my research in small or great ways.

First and foremost, I am grateful for the support of my wonderful supervisors, Dr. Jason Devereux and Dr. Vasso Vydelingum for pushing me to bring out the best I can and guiding me through a clear path.
I want to express thanks to the International Labour Organisation which has been my home for the past number of years and has supported me in every possible way.

I dedicate this work to my dear family.
To my cherished brother, whose life was taken away by an accident and who somewhere out there is appreciating my work and efforts... I like to think that any success I have is yours...Tony, I owe you my life.

I want to thank my sister, Rola, who has inspired me to pursue a PhD in the first place following her steps as the great example I wish to be.

I am eternally indebted to my parents, to whom I owe all the gratitude for their endless support.
My mum, Inaam, who has always been there through every phase of my studies, contributing in any and every way she can, her moral and concrete encouragement have pushed me to persevere. Mum, thank you for your belief in me.
My dad, Maroun, whom we nearly lost recently, also due to an accident, and who is now back with us by a miracle. Dad, thank you for coming back to us and for encouraging me to pursue this research till the end.
Mum, dad...thank you for that look of pride in your eyes, it makes it all worthwhile.

The importance and value they placed on my research is what kept me going till the end. They have brought us up to value education and knowledge and to seek and search for answers wherever they may lead us. They have taught us not to stand idle in the face of injustice but to voice our opinions. Therefore this is for every worker whose health, safety and life have been compromised at work. For every worker who is suffering today because of an accident or a disease.

Accidents do happen in all walks of life, I want to do my part to prevent them and to raise awareness to avoid them. Otherwise the price of a loss that could have been prevented is just too high to pay.
Living with the guilt of an accident that you could have played a role in preventing...is an unbearable suffering no one should have to endure.
Abstract

Introduction
The performance of work is supposed to be safe and healthy, where healthy work is not only the absence of injury and disease but also the physical and psychological well-being of workers. Although there are various Occupational Safety and Health (OSH) regulations issued worldwide, many work organizations do not implement them. This is of particular concern in countries where OSH issues may not be a priority, for example Lebanon.

The objective of this study was to assess the factors influencing the implementation of health and safety measures in Lebanese work organisations. Ethical approval was obtained from the University of Surrey, UK.

Methods
A cross-sectional study was conducted on the employers from 70 work organizations. These organizations were randomly selected from a list of 234 member industries of the Association of Lebanese Industrialists, covering the top five largest industrial sectors in Lebanon: minerals, metals, chemical products, paper and cardboard, and food products.

A mixed methods approach was adopted to reveal the perception of employers regarding safety and health, what motivated employers to create an enabling safe and healthy environment and what factors impeded facilitation.

Each employer was visited once and asked to complete an interview using a close-ended questionnaire. An in-depth qualitative interview was used to probe into the questionnaire responses for 32 employers (data saturation point). Each interview was recorded and transcribed. The analysis of the quantitative data from the questionnaire data was used to generate the main points of interest and the qualitative analysis of the in-depth interviews allowed the generation of new themes to explain the main points from the questionnaire.
Results

Around 87 percent of managers interviewed in this study were not aware of the national OSH decree No. 11802 endorsed by the government in 2005 and 81 percent of the enterprises do not have a written occupational and health policy. While nearly 61 percent of the managers interviewed perceived occupational safety and health as a priority, nearly 50 percent of them admitted that they lack knowledge on safety health related measures. Around 70 percent of the employers suggested that the safety of employees means higher productivity and this is a driving motivation for them to implement safety measures. The results of the study also identified the major factors which impeded or encouraged employers to adopt safety and health measures, such as employer’s perception of worker’s capacity to implement safety and health measures and the cultural value given to prevention processes in Lebanon.

Conclusion

Based on the findings, a strategy has been developed to inform concerned stakeholders in Lebanon, the Middle East and other countries with similar cultural aspects, on how to take into account these new factors when setting national and enterprise level policies and organisational OSH management systems. Future research needs to target workers' safety and health knowledge, attitude and practices to find consistencies and inconsistencies with management beliefs. Another area worth exploring further is the application of Vroom's expectancy model on the employers and workers as related to safety and health practices.

Key words: Occupational safety and health; policy implementation; employer attitude; worker safety behaviour; organizational behaviour.
ملخص دراسة

المقدمة

ينظر أن يكون أداء العمل أمن وصحى، حيث أن العمل الأمن لا يعني فقط عدم وجود إصابات أو مرض، بل يتضمن الصحة البدنية والنفسية للعامل. بالرغم من وجود قواعد محددة حول السلامة والصحة المهنيين، فإن العديد من المؤسسات لا تقوم بتطبيقها. وذلك بشكل خاص في البلدان التي لا تولي أهمية أولوية للسلامة والصحة المهنيين، على سبيل المثال لبنان.

تهدف هذه الدراسة إلى تقديم العوامل التي تؤثر على تطبيق إجراءات الصحة والسلامة في المصانع اللبنانية. لقد تم الحصول على الموافقة لإجراء الدراسات من جامعة "سري" في المملكة المتحدة البريطانية.

المؤامج

أجريت الدراسة على أصحاب العمل في 70 مصنع في لبنان. تم اختيار تلك المصانع بشكل عشوائي من ضمن لائحة تتألف من 234 عضوا في جمعية الصناعيين اللبنانيين، تشتمل القطاعات الصناعية الخمس الأولى في لبنان: المعادن والغزل، المنتجات الكيميائية، الورق والكرتون والمنتجات الغذائية.

تم اعتماد نهج الأساليب المختلفة لهدف كشف نظرة أصحاب العمل في ما يتعلق بالسلامة والصحة ومعرفة ما هو دواعي أصحاب العمل لتبني بيئة أمنة وصحية وما هي العوامل التي تعيق تسهيل تطبيقها.

تمت زيارة كل من السمرين أصحاب عمل مرّة واحدة وطلب منهم ملء استمارة. كما أجريت مقابلة معرفة مع 32 منهم فقط (نقطة عينة المعلومات) للتحقيق في إجاباتهم على الاستمارة، وقد تم تدوين كل مقابلة. إن تحليل نتائج الاستمارة استعمل لاختيار النقطة الرئيسية التي تم البحث فيها من خلال المقابلات المعمقة، فهذا اغتنّد مواضيع جيدة.

النتائج

تبين أن هناك عدد قليل من أصحاب العمل الذين هم على علم أو يفتقرون للموضوعات اللبنانية حول السلامة المهنية. كما حددت نتائج الدراسة أيضا العوامل الرئيسية التي أسفرت أو شجعت أصحاب العمل لاستخدام إجراءات الصحة والسلامة. تلخص العوامل كالتالي: نسبة وعي أصحاب العمل حول السلامة والصحة المهنيين وأهميتها، نظرة أصحاب العمل إتجاه قدرات العمل في تنفيذ إجراءات السلامة والصحة المهنيين، القيمة الثقافية المعتادة للوقاية من الأمراض والحوادث المهنية في لبنان.

الخاتمة

استنادا إلى نتائج هذه الدراسة، وضعت استراتيجية تهدف إلى توعية أصحاب العمل في لبنان والشرق الأوسط وغيرها من البلدان ذات الجوانب الثقافية المماثلة. وهذا من خلال أخذ هذه النتائج في الاعتبار عند وضع سياسات على مستوى وطني ومؤسساتي وعلى صعيد نظام إدارة السلامة والصحة المهنيين في أماكن العمل.

المفردات الأساسية

السلامة والصحة المهنيين، تطبيق السياسات، موقف أصحاب العمل، سلوك العمل في ما يتعلق بالسلامة، السلوك المؤسساتي.
# Table of Contents

STATEMENT OF ORIGINALITY ................................................................................................................................. I  
ACKNOWLEDGEMENTS ................................................................................................................................................... III  
ABSTRACT ....................................................................................................................................................................... IV  
TABLE OF CONTENTS ................................................................................................................................................ VIII  
LIST OF TABLES ............................................................................................................................................................ X  
LIST OF FIGURES ........................................................................................................................................................ XI  

CHAPTER I ...................................................................................................................................................................... 1  
1. INTRODUCTION ........................................................................................................................................................ 1  
   1.1 Occupational Safety and Health: Accidents and Diseases ................................................................. 1  
   1.2 Prevention Through Legislation, Safety Culture and Management Commitment ............................ 1  
   1.3 Lebanon in the Midst of a Safety Culture and Related Legislation ....................................................... 4  
   1.4 Objectives of the Study ................................................................................................................................. 8  

CHAPTER II .................................................................................................................................................................. 11  
2. LITERATURE REVIEW .............................................................................................................................................. 11  
   2.1 Search Strategy .................................................................................................................................................. 12  
   2.2 Occupational Safety and Health: The Scope of the Problem .............................................................. 16  
      2.2.1 The need for safety and health measures in the selected industries under study ..................... 17  
      2.2.2 Health and safety at work in economic terms .................................................................................... 21  
   2.3 Occupational Safety and Health Legislation: lax or enforced? ............................................................ 22  
      2.3.1 The Context of Occupational Safety and Health in Arab States ..................................................... 26  
         2.3.1.1 Occupational Safety and Health Legislative Framework in Lebanon ..................................... 31  
      2.3.2 International OSH Legislation: Does it affect Lebanese law and practice? .................................... 39  
      2.3.3 Occupational Safety and Health Institutes: a prospect missed in Lebanon ................................. 47  
      2.3.4 The role of governments in enforcing OSH legislation ................................................................. 51  
      2.3.5 Application of OSH Legislation in the European Union Member States .................................... 54  
      2.3.6 The EU Law in practice as compared to the Lebanese context ...................................................... 55  
      2.3.7 Labour Inspection to Enforce OSH Legislation ................................................................................. 57  
         2.3.7.1 Historical Overview ....................................................................................................................... 58  
   2.4 Knowledge, Attitude and Behaviour in Relation to Workplace Safety and Health ......................... 63  
   2.5 Safety Culture ................................................................................................................................................... 86  
   2.6 Gaps in the literature ........................................................................................................................................ 90  
   2.7 Research Question ......................................................................................................................................... 93
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Introduction</td>
<td>96</td>
</tr>
<tr>
<td>3.2</td>
<td>Study Design</td>
<td>97</td>
</tr>
<tr>
<td>3.2.1</td>
<td>Review of Existing Information</td>
<td>99</td>
</tr>
<tr>
<td>3.2.2</td>
<td>Key Informant Interviews</td>
<td>99</td>
</tr>
<tr>
<td>3.3</td>
<td>Quantitative Methods</td>
<td>99</td>
</tr>
<tr>
<td>3.3.1</td>
<td>Study Subjects</td>
<td>100</td>
</tr>
<tr>
<td>3.3.2</td>
<td>Sampling</td>
<td>101</td>
</tr>
<tr>
<td>3.3.3</td>
<td>Sample size needed for industries</td>
<td>105</td>
</tr>
<tr>
<td>3.3.4</td>
<td>Sampling of establishments and managers</td>
<td>105</td>
</tr>
<tr>
<td>3.3.5</td>
<td>Questionnaire design</td>
<td>106</td>
</tr>
<tr>
<td>3.3.6</td>
<td>Pilot Testing</td>
<td>107</td>
</tr>
<tr>
<td>3.4</td>
<td>Qualitative Methods</td>
<td>108</td>
</tr>
<tr>
<td>3.4.1</td>
<td>In-depth Interviews</td>
<td>108</td>
</tr>
<tr>
<td>3.4.2</td>
<td>Recruitment</td>
<td>109</td>
</tr>
<tr>
<td>3.4.3</td>
<td>Data Sources</td>
<td>110</td>
</tr>
<tr>
<td>3.4.4</td>
<td>Data Collection</td>
<td>110</td>
</tr>
<tr>
<td>3.5</td>
<td>Data Analysis</td>
<td>110</td>
</tr>
<tr>
<td>3.5.1</td>
<td>Quantitative data</td>
<td>110</td>
</tr>
<tr>
<td>3.5.2</td>
<td>Qualitative data</td>
<td>111</td>
</tr>
<tr>
<td>3.6</td>
<td>Ethical Consideration</td>
<td>112</td>
</tr>
<tr>
<td>3.7</td>
<td>Dissemination</td>
<td>113</td>
</tr>
<tr>
<td>4.1</td>
<td>Quantitative Results</td>
<td>114</td>
</tr>
<tr>
<td>4.2</td>
<td>Qualitative results</td>
<td>134</td>
</tr>
<tr>
<td>5.1</td>
<td>Discussion</td>
<td>184</td>
</tr>
<tr>
<td>5.2</td>
<td>Recommendations</td>
<td>200</td>
</tr>
<tr>
<td>5.3</td>
<td>Limitations and Further Research</td>
<td>204</td>
</tr>
<tr>
<td>5.4</td>
<td>Conclusion</td>
<td>204</td>
</tr>
<tr>
<td>References</td>
<td></td>
<td>207</td>
</tr>
<tr>
<td>Appendices</td>
<td></td>
<td>221</td>
</tr>
</tbody>
</table>
ASSOCIATION OF LEBANESE INDUSTRIALS (ALI) INFORMATION LETTER TO ITS MEMBERS

Surrey Approval Letter to the Researcher

APPENDIX 1 ................................................................................................................................................................. 223
APPENDIX 2 ................................................................................................................................................................. 225
APPENDIX 3 ................................................................................................................................................................. 227
APPENDIX 4 ................................................................................................................................................................. 229
APPENDIX 5 ................................................................................................................................................................. 233
APPENDIX 6 ................................................................................................................................................................. 235
APPENDIX 7 ................................................................................................................................................................. 283
APPENDIX 8 ................................................................................................................................................................. 296
APPENDIX 9 ................................................................................................................................................................. 298
APPENDIX 10 ............................................................................................................................................................... 302
APPENDIX 11 ............................................................................................................................................................... 344
APPENDIX 12 ............................................................................................................................................................... 361
APPENDIX 13 ............................................................................................................................................................... 370
APPENDIX 14 ............................................................................................................................................................... 419
APPENDIX 15 ............................................................................................................................................................... 424

Notes:

1. Participation in International Conferences and Interviews
2. Power Point Presentation Given at Surrey University on 2 July 2009 During the Postgraduate Research Seminar
3. Template For Inspection In Enterprises In English And Arabic, As Retrieved From The Lebanese Ministry Of Labour
List of Tables

Table 1: List of key words .............................................................................................................................................. 15
Table 2: Major OSH decrees in Lebanon .................................................................................................................... 33
Table 3: Main Themes guiding the rationale ............................................................................................................... 92
Table 4: The five chosen sectors ................................................................................................................................. 103
Table 5: The eight remaining sectors which were not chosen ...................................................................................... 104
Table 6: Sample size ........................................................................................................................................................ 105
Table 7: Interview scope ................................................................................................................................................ 109
Table 8: Sample profile .................................................................................................................................................. 114
Table 9: Selected enterprises segregated by their ALI category and size ........................................................................ 114
Table 10: The socio demographic characteristics of managers of selected enterprises ............................................... 115
Table 11: The production type of the selected enterprises ........................................................................................... 116
Table 12: Emerging themes and sub themes ................................................................................................................ 140
Table 13: Primary attribution: Internal causes associated with the worker and external causes associated with the context (Niza, Silva et al. 2008) ........................................................................................................................................................................... 168
Table 14: Employer’s knowledge and awareness of OSH legislations ........................................................................ 284
Table 15: Employer’s attitude towards occupational safety and health ........................................................................ 285
Table 16: Practices relating to safety and health: Communication of OSH policies within the workplace ................. 286
Table 17: Practices relating to safety and health: Physical health .................................................................................. 287
Table 18: Practices relating to safety and health: Psychosocial health .......................................................................... 289
Table 19: Practices relating to safety and health: Exposure to occupational hazards .................................................... 290
Table 20: Practices relating to safety and health: Use of personal protective devices ................................................... 292
Table 21: Practices relating to safety and health: Training and instruction on use of equipments .................................. 292
Table 22: Practices relating to safety and health: Accidents ............................................................................................ 293
Table 23: Practices relating to safety and health: Maintenance of the facility ............................................................... 294
Table 24: Vroom’s variables (Vroom 1964) ................................................................................................................... 297
List of Figures

Figure 7: Employer awareness and knowledge of OSH legislation .................................................................117
Figure 8: What enterprises used as guidelines to set their workplace OSH policies .........................................118
Figure 9: Workplace OSH policy and implementation .........................................................................................119
Figure 10: OSH committees and worker representation .......................................................................................120
Figure 11: OSH as a priority in spite of high ignorance on OSH ........................................................................121
Figure 12: Motivation for providing OSH at the workplace ...................................................................................122
Figure 13: Factors impeding enterprises form providing OSH ..............................................................................123
Figure 14: Communication and training for workers on OSH ..............................................................................125
Figure 15: Rewards and penalties for workers who behave safely ........................................................................127
Figure 16: Budget for OSH ....................................................................................................................................128
Figure 17: Relation and communication between the enterprises and the Ministry of Labour ..................................129
Figure 18: knowledge on OSH versus providing protective devices ......................................................................130
Figure 19: Provision of protective devices versus worker use of the devices ......................................................130
Figure 20: Hazards in the workplace .......................................................................................................................132
Figure 21: Noise hazards at the workplace ............................................................................................................133
Figure 22: Accident documentation .........................................................................................................................133
Figure 23: Thematic analysis of the data ..................................................................................................................136
Figure 25: ISO certificates .........................................................................................................................................142
Figure 26: Manufacturing procedure neatly displayed ...........................................................................................142
Figure 27: Very chaotic workplaces .........................................................................................................................169
Figure 28: Dangerous work with no PPE and no safeguards ..................................................................................170
Figure 29: Steep entrance of a printing industry ......................................................................................................170
Figure 30: Confined spaces .................................................................................................................................171
Figure 31: Unhealthy and unsafe storage sites .......................................................................................................171
Figure 32: Small toilet space/locker and bad hygienic conditions ..........................................................................171
Figure 33: Good Locker space for workers ...........................................................................................................171
Figure 34: Workers resting on the floor Vs. Figure 35: Good cafeteria space and seats ........................................172
Figure 36: Neat electrical boxes and storage .........................................................................................................172
Figure 37: Where signs exist, they are not in a language workers can understand, or are not pertinent where they are placed .........................................................................................................................178
Figure 38: The Strategy ............................................................................................................................................199
CHAPTER I

1. INTRODUCTION

1.1 Occupational Safety and Health: Accidents and Diseases
While promoting sustainable development and eradicating poverty are the driving forces governing globalization, it is essential to ensure that people can work in dignity and safety. Work can only be decent if it is safe and healthy, where the term "healthy work" is better defined in the ILO Occupational Safety and Health Convention, 1981 (No. 155) article 3(e), page 2: "the term health, in relation to work, indicates not merely the absence of disease or infirmity; it also includes the physical and mental elements affecting health which are directly related to safety and hygiene at work".

It is estimated that, globally, around 2.3 million people die every year from occupational accidents and diseases. Some 337 million workers suffer serious non-fatal injuries and another 160 million workers suffer from short or long term illness from work-related causes (ILO 2008). Both the human and economic costs of accidents and ill health at work worldwide are enormous. For example, the ILO estimates that the loss in global Gross Domestic Product resulting from deaths, injuries and illness at work is around 20 times greater than all official development assistance (ILO 2005).

1.2 Prevention Through Legislation, Safety Culture and Management Commitment
Most accidents, however, are preventable. Work-related accidents and illnesses can be prevented, and it is clear that action at international, regional, national and enterprise levels is
needed to achieve this. Part of the response is to endorse adequate national legislation on occupational safety and health and to encourage compliance with it; the labour inspectorates have a key role to play here. Part of the answer also lies in more or better education and training, with occupational safety and health better integrated within vocational training courses, as well as enterprise training programmes. However, real success in reducing work-related accidents and ill-health can only be achieved with a positive commitment among all those concerned with prevention, a concept that is at the heart of what has been termed a "preventative safety and health culture" (ILO 2005).

Prevention involves management, foresight, planning and commitment to anticipate hazards, assess risks and take action before an accident happens or an illness has been contracted. This can only be achieved with the cooperation of the employer, who has the prime responsibility to provide safe and healthy working conditions, in addition to managers, supervisors, workers and their safety and health representatives (ILO 2004).

Action for the prevention of occupational accidents and work-related diseases and the promotion of workers' health and well-being at work should include:

- Promotion, awareness raising and advocacy
- Legal instruments, laws, regulations and their national enforcement through labour inspection
- Knowledge development, management and dissemination (ILO 2003).

Nevertheless, no matter how well standards, policies, systems and programmes may be drafted, without proper implementation, they remain just pieces of paper. Labour inspection plays a role in the enforcement of the national law. Labour inspectors can either confirm that action on the ground is taking place as foreseen, or identify shortfalls and means of resolving
any problems. The labour inspection body can also, as appropriate, use sanctions to enforce
correct implementation (ILO 2005). Also, and as specified in the Occupational Safety and
Health Convention, 1981 (No. 155), the overall responsibility for providing a safe and healthy
working environment rests with the employer. Workers, on the other hand, have a duty to
cooperate with the employer in respecting and applying procedures and other instructions
designed to protect them and others present at the workplace from exposure to occupational
hazards.

The ILO stipulates that employers should demonstrate commitment to occupational safety and
health by putting in place a documented programme to address the principles of prevention,
hazard identification, risk assessment and control, information and training. On the other hand,
worker participation is particularly effective when it comes to prevention in the field of
occupational safety and health. This is because the workers doing the job, through their
practical experience of the activity itself, are often in the best position to identify hazards and
solutions (ILO 2004).

Occupational Safety and Health (OSH) management systems clearly identify the employer's
responsibility to ensure that workers are consulted, informed and trained on all aspects of
occupational safety and health. It also requires the employer to enable full and effective worker
participation, by ensuring that workers have sufficient time and resources to do so (ILO-OSH
2001). Many employers recognize that good worker relations and good occupational safety and
health are essential and interlinked components of their company's policy as well as its image
and business success. They are seen as integral to successful corporate social responsibility
(CSR). But as the UN Secretary General Kofi Annan put it: "Safety and health at work is not
only sound economic policy, it is a basic human right".
Although useful legal measures to prevent workplace diseases and accidents do exist, there is a need to increase the general alertness to workplace safety and health issues and a need for high level commitment for efficient implementation of OSH systems (ILO 2003). In fact, it was noted that the best way to spread knowledge about OSH regulations is to provide workplaces with useful guidelines in which regulations are listed in a friendlier version. It is also useful to raise awareness in enterprises on the economic benefits of occupational safety and health to motivate employers and employees to take preventive measures by investing the required time and effort needed (EASHW 1997).

1.3 Lebanon in the Midst of a Safety Culture and Related Legislation

Lebanon: History and Demographics
Lebanon has witnessed severe political and socio-economic instability beginning from the 15 year civil war which began in April 1975. While Lebanon is a democracy with a liberated and clear political process and open public institutions, the quality of public administration remains underprivileged and its reform is one of the main challenges that has been facing the government for several decades (ILO-ROAS 2006). A parliamentary republic, Lebanon has a population of approximately 4 million as estimated in 1997 by the Central Administration of Statistics (CAS 1997).

Lebanese Labour Force
The labour force at roughly 1.2 million is estimated to be 50% of the working age population (15-64 years) and the rate of unemployment was estimated at 8% in 2004 (CAS 2004). This means that while two thirds of the resident Lebanese population is of working age, only one third is actually working. Most workers in Lebanon are employed in services (37.4%) and trade (22.1%). Industry accounts for a further 15% of employment, 8.7% in construction and 7.6% in agriculture (CAS 2004).
Micro, small and medium sized enterprises (MSMEs) have been one of the most important sources of employment and income in Lebanon and are expected to continue to be essential in offering sustainable employment prospects (ILO-ROAS 2006).

The high level of unemployment and challenging socioeconomic situation, unsatisfactory living conditions and limited access to basic social services, encourage the Lebanese people especially those between the ages of 25 and 45 to emigrate. On the other hand, there are many foreign workers in Lebanon. They are mostly from other Arab countries (particularly Syria and Egypt), the Far East and Africa. The majority of these migrant workers are performing arduous and sometimes hazardous jobs. They work irregularly in the construction and agricultural sectors or in the domestic service, accepting low wages and are excluded from the social security schemes.

However, it is important to note that migrant labour is not in competition with Lebanese Labour as the educated Lebanese tends to refuse the minimum wage of US $200 per month which is acceptable to many unskilled migrant workers. Even if wages were higher, the Lebanese society tends to demean these labour-intensive jobs preferring to emigrate or remain unemployed (ILO-ROAS 2006). Another problem, as in several other countries, is that migrant workers are offered payment and working conditions far below what is accepted by “native” workers. Migrant workers are sometimes unable to understand the language used at the workplace. This is a serious threat to health and safety since they don’t understand safety instructions and language misunderstandings lead to dangerous situations.

There should be a much greater focus on this problem. Migrant workers need to have, amongst other things, rights to social security and insurance schemes as well as safety information in a language they understand. It should be ensured that communication can take place between those working together so as to avoid workplace accidents (Erikson 2005).
Lebanese Labour Force After the July 2006 War

After the July 2006 War on Lebanon, the industrial sector which accounted for nearly 15% of employment of the Lebanese workforce prior to the war, witnessed severe direct and indirect harm. With regards to physical resources, first round assessments indicated that nearly 142 enterprises suffered comprehensive and/or partial damage (ALI 2007). Over 900 medium-sized enterprises (including factories, markets, farms) and 2,800 small enterprises suffered extensive damage (Commission 2006). At least 31 factories in South Lebanon, the Bekaa, and the Beirut suburbs were completely or partially destroyed. The Association of Lebanese Industrialists (ALI) estimates that around 2,000 workers lost their jobs due to the complete destruction of the companies in which they were employed (Moussaoui 2006). Moreover, during the blockade, many industrial units were incapable of accessing the raw materials and fuel shipments needed for production. Meanwhile, numerous manufacturers were unable to distribute ordered supplies which were standing by for shipment, ensuing accumulation of stocks and weakened markets (ILO-ROAS 2006).

With this past and recent historical perspective of the situation, Lebanon faces many obstacles in putting into practice national occupational health services. Therefore, legislation would have to keep up to date with technical and social developments and the new needs that arose after the July 2006 war.

The most important OSH regulation, issued in 2005 in the form of a decree, (Decree 11802/2005), sets the basic occupational safety and health regulations which should apply to all the organizations under the labour law jurisdiction. This decree sets out engineering controls standards (equipment, noise, ventilation and vapours), maximum weight lifting, first aid, maintenance and licensing of new equipment, use of personal protective equipment (PPE), and also covers medical screening regulations, accident reporting procedures and duties of both the employer and employee in ensuring a safe and healthy working environment (Ghorayeb 2006).
This decree is based on the ILO convention 155 which has not yet been ratified by Lebanon, but decree 11802 is the standard which labour inspectors are looking to enforce at the level of enterprises.

An industrializing country requires a legal infrastructure and political support to develop national OSH policies and regulations (LaDou 2003). It is clear that present deficits in occupational health in developing countries such as in Lebanon are caused by the lack of government concern with occupational health, shortage of data and proper surveillance systems and frail enforcement of health and safety regulations (Nuwayhid 2004).

It would appear that it is not enough to issue policies knowing that the country does not have the means or resources to implement them. It also seems that such a policy and practice gap is not confined to Lebanon. An OSH specialist in South Africa explained that the carrying out of occupational health and safety practices in South Africa is hindered not only by lack of resources, skill, and scientific advancement, but also by worker indifference and employer lack of knowledge, such that there is no strain on government to even put into effect active regulations (Joubert 2002).

The review revealed that despite numerous legislation and policy directives in Lebanon, there is a lack of information about how such policies are being received at the workplace. Despite the fact that conventions become recommendations, no evidence exists as to the extent to which such recommendations have been implemented or are being complied with. Whilst statistical returns are filed by companies, there is still a dearth of information about how various key stakeholders engage with the process of policy implementation and review. There is also a need to find out the reasons why some policies are effective and others not and how the employer’s knowledge and attitude may play a role in good workplace safety and health
practice. In this regard and due to gaps in the literature, this study will explore possible factors which may affect workplace adherence to Lebanese safety and health legislation.

1.4 Objectives of the Study

To this effect and in view of the high responsibility the employer has towards workers in providing a safe and healthy work environment, this study attempts to find out from an employer’s point of view, the factors behind adopting safety measures in 70 Lebanese enterprises spread across the five main industrial sectors: food, paper and cardboard, chemicals, minerals and metals. Several factors may affect implementation of national OSH legislation at the enterprise level and also affect the level of management commitment. The literature in this study attempts to recognise:

- The scope of the OSH situation in the specified industrial sectors.
- The role of legislation; its international, regional and national variations and how it can affect implementation including the inspectorate body and its role;
- The different attitudes of employers/management towards the issue of OSH and theories of motivation which influence safe behaviour.
- The concept of safety culture and how it can build the process towards a safe and healthy environment.
The study

Data for this cross-sectional study was collected via two methodologies

The researcher met with 70 managers and filled in a questionnaire survey with each. This was followed by an in-depth interview with 32 of these managers to probe into the survey questionnaire questions and answers.

Questionnaire Survey

A questionnaire survey was filled during separate face to face meetings with 70 employers/managers from a representative sample of 70 enterprises respectively across the main industrial sectors in Lebanon. The survey aimed to:

- Assess employers’ level of awareness of the National OSH Decree 11802 in Lebanese enterprises.
- Study the relationship between Enterprises and the national authorities, mainly the Ministry of Labour.
- Study factors related to knowledge, attitude and practices that either facilitate or impede employers from providing a safe and healthy environment in Lebanese enterprises, along the provisions of the National OSH Decree 11802 and along the International Labour Organization (ILO)-OSH Convention 155.

In Depth Interviews

After the questionnaires were completed, in depth interviews were then conducted with the first 32 employers (until saturation) of the 70 managers with whom the researcher met. The aim of the in-depth interviews was to dig deeper into to the questions and answers of the questionnaire survey, mainly into the following areas:

- The organizational factors affecting safety and health enterprise level policies;
- What motivates management to implement safety measures or what discourages them to do so and why;
- Managers’ perception of worker attitudes and practices;
• Managers' perception of safety;
• Elements most difficult or easy to implement in workplace OSH policies where applicable and why;
• The reason(s) managers consider that safety and health in the workplace is a priority or not.

It is essential that employers/managers understand their critical role in providing occupational safety and health measures but they also need to recognize the importance of occupational safety in order to properly commit to health and safety provision. Therefore, this research attempts to assess the factors affecting the implementation of safety measures at the workplace, especially the role of knowledge, attitude and behaviour of employers in this regard and identify shortcomings in translating the policies to implementation in the OSH domain in Lebanon.

As a result of this research, and based on its findings and recommendations, policy makers in Lebanon and the Middle East will be able to develop informed guidelines to improve the OSH situation in the region.
CHAPTER II

2. LITERATURE REVIEW

The review of the literature attempts to identify the context of the research and the thread leading to the research question and its relevance. Since the study is about occupational safety and health (OSH) and compliance with regulation in this regard, it was important to conduct a comprehensive literature covering OSH in general, sector specific OSH, legislation issues, the OSH directives and bodies at national, regional and international levels and more specifically, the literature on the attitude and behaviour of employers and decision makers in this respect. All these factors influence compliance and practice of safety and health at work.

Therefore, after clarifying the search strategy, an explanation of the term occupational safety and health, what it entails and the scope of the problem have been provided. Then more specifically, the literature covers OSH in the specific industrial sectors that the study will target. Consequently, it is argued that investment in OSH is a sound economic practice across these industries. The review then moves to the Lebanese context, relaying OSH legislation and the other relevant characteristics of the country and the Arab States. The study then moves outwards to cover international standards on OSH, their provisions, and the role of international organizations in setting the guidelines. More importantly, the review reveals the problems at the global level in applying these regulations even in developed countries. The study then narrows down to the enterprise level factors, which affect safety and health at work including employer knowledge and attitudes and the general safety culture.
2.1 Search Strategy

The search for this study was designed to cover both quantitative and qualitative evidence, and is not limited to specific study designs. The literature was identified according to an explicit search strategy selected along defined inclusion and exclusion criteria to meet the objectives of this research. In an attempt to ensure a maximum coverage of studies, the literature search focused on the available evidence which addressed occupational safety and health in the context of legislation and compliance and possible theoretical models to explain manager attitude and behaviour including organizational behaviour.

The inclusion criteria were expanded to include studies conducted between 1965 and 2008. The initial search was conducted on the following databases: OSH-ROM, CINAHL, Medline Pubmed, and Occupational Health and Safety Information Service (OHSIS) using the terms “occupational safety and health”, “occupational accidents”, and “workplace safety and health”. These terms were then combined with keywords that are more specific. As the research advanced and more themes were identified, Psychinfo database and Medline Pubmed were used to conduct a search on motivational theories and health belief models. The search was not constrained by any precise period; the key words used all through out are displayed in table 1 and categorized into four broad classifications. Legislation and general safety and health searches were conducted in the beginning and theoretical and organizational behaviour searches were conducted for the literature review section as well as for the thematic analysis and discussion. Furthermore, ILO conventions related to occupational safety and health were researched using the ILO databases: CISDOC, the ILO Occupational Health and Safety Encyclopedia, and the ILOLEX.

During the literature review stage, which has spread between June 2006 and July 2009, a number of reviews and articles tackling other approaches to safety and health were excluded, as they did not fall into the objectives of the study.
Articles and books were selected. The journal article abstracts were reviewed to determine their relevance to the current study, and were compiled according to: author, focus of the research, qualitative, quantitative, data collection method, location and sample size.

The reviewed articles were collected, categorized according to the different sections of the literature review chapter and referenced using Endnote X Software. This ensured that all relevant terms were included in the search process, and minimized the exclusion of relevant studies.

Overall, more than 300 reference sources were identified, out of which, the author chose 197 main references for this research. These included, 145 journal articles (from which 5 main reviews), 19 reports (from which 2 fact sheets, 2 papers and 3 guidelines), 14 books, 5 conference proceedings, 11 web pages and 3 personal communications.

The research questions put forth by this study proved to be unique as compared to the literature. A study by (Whysall, Haslam and Haslam, 2006) explored the course of implementing a safety and health intervention at the workplace and identified key non-compliance issues in this regard. However, there were no studies, which attempted to find the possible obstacles for the national law to reach the enterprise level and why it is then taken up by the enterprise, or not. In this sense, this research tackles a distinctive angle to understand the whole trail from policy to practice.

The search terms used were based on several key words in other related articles; hence they were effective in generating the main sources pertinent to this study, (refer to table 1 for a full list of search key words used).
The papers were then analyzed and synthesized into the following themes:

The scope of occupational safety and health, its implication on the well-being of workers especially in developing countries; the economic dimension of the problem; the international legislative framework as compared to the national Lebanese one; the main partners at the national level and the traditional enforcement methods; possible enterprise level factors affecting policy and practice at the workplace including manager attitude towards safety and health and behaviour models; in addition to the general safety climate and culture.
Table 1: List of Key Words

<table>
<thead>
<tr>
<th>Safety and Health</th>
<th>Attitude and Behaviour theories</th>
<th>Organizational Behaviour</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational accidents; occupational safety and health; workplace safety and health; non-reporting; accident etiology; occupational injury prevention; self-reported injuries; food industry; chemical industry; mineral industry; metal industry; paper and cardboard industry; industrial hazards; accident frequency; firm size; injuries; site managers; accident prevention; technology transfer; personal protective equipment; personal protective devices; exposure; noise; occupational injury; small and medium-sized enterprises; accident experience; metal lathe work; injury risk; productivity; responsibility; absenteeism; Lebanon; demographics; safety knowledge; Lebanese labour force; Middle East; awareness messages.</td>
<td>Risk perception; employee attitude; health belief model; Protection motivation theory; expectancy theory; motivational theories; manager perception; manager knowledge; manager behaviour; safety behaviour; worker safety behaviour; ethnography; incentives for prevention; sick role, risk taking behaviour; safety performance; training; education; behavioural change; psychological climate; Hierarchy of controls; Multi-causal accident analysis; Worker behaviour; behavioural factors; cultural values; qualitative analysis; thematic analysis; quantitative analysis; mixed methods; Meta-analysis; safety perceptions; safety attitudes locus of control; motivation; illness behaviour; equity theory; risk awareness; violations; fatalism; misjudgments; cognition; emotions.</td>
<td>management commitment; safety culture; safety climate; organization; organizational behaviour; organizational learning; safety management; participative occupational safety and health management; employee participation; management involvement; organizational and safety culture; enterprise management systems; organizational climate; Multinational corporations; developing countries; industry codes of conduct; organizational factors; prevention management.</td>
<td>Health and safety regulations; implementation; compliance; trade union; employer; government; ministry of labour; legislation; policy; safety rule; self-regulation; standards; international organizations; legislative framework; international legislation; world health organization Declaration; International labour Organization; occupational safety and health management systems; Enforcement; Application; Law; Labour inspection; ; adherence; health and safety regulatory bodies; safety regulation.</td>
</tr>
</tbody>
</table>
2.2 Occupational Safety and Health: The Scope of the Problem

Every year, workplace accidents and diseases affect millions of workers around the world. The costs of failure to enforce occupational health and safety are massive in terms of human lives and economic loss, to a point that they might hinder social development and sustainable economic growth (Alii 2008; OHSAS 2008). The burden incurred by work-related accidents affects both, societies and enterprises, as well as workers and their families.

The latest ILO Global estimates based on statistics from 2003, show that non-fatal occupational accidents have increased to 337 million per year and the total number of fatal occupational accidents and diseases is now around 2.31 million per year. Nevertheless, there is a lot of underreporting when it comes to accidents and diseases at the workplace and many incidents remain undocumented. The lack of a harmonized system of documentation and notification of work-related accidents and diseases is a major obstacle to gathering accurate and reliable data in this respect (ILO 2008).

It is to be noted that the largest proportion of occupational diseases are present in developing countries. Given the current industrial growth rate in these nations and their lack of awareness regarding the importance of occupational health and safety, calculated projections estimate that by the year 2025, the number of occupational injuries and diseases would double (Murray and Lopez 1996).

In order to mitigate the cost of occupational accidents and diseases, increasing efforts are being invested at national and international levels, translated into regulations and laws. It is in the best interest of all concerned parties, including governments, labour unions, employers, workers, and the society at large, to
effectively improve occupational health and safety at the workplace. Such improvements are optimally reached through continuous communication and close coordination among all stakeholders. It is not solely the responsibility of employers to fulfil the workers' needs for more comfortable working conditions, free of injuries and hazards. Without the dedication, experience, and knowledge of the workers themselves, achieving improvements in this field would be hard to attain (BAuA 2004).

Yet providing occupational health and safety to industries is a complicated process; this is mostly due to the fact that each type of industry may need different levels of occupational safety services. This mainly relies on the nature of the operation, the size of the enterprise, hazard types, and known risks (Bradshaw, Curran et al. 2001).

This study has selected enterprises across the main five industrial sectors in Lebanon which are the chemical, metal, mineral, and paper and food industries. Below is a short description of possible hazards found in each industry.

### 2.2.1 The need for safety and health measures in the selected industries under study

There are many occupational risks and hazards across several sectors. For the purpose of this study, below is a short description of possible dangers encountered by workers who are active in the five main occupational sectors covered in the target sample of this research.

**The Chemical Industry**

Chemicals are a ubiquitous component in almost all work activities and are used in significant quantities in many industries around the globe, with new chemicals
constantly being introduced into the marketplace. It is therefore important to establish proper safety standards in order to contain chemical hazards. In the rubber industry for instance, where styrene-butadiene polymer is used in manufacturing synthetic rubber, ischemic heart disease was found to be common among enrolled workers. A study by Matanoski, et al. (2002) has shown that workers who had been exposed to styrene for more than five years were 6.6 times more likely to suffer from ischemic heart disease as compared to unexposed workers (Matanoski and Tao 2002).

Moreover, a prospective cohort study on 79,547 workers, (Liu, et al. 2002), researching the main causes of death in the different industrial systems in a Chinese province, found that at baseline, 41% of sampled workers in the petroleum chemical industry had been exposed to occupational hazards, followed by the metallurgic industry, and the lowest exposure was in the mechanical industry (30.2%). Specifically, workers in the rubber industry had the highest death rate, followed by the metallurgic and petroleum industries. Malignant neoplasm, in addition to vascular and respiratory diseases, constituted 80.3% of all causes of death (Liu, Jiang et al. 2002).

Similarly, in the pharmaceutical chemical industries, exposure to chemical hazards occurs recurrently. It has been established that organic solvents are the main cause of damage to many organic systems and have carcinogenic, as well as mutagenic effects. A case control study by Milovanovic, et al. (2007) on chronic morbidity patterns of workers employed in pharmaceutical industries showed that 16.9% of the exposed group developed respiratory diseases, as compared to 7.4% in the control group. Chronic bronchitis was diagnosed in 17.5% of exposed workers as compared to 5% in unexposed workers (Milovanovic, Jakovljevic et al. 2007).
In order to deal with the risks of chemicals at the workplace, effective intervention should start at the level of the chemical manufacturing plants, by providing accurate information to the users of these substances. In their turn, the employers should insure that precautionary measures to protect the workers are being enforced. Yet, actual application of these measures in the field remains the primary focus of control. This problem is also valid in the metal industry as described below.

The Metal Industry

Although the tasks of workers in the metal industry these days have become physically less demanding, and particularly in aluminium production, exposure to hazardous chemicals still prevails. In addition to physical hazards, such as heat and noise, aluminium workers are continuously exposed to different chemical gases, such as hydrogen fluoride, sulphur dioxide, nitrogen dioxide, among others. The lung, skin, and the central nervous system are highly affected by these harmful pollutants. Of the known effects of constant exposure to fluoride, along with the exposure to aluminium dust, are: dermatitis, skin erosion, behavioural disorders, tremors, movement difficulties, as well as memory and concentration disorders. Besides aluminium, other metal industries, such as lead, are also a main concern on the occupational health and safety agenda. Lead exposure has been associated with male infertility. Impaired semen quality, hormonal imbalance, and reduced fertility are among the most common symptoms (Jelinic, 2005).

The Mineral Industry

Although cement-related burns are rarely reported, it is estimated that 1.3 million workers in 30 occupations within the U.S. come into regular contact with wet cement. Moreover, cement workers are not the only group at risk, as their families are also affected by the cement dust, the 'mobile contaminant' clutched to their clothes. The
spectrum of related injuries in the cement industry includes cases such as dermatitis, ulcerations, chemical burns as well as burns from explosions during the manufacturing process (Chung, Kowal-Vern et al. 2007).

The Paper Industry

In the paper industry, the Bureau of Labour Statistics data showed that the incidence rate for non-fatal injuries involving days away from work in the wood industry was 226% greater than that for injuries in the general industry. The types of injuries sustained in wood manufacturing are: amputations, cuts and punctures, fractures, bruises and back pain (Malkin, Lentz et al. 2006). Lung cancer was found to be the main cause of death among 883 workers employed in a pulp and paper enterprise in the United States. Workers exposed to sulphite pulp mill were 2.5 times more likely to develop lung cancer as compared to unexposed workers (Henneberger and Lax 1998).

The Food Industry

Occupational accidents in the food industry are high, reaching a rate of 18.3 accidents per thousand workers in Sweden, according to the Sweden accident data in 1997. Major accidents in the food industry are reported to occur on three levels:

1) Man-machine interaction with packaging machine or mixing-machine, 2) working with knives, 3) handling materials (Willquist and Torner 2003). In popcorn factories, exposure to flavourings put workers at risk of developing fixed obstructive lung disease. Workers in charge of mixing are highly exposed to dust, aerosols and vapours that are proven to be the main causes for this respiratory problem (CDC, 2002). Occupational hazards in the meat packing industries are numerous, with the most commonly reported problem being musculoskeletal disorders. In addition,
workers are exposed to infectious diseases and environmental stressors including cold, heat, noise and chemical exposures. Other respiratory and skin problems are also found to be frequent (Campbell 1999).

This rundown of the major occupational risks and hazards prevalent in these sectors brings us to the issue of the economic costs of addressing these problems and setting protective measures to regulate these risks.

2.2.2 Health and safety at work in economic terms

Regardless of which industrial sector is concerned, the issue of productivity and economic efficiency of OSH is always an apprehensive matter and it is where health and safety at work may seem to be an area of conflict between employers and workers. Some employers only see safety measures as additional costs to the enterprise, disregarding the returns on investment in their workers' safety. Nevertheless, a study by Samant et al. concluded that small business are able to put to practice good safety and health programs regardless of their limited financial resources. There are inexpensive measures such as safety committees, safety-suggestion systems and unionization that can positively affect the safety and health situation at workplaces (Samant, Parker et al. 2007).

Recently, occupational accidents are becoming more costly for modern societies. According to the European Agency for Safety and Health at Work, 4.6 million occupational accidents happen every year in the European Union, corresponding to 146 million lost working hours (EU-OSHA 2001). In economic terms, the loss is equivalent to 2.6-3.8% of the aggregate yearly EU gross national product (GNP) (Rikhardsson and Impgaard 2004). According to the Federal Institute for Occupational Safety and Health (2004) in Germany, investment in the safety and
health of workers would:

- Reduce sickness and absenteeism rates
- Reduce fluctuation
- Increase productivity due to motivated employees
- Improve the image presented to the customers
- Decrease workers turn over
- Reduce additional wage costs in the medium and long term.

Consistent with the above statements, health and safety go hand in hand with economic growth. Thus, profitable and lastingly competitive enterprises can only exist in the presence of healthy and motivated workers (BAuA 2004).

Moving from the definition of OSH and industrial safety and health risks and hazards, it is important to understand where legislation falls in this area.

2.3 Occupational Safety and Health Legislation: lax or enforced?

Occupational accidents and diseases and major industrial disasters have long been a workplace concern at national and international levels as they pose both human health implications and economic losses. Although useful legal measures to prevent workplace diseases and accidents do exist, there is a need to increase the general alertness to workplace safety and health issues and a need for high level commitment for efficient implementation of OSH systems (ILO 2003). For the greater part of workers around the world, workplace settings do not satisfy the lowest health and safety principles and guidelines set by international agencies. Occupational safety and health laws cover around 10% of employees in developing countries, excluding several key hazardous industries and occupational activities (LaDou 2003).
The European Agency for Safety and Health at Work defines OSH as being about “preventing people from being or made ill through work. It is the discipline concerned with preserving and protecting human and other resources in the workplace.” Hence, OSH is mainly concerned with:

- Protecting workers against hazards at work (the protection and prevention principle);
- Adapting work and the work environment to the capabilities of workers (the adaptation principle);
- Enhancing the physical, mental and social well-being of workers (the health promotion principle);
- Minimizing the consequences of occupational hazards and work-related diseases (the cure and rehabilitation principle); and
- Providing general healthcare services for workers and their families, both curative and preventive, at the workplace or at nearby facilities (the general primary healthcare principle) (Husman 1993).

The above cannot all be achieved in the absence of rules, policies and laws. Therefore, regulation is important and having lax safety regulations may create further problems. A study conducted on the Danish construction industry showed that safety and health in the workplace may be decreasing due to the lax safety regulations (Nielsen 2007). The study showed that flexibility and relaxation of labour laws, industry self-control, and decreases in enforcement are not always beneficial. Voluntary systems may help, but there is a need to differentiate between employers with the motivation and competence to comply and improve their performances, with those that lack either the determination or the aptitude, and those that lack both. The study concluded that enforcement efforts should be reinforced, good compliance practice should be
shared and social partners should be implicated (Nielsen 2007).

Effective regulation has good returns for enterprises and for workers. An enabling environment for good practice includes education at all stages, protection and support for labour inspectors, government commitment to enforcing laws, and respect of the workers’ rights (Watterson 2006).

Torres et al. (2002) explain that familiarity with industrialized countries shows that voluntary conformity by industry does not work unless there is a system of laws with associated punishments for non-cooperation (Torres, Greaves et al. 2002). It is important to find the balance between effective laws versus time and resource-consuming and weakly targeted regulation.

Laws are useless if they are not enforced and if the workers are not informed about their rights and trained on implementing safety measures. Governments should take an active role in constantly monitoring enterprises, by providing guidance, resources and updating of legislation. Several studies show that enforcing legislation is a multifaceted endeavor and involves many factors and actors.

In his study on the regulation of occupational health and safety in the semiconductor industry, (Watterson 2006) highlighted a number of obstacles to effective regulation and its enforcement. These obstacles may be linked to political, cultural, economic, organizational attitude and structure of the organizations and the national system of control. Among other obstacles, Watterson noted the:

- Lack of transparency and limited or no freedom of information rights
- Lack of resources to support staff workloads/needs, fund investigations and possible prosecutions
• Lack of staff-enforcement, technical, scientific and legal staff-to pursue
prosecutions

• Lack of accountability: technocratic decision making divorced from public
accountability

In addition, poor organizational structure and management at the enterprise level can
affect safety and health at work. A study by Champoux and Brun (2003) on small size
enterprises concluded that employers blame accidents on employees or refuse to
believe that safety problems even exist in order to evade inquiring into the
enterprise’s management and organization of work (Champoux and Brun 2003).

Nevertheless, it is also important to keep the balance between resources spent on
prevention versus resources spent on enforcement. In order to overcome the
underlying obstacles, Watterson suggested:

1. The development of a license for labour inspectors that offers significant protection
and support for them in their work, as well as sufficient staff and resources, and
endorses independence from industry and government influences.

2. National governments’ commitment to enforcing good health and safety laws
should be prescriptive where needed and risk-based where suitable.

3. Government and industry should recognize the rights of workers to obtain
information, confer with enterprises, check workplaces, and stop work when
dangerous situations are recognized.

5. The media should be attentive, vigorous, and independent and not intimidated by
government and industry.

6. Community and environmental groups should be willing to work with trade unions
and employees to push for effective enforcement of workplace safety and health
laws.

7. Managers should be more informed in order to apply OSH management systems
and regulations in their respective enterprises (Watterson 2006).
Carrying out occupational health and safety practices in South Africa, for instance, is hindered not only by lack of finances, know-how, but also by worker indifference and employer ignorance, lack of empathy for others and differences in risk perception such that there is no demand on the government even to enforce existing regulations (Joubert 2002).

Also in China, despite the proliferation of new laws, the lack of rigor and lax implementation are key barriers to advances in workplace safety. It is the responsibility of the government to consider safety and health issues when approving development plans by selection through a market-tendering mechanism. There should be a balance between encouraging investments and safe working environments. In addition, training programs embedded in local cultures, and based on small steps that workers can relate to, may be a more feasible technique rather than simply commanding a top-down arrangement of rules and regulations. Sustainable systems of workplace safety will require enduring efforts, which prepare leaders from the bottom up (Pringle and Frost 2003).

The global trend does not differ much from that in Arab States as will be elaborated below. The basic problems faced by other countries in the world are also reflected in this region in addition to other culture and region specific dynamics.

2.3.1 The Context of Occupational Safety and Health in Arab States

A study conducted by the ILO Regional Office in Beirut in 2007, showed that there is much variation among Arab countries in their health and safety conditions where some countries showed serious deficits in OSH systems and procedures. Main obstacles for OSH advancements included: the belated ratification of ILO-OSH conventions, the lack of thorough OSH provisions in the local legislation, the absence
of national OSH policies and the weak enforcement of OSH regulations. Moreover, scarce reporting and compensation coverage, shortage of accurate data related to occupational injuries and illnesses and failure to integrate OSH tripartite advisory bodies in the decision making process on OSH-related issues are additional deficiencies that are deemed vital to assist in reinforcing national OSH programs. Also, many countries lack sufficient local OSH expertise, capable of successfully implementing OSH programs (ILO 2007).

Deficiencies in adopting, enforcing and extending OSH measures and standards in the Arab region make the workers more vulnerable to workplace hazards and risks. Poverty is an additional risk factor in the different work sectors, such that it brings about unhealthy and unsanitary conditions to the worksites. The ILO regional study on OSH in the Arab States resulted in a series of recommendations:

• Up-dating national OSH legislation to meet International standards and the ratification of ILO OSH Instruments: Acts or Decrees that seem obsolete and irrelevant should undergo modifications and updates. ILO OSH conventions offer countries a tool to upgrade their legislation by providing the basic principles and standards that should be applied on specific OSH matters. The ratification of ILO OSH conventions also facilitates reaching agreements with the social partners since all their provisions have been debated in a tripartite context at International Labour Conferences, where governments, employers’ representatives and workers’ organizations of respective countries have voted on and adopted the conventions. Hence, it is recommended that countries launch a study on the incompatibility between OSH conventions and national OSH legislation, and find the means to ratify the conventions.

• Implementation of Legislation through the reinforcement of inspection services: Currently, the majority of countries are relatively lenient in dealing with a breach of OSH laws. Stricter measures should be taken in order to
properly enforce the existing OSH laws by subjecting OSH infringements to charges depending on the degree of violation. Hence, each country should define its priorities in terms of strengthening labour inspection services. Inspectors should be given more privileges with adequate facilities in order to be able to reach out to the various worksites and enforce OSH regulations. Appropriate resources will have to be allocated to meet set objectives. It is also important that workers in all economical sectors be covered by the OSH laws and regulations with no exclusions.

- There should be safety campaigns to raise awareness on OSH and promote safety culture: Raising awareness on the positive influence of OSH services on the employers and workers would make services more attractive and facilitate their implementation at the workplace.

- OSH should be included in educational curricula and training programmes: By integrating OSH in school and university curricula, students will be more aware of the importance of safeguarding the health and safety of workers and will be more encouraged to specialize in this field. It is important to initiate a discipline on occupational safety and health in the Arab universities, in addition to providing appropriate job opportunities for OSH graduates. Besides, nation-wide OSH training for employers and workers is essential to widen their scope of knowledge and expertise, and thus, reduce occupational hazards.

- More OSH research studies are needed: OSH research, in its quest to provide scientific and credible information relevant to the Arab context, is invaluable. Countries should establish their own research centers in order to undertake multidisciplinary collaboration among psychosocial experts, political scientists, economists, as well as experts in various OSH specializations.
• National data collection on OSH indicators should be undertaken more frequently. The data should be comprehensive increasing the availability of accurate information and statistics on occupational accidents and diseases. Establishing an OSH databank is important for developing an accurate list of reported occupational diseases and accidents, which will, in turn, assist employers, insurance companies, labour inspectors, and OSH agencies to use the data for planning and policy making (ILO 2007).

Further to the regional study conducted on OSH in Arab States in 2007, a regional meeting for Arab States took place during the World Congress on Safety and Health at Work, in Seoul, Korea in 2008.

The below views and suggestions from the participants of this regional meeting were similar to the results of the above study and reinforced the following strategies to place safety and health at work higher on political agendas:

• Establishment of national OSH management systems
• Implementation of international standards that protect the health and social security of workers
• Establishment of information centers in the field of OSH
• Setting up national OSH Committees which involve social partners
• Ensuring that legislation is harmonized with the international OSH standards
• Acquiring proper information in OSH prevention by continuing scientific research in this area
• Learning from other countries where legislation is implemented well
  • how to bind the government and the private sector to national OSH law
• Encourage countries to build capacities through training opportunities.
The participants from Arab States who attended the Seoul Congress also debated on how societal responsibility and corporate social responsibility can be refocused to stress the importance of safety and health at work:

- Promote a culture of OSH in society by including it in the academic and training curricula in addition to promoting a culture of social dialogue in the area of OSH
- Raise awareness on social responsibility through the media
  - Collaboration with all media channels to show informed talk shows and documentaries on OSH with governmental support
- Training of workers in the private sector on OSH
- Advocate enterprises to give higher importance to OSH
- There should be full belief that OSH is a priority, this can only be realized through education on OSH from an early age
- Workers should realize that it is their responsibility to protect themselves and it is their right
- OSH is an asset to the national economy
- Collaboration with civil society to give trainings in enterprises
- Proper recording and notification of accidents and diseases to inform policy making
- Organize annual meetings and workshops to evaluate work done across all sectors and give awards of excellence and certificates as an incentive.

In the face of globalization and rapidly developing technologies and outsourcing processes and services, the participants suggested that OSH could be assured as a basic human right and a means to economic development by:

- Continuous basic and specialized training
- Establishment of an Arabic scientific council, which involves OSH experts.
Continuous updating and follow up with the new technologies concerning OSH to provide an enabling environment for development in this field

- Promoting a culture of safety and health
- In the era of globalization, the ILO is needed to lead on unified and non-politicized OSH standards (Azzi 2008).

The research study conducted in 2007 in addition to the results of the Arab States meeting as part of the 18th International Congress on Safety and Health at Work, which took place in Seoul, Korea in 2008, all reflect the needs of the Arab region in the field of OSH. These recommendations highlight the shortages the region faces and possible headlines on how to address them.

Building on these proposals, this study aims to identify the problem in a more focused and scientific manner, digging into the real reasons why OSH legislation is not complied with as it should be. This research also answers the call for more region specific studies on OSH and takes the possibility for improvement in this area a step further.

In an effort to narrow the research from Arab States to Lebanon, the following section presents an overview of Lebanon's features and its current OSH situation.

2.3.1.1 Occupational Safety and Health Legislative Framework in Lebanon

Legislation-Ministry of Labour

The first Labour Law in Lebanon was issued in 1946. It sorted out issues such as: work contracts, employment of women and youth, hours of work and vacation periods, wages, safety and security at the workplace, reasons for employment discharge, in addition to segments on union organizations and the administrative
constitution of the labour sector (Laws 2005).

A “work emergencies” law was also issued in 1983 (legislative decree number 136/1983) for the regulation of work-related accidents and injuries but the major OSH decrees were issued between year 1999 and 2005 as listed in Table 2.
Table 2: Major OSH Decrees in Lebanon

<table>
<thead>
<tr>
<th>Decree</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>700/1999</td>
<td>Prohibits the employment of young people before they turn 17 and before they turn 18 if they work in hazardous occupations which threaten their life, health or morals.</td>
</tr>
<tr>
<td>3273/2000</td>
<td>Defines the regulations on labour inspection and assigns the authorities accountable for enforcement, determining their role in monitoring the implementation of OSH regulations.</td>
</tr>
<tr>
<td>11958/2004</td>
<td>Regulates OSH in the construction sector, which is considered one of the most dangerous sectors in Lebanon adding to the rise in occupational accidents and injuries.</td>
</tr>
<tr>
<td>14299/2005</td>
<td>Is the latest OSH decree. It introduced a national list of occupational diseases which had never been preceded in Lebanon. The decree defines and classifies occupational diseases according to exposure to chemical, physical, biological and by body systems (pulmonary system, skin, eye, nervous system, blood system and others). It is a primary attempt to compensate worker’s suffering from occupational diseases inspired by the ILO worker’s compensation convention. This multi-sectorial effort brought together a committee of representatives from the Ministries of Labour, Public Health, Environment, Industry, and Agriculture, in addition to representatives from the Private Sector, Labour Unions, academic experts, the ILO and WHO.</td>
</tr>
</tbody>
</table>

The most important OSH regulation was issued in 2005 in the form of decree 11802 which cancelled decree 6341/1951. **Decree 11802/2005** sets the basic occupational safety and health regulations which should apply to all the organizations under the labour law jurisdiction (the decree is found in both English and Arabic in appendix 10). This decree covers engineering control standards (equipment, noise, ventilation and vapours), maximum weight lifting, first aid, maintenance and licensing of new equipment, use of personal protective equipment (PPE), the necessity of a Medical Doctor for enterprises with over 15 employees, as it also covers medical screening regulations, accident reporting procedures and duties of both the employer and employee in ensuring a safe and healthy working environment (Ghorayeb 2006).
Decree 11802 is based on the ILO convention 155 (refer to appendix 11) which has not yet been ratified by Lebanon. Nevertheless, decree 11802 is the standard which labour inspectors are looking to enforce at the level of enterprises, but they are still using an outdated form which does not reflect the provisions of decree 11802 (refer to appendix 14 for the questionnaire form which labour inspectors in Lebanon are currently using during their inspection visits). While decree 11802 more or less covers the basic OSH concerns in the workplace, the aim of this research is to verify the implementation of its provisions at the enterprise level and reasons behind employer compliance or lack of it.

Dr. Ghassan Awar, a current labour inspector at the Ministry of Labour (MOL), states that the decree 11802 was not promoted well enough. At the Ministry of Labour there is a division of labour inspection and OSH and not an actual department. He noted that it was ILO’s promotion for the ratification of convention 155 which encouraged the MOL to develop the decree 11802 in line with this convention which they are in the process of ratifying. The ratification process though, is still pending at the parliament due to other pressing issues in the country. This decree was also accompanied by two new decrees, where one is a list of OSH diseases and the other one specific for the construction sector (Awar 2007).

There are 6 governorates in Lebanon which labour inspectors should cover and they are: Bekaa, South, Nabatieh, Beirut, Mount Lebanon and the North. Ideally there should be four OSH inspectors for each governorate (two medical doctors and two engineers) and recently new people passed their exams to join this force but their starting date was postponed due to the political situation and delay in required signatures for this process to continue. Normally the labour inspectors visit the bigger enterprises unless someone files a complaint from the small enterprises (Awar 2007).
Between 1962 and 2009, Lebanon ratified 50 out of 188 ILO conventions. From which Lebanon has ratified 9 out of the 19 basic ILO-OSH conventions: C45 Underground work (women); C115 Radiation protection; C120 Hygiene (commerce and offices); C127 Maximum weight; C136 Benzene; C139 Occupational cancer; C148 Working environment (air pollution, noise, vibration); C174 Prevention of major industrial accidents and C176 safety and health in mines.

The ratification of international conventions supersedes national legislation in cases where both contents are different. The aim of ratifying conventions is to consequently translate their articles into effective national laws or amend existing laws in line with these ratified conventions. The ILO has a distinctive administrative system to examine the development made by its member states in applying international standards, especially ratified conventions. Supervision occurs based on submitting annual reports which are usually submitted every two years for fundamental conventions and every five years for other conventions unless otherwise requested (Boivin and Odero 2006).

Complaints about non-compliance may be made by governments of other ratifying States or by employers' or workers' organizations and there are specific procedures for inspecting and taking action upon such protests. On the other hand, conventions that have not been ratified are considered as equally valuable as recommendations. Recommendations are useful in that they offer operational guidelines for the application of conventions, as they elaborate on the articles of these conventions (ILO 2006).

Weak enforcement of health and safety regulations is a characteristic deficiency in developing countries (Nuwayhid 1995). It is not enough to ratify international conventions or even harmonize a few of the recommendations into national
regulation; the actual progress should be measured by the extent to which these policies are being implemented at the level of enterprises. The lack of compliance to OSH policies may be due to any of the following factors: Lack of awareness, lack of resources (human/financial), lack of reporting, lack of training, weak role of unions, other priorities than OSH, in addition to other reasons; but are we only creating excuses for non-action and is there more behind the dismissive attitude and behaviour of workplace stakeholders?

The question now remains, who are the main stakeholders in Lebanon?

**National partners and their possible roles in the implementation of legislation**

It is important to acknowledge and understand the role of the major national partners in the world of work and involve them in any attempts at evolving the OSH status in Lebanon.

*The Association of Lebanese Industrialists (ALI)*

The ALI was founded in 1943 and it is a Lebanese economic organization assembling industrialists from all over Lebanon. It promotes a strategy of fair industrial development for all the Lebanese districts. The Association aims to generate and uphold an atmosphere which encourages industrial investment, expansion and development. Knowing that industry in Lebanon, except for the manufacturing of cigarettes, is entirely private; the Association's responsibility becomes even more important (ALI 2007).

ALI works in close collaboration with the ILO and is concerned about OSH as a workplace issue. ALI has formed a specialized committee for the environment to solve OSH problems through a coordinated tripartite social dialogue between trade unions, employers and the government. The Association also aims at bringing
together academic institutions with the industrial sector to further promote vocational training and education (Hmadeh 2007).

It is worth noting that the ALI represents Lebanese employers in Arab and International conferences such as: The International Labour Conference, Arab Labour Conference, Arab Economic and Social Council, the national committee to the Joint Lebanon-EC Trade Cooperation Committee and the International Organization of employers. Therefore it has a powerful presence and voice in decision making and policy formulation at the international and national levels (ALI 2007).

The General Confederation of Lebanese Workers (GCLW)

This Organization which was founded in 1958 is a loosely organized national trade union centre in Lebanon representing workers’ organizations. It has 200,000 members and coordinates most national negotiations and manifestations (ILO 2003; ICTUR 2005).

These two major partners who represent the employers and the workers in Lebanon are also weak structures with basic needs and demands which lower the safety and health priority to the bottom of the agenda. The government cannot enforce rules and regulations without the buy-in of employers and worker representatives. This weak infrastructure reflects on the general attitude of the society as a whole towards this issue. Other problems faced in Lebanon could be the general lack of resources.

Resources: prerequisite for effective practice of legislation?

OSH legislation might not be applied properly due to several deficits in the required resources. There may be a deficient number of trained occupational health personnel, in addition to weak organization of the industrial sectors, which are further exacerbated by the lack of technical and financial resources.
Labour inspectors may not be given sufficient training to perform their regulatory role; therefore, their role can be to simply give advice and assistance to workplaces and not really have an authority to take action. But if compliance and enforcement is stressed as the role of inspectors, then it becomes policy and expected practice for inspectors to issue warnings when non-compliance or a hazard is detected rather than just giving recommendations and verbal instructions. They would also have the right to increase enforcement action if the same risk persisted. This allows for more efficiency, especially when the number of labour inspectors is very low compared to the number of workplaces (Duane 2002).

Small and medium business owners also relate safety incidents to barriers within the workplace that impede safety implementation. These barriers, in their opinion, consist of insufficient resources, lack of expertise and production requirements that pressure the system (Eakin, Lamm et al. 2000; Barbeau, Roelofs et al. 2004).

**Human and Technical Resources in Lebanon**

There is a deficient number of trained occupational health personnel in Lebanon which serves to aggravate the already weak organization of the industrial and agricultural sectors due to the lack of technical and financial resources. Education is a major factor affecting knowledge, attitude and practices of employers with regards to occupational safety and health.

The Lebanese Ministry of Labour has a division concerned with OSH and Labour Inspection. Today, labour inspection does not constitute an actual department in the ministry, as it was previously, in the 1960s, part of the Ministry of Health. Currently, there are 65 labour inspectors at the ministry and around 8 OSH inspectors (5 medical doctors and 3 engineers). Ideally, there should be 4 OSH inspectors for each of the six governorates (2 medical doctors and 2 engineers) and recently, recruitment of new inspectors is postponed due to the political situation and delay in required official signatures for this process to continue (Awar 2007).
Dr. Ghassan Awar, from the Ministry of Labour in Lebanon, suggests that specialized labour inspectors should be involved in the process of opening new industries from the beginning, because once an enterprise is established on false health terms; it is difficult to make the changes (Awar 2007).

Concerning licensing new industries, the approval is obtained from the health council of the local governorate. The members of this council are focal points from different ministries, namely the Ministry of Health and the Ministry of Labour. However, the health council members do not necessarily have an OSH background, and therefore, cannot give informed advice about the new enterprises being established; not to mention that there is a lot of bribery happening to get some enterprises licensed. Moreover, the final decision is in the hand of the governor, regardless of what the members of the council agree on (Awar 2007).

**Monitoring systems: lack of proper Surveillance for OSH conditions in Lebanon**

There is scarce and inaccurate statistical data available on diseases and mortality due to workplace conditions. This underestimates the problem and does not reflect the real trouble at hand. For instance, in Lebanon, there is hardly any information on health recruits who provide services for workers across all sectors: manufacturing, agriculture, construction, mines or small factories (WHO 2007).

**2.3.2 International OSH Legislation: Does it affect Lebanese law and practice?**

After understanding the legislative framework for OSH in Lebanon, it is important to review the international standards and declarations to see how they relate or affect the legislative practices in Lebanon.
The initial ILO/World Health Organization (WHO) definition of OSH dates back to the year 1950, and it was announced during the first session of the Joint ILO/WHO Committee on Occupational Health. It was then revised in 1995 during its 12th session to read as follows:

Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities; and, to summarize: the adaptation of work to man and of each man to his job (Alii 2008).

Since then, there have been wide international efforts to promote OSH by means of developing international labour standards, codes of practice, conventions, recommendations, and laws. Below is an overview of the main legislative actions accomplished to date.

The WHO Declaration: reinforcing international commitment
In October 1994, the WHO Collaborating Centres in Occupational Health met in Beijing, China, to approve the declaration on “Occupational Health for All”.
There was an urgent call to respond to the rapid changes in working conditions by developing occupational health that would safeguard the health of the workers and their surrounding environment. In addition to putting forward the strategy for “Occupational Health for All”, an action plan was adopted outlining the proper implementation. The Constitution of the WHO, the WHO Global Strategy on Health for All, and the ILO conventions on OSH and on occupational health services specified “the right of each worker to the highest attainable standard of health,”
regardless of nationality, age, sex, occupation, and working conditions (WHO 1994).
The declaration called for special attention to be directed towards new technologies, growing mechanization, and other developments in the work environment, in addition to the changing demographics in the working population, which might be leading to new epidemics of occupational diseases and injuries. The role of governments was particularly described in the declaration, as it was recognized that OSH should be given consideration at all policy levels (enterprise, national and international). In addition to developing a national OSH policy, enforcement and inspection systems are to be included. The latter should be based on an appropriate infrastructure and close networking and coordination among related parties.

The occupational health services should mainly:

- Focus on multidisciplinary preventive activities
- Be situated in the workplace
- Offer proper training for workers
- Embrace disabled workers
- Encourage the participatory approach for increased workers' empowerment and motivation
- Call for the participation of experts and professionals in the field (WHO 1994)

ILO Occupational Health and Safety Conventions: Is more outreach needed?

The core concepts of OSH are covered in the Occupational Safety and Health Convention (C155) and the Occupational Health Services Convention (C161). Although about half of all ILO Conventions and numerous codes of practice and guidelines are pertinent to occupational health and safety, without implementation these are worthless standards. Major industrializing countries do not want to emphasize OSH. The industrializing countries are also afraid that better alertness to
OSH will lead to unnecessary exposure of their health and safety shortcomings. To date, only 52 of the ILO's 178 member states have ratified the most important ILO convention on occupational safety and health (Convention 155). The Occupational Health Services Convention (No.161) has been ratified by only 27 states (ILO, 2009). Additionally, the Promotional Framework for OSH (C187) was developed in 2006 in an attempt to develop a systematic means of implementation of the conventions, recommendations, and codes of practice. The above conventions mainly aim to urge the tripartite constituents in every country to develop national policies, systems and programmes. Convention 187, along with the ILO global strategy on OSH, aim to reduce occupational injuries and illnesses, as part of the ILO's Decent Work agenda.

As for the detailed requirements on National policies, systems, programs, and profiles, they are mentioned in C187's accompanying Recommendation 197 which also urges states to adopt ILO instruments relevant to the Promotional Framework for OSH (ILO 2007). As mentioned previously, Lebanon has ratified a number of conventions and has included their provisions in national decrees, but how effective are these decrees and how much of the ILO OSH conventions are being translated at the enterprise level?

International Organization for Standardization: How does it compare to national law?

Enterprises are influenced by international standards such as the international quality standards, like ISO 9000 and its derivatives, which certify businesses to show reliability of their product or service delivery to clients and customers. On many occasions, enterprises are required to implement the quality processes in order to stay in business. Incorporation of quality and environmental issues into an organization's constitution and practices is an important part of the ISO process. The
registration or certification audit has become the tools for enterprises to reveal compliance to the ISO standard. As quality and environmental management have become a business reality, employers begin to put into practice management systems leading to conformity and registration.

The International Organization for Standardization (ISO) 14000 deals with environmental management standards and helps organizations minimize how their operations negatively affect the environment. ISO 14001:2004 and ISO 14004:2004 were the first two standards and they deal with environmental management systems (EMS). ISO 14001:2004 provides the requirements for an EMS while ISO 14004:2004 gives general EMS guidelines. Hence, an organization meeting the ISO 14000 requirements would be able to identify and control the environmental impact of its activities, products and services and continuously improve its environmental performance. On the other hand, the ISO 9001 is a set of standards for quality management systems that is maintained by the International Organization for Standardization and is administered by accreditation and certification bodies. Some of the main requirements for ISO 9001 would include:

- A set of procedures that cover all key processes in the business
- Keeping adequate business records
- Checking produced items for malfunction, with appropriate corrective action where necessary
- Regularly reviewing individual processes and the quality system itself for effectiveness
- Facilitating continual improvement.

An organization that has been certified to be in conformance with ISO 9001 may publicly state that it is "ISO 9001 certified" or "ISO 9001 registered." Certification to an ISO 9000 standard does not guarantee the compliance (and therefore the quality)
of end products and services; rather, it certifies that consistent business processes are being applied (ISO 2008).

This is of particular relevance to this study as more and more industries are becoming ISO certified to keep up with the international market competition. The advantages of being ISO certified seem to be much more tangible to the employer than following a national law.

**Occupational Safety and Health Management Systems: A more significant daily practice**

Many enterprises are now looking past compliance and its significance to a new world of health and safety performance. Workplace culture, values and beliefs call for the design of management systems to address dangers, risks and organizational structures to uphold and constantly advance health and safety measures. Usually, the progress of an enterprise’s conception of workplace health and safety grows as accidents or ill health take place over time.

Many new employers begin with slight or no understanding of OSH until a worker is injured or becomes ill. They then improve their knowledge by reacting to the problem especially when compensation or compliance inspectors bring it to their attention. Reaction turns to knowledge and OSH is then integrated to the enterprise activities. At a certain point in time, the enterprise realizes that important threats to its business may occur due to a breach of legislations and decides to initiate a program fulfilling due diligence requirements. Therefore, the advancement of OSH entails: 1. Unknowing management; 2. Reactive action; 3. Due diligence; 4. Management system (IAPA 2007).
The ILO published "Guidelines on Occupational Safety and Health Management Systems" in 2001. The ILO-OSH 2001 text sketches a national framework for the insertion of occupational health and safety management system principles into legislation. It also offers an outline for the incorporation of health and safety into corporate culture and management systems. Organizationally, ILO-OSH 2001 identifies a management system built on a continual improvement cycle including: Policy, organizing, planning and implementing, evaluation and action for improvement. This management system cycle is supported by a system audit requirement.

The OHS management systems (OHS-MS) have a positive impact on the decrease of hazards and risks and on the increase in productivity, when introduced at the organization level. The efficiency of this concept is widely recognized by governments, employers and workers as well. The elements of a national framework for OHS-MS comprise: 1) the ILO guidelines on OSH-MS that are intended to protect the workers from risks and the elimination of accidents, illnesses and deaths at the workplace; 2) the national guidelines on OHS-MS that mainly aim at providing guidance for the development of plans to reinforce compliance with regulations and standards resulting in continuous advancement is OSH performance; and 3) tailored guidelines on OHS-MS that reflect the overall ILO guidelines while also reflecting the specific characteristics and needs of the organization.

The three above components lead to a successful OHS-MS at the enterprise level. The management system at the level of the organization includes five essential elements:

- **Policy**: setting out policy regarding OSH in general and, specifically, workers' participation in OSH measures enforced at the workplace.
- **Organizing**: allocating responsibility, accountability and authority for
development, implementation, performance and proper documentation of the OSH-MS.

- Planning and implementation: evaluating existing OSH-MS in the organization and establishment of realistic and measurable OSH objectives prior to implementation.
- Evaluation: monitoring OSH performance at regular intervals.
- Action for improvement: establishing preventive and corrective actions to be taken in accordance with the OSH-MS evaluation and monitoring.

The elements should be subject to periodic audits in order to determine whether the OHS-MS and its related components are adequate, effective and right in place for protecting the health and safety of workers (ILO-OSH 2001).

In this sense, an enterprise level OSH management system is a more practical organizational tool to effective OSH practice. Any legislation will have to be equally guiding and practical for managers to incorporate at the operational workplace level.

**OHSAS 18000: A workplace level opportunity**

The British Standards Institution’s (BSI) Occupational Health and Safety Assessment Series (OHSAS) 18001 is rapidly turning to be an internationally recognized design for an Occupational Health and Safety Management System. Developed to be compatible with ISO 9000 and 14001, OHSAS 18001 has been received in many jurisdictions as a national technical specification for an Occupational Health and Safety Management System. Following the 14001 format, OHSAS 18001 sets out performance requirements for Occupational Health and Safety Management Systems including requirements for: OHS Policy, Planning for Hazard Identification, Risk
Assessment and Control, Implementation and Operation, Checking and Corrective Action and Management Review. System audits are based on the organization's ability to conform to its OHS policy and OHSAS 18001 management system requirements. OHSAS 18001 is presently not an ISO standard, but is expected to shape the basis of an international standard in the future (Industrial Accident Prevention Association 2007).

Therefore, OHSAS 18000 is "an international occupational health and safety management system specification." The OHSAS specification is intended to serve organizations that plan to launch an OHS management system in their enterprise in order to decrease and ultimately eliminate occupational hazards which workers are exposed to. By guaranteeing conformance to the international OSH policies and by demonstrating it to the concerned parties, these organizations can seek accreditation of their OSH management system by an external organization (OHSAS 2008). In this regard, OHSAS 18001, which is one part of OHSAS 18000, was developed in response to the extensive demands for a renowned standard against which enterprises can be assessed and certified. Indeed, OHSAS 18001 is "an Occupational Health and Safety Assessment Series for health and safety management systems" (OHSAS 2008).

As more and more companies adopt OHSAS, this is an area worth exploring versus national law.

2.3.3 Occupational Safety and Health Institutes: a prospect missed in Lebanon

While the Arab States lack a strong regional institute dedicated to Occupational safety and health training and research, there is an OSH Institute based in Syria as part of the Arab Labour Organization (ALO) and it is active within its limited human
and financial resources. It is nevertheless worth mentioning the main OSH Agencies which provide a wealth of safety and health data and training and inform today's legislation and industries. It is important to learn from the following internationally recognized institutes which play a major role in promoting and improving the occupational safety and health situation in their respective countries and even in shaping the international OSH agenda. These are summarized below.

The Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA), in the U.S. Department of Labour, has as its mission to guarantee the workers' safety and health in the United States by collaborating with both the employers and the workers themselves for better work environments.

Currently, OSHA is focusing on three strategies:

- Effective enforcement programs, assisting the employers who seek high standards of OSH in their enterprises.
- Offering training, continuous education, and on-site consultations in order to prevent on-the-job accidents and diseases. Through its website and accessible publications, OSHA provides up-to-date information on the latest OSH issues.
- Creating and maintaining partnerships, by bringing together governmental agencies, academic institutions, labour unions, employers, and workers to promote safer working environments (OSHA 2007).

The National Institute for Occupational Safety and Health

The National Institute for Occupational Safety and Health (NIOSH) is affiliated with
The Centres for Disease Control and Prevention (CDC) in the U.S. Department of Health and Human Services. It is mainly in charge of creating "safe and healthful working conditions for working men and women by providing research, information, education, and training in the field of occupational safety and health."

The strategic goals of NIOSH include:

- Adopting a surveillance system for major occupational illnesses and hazards.
- Focusing on preventive activities at the workplace, through evaluations and interventions.
- Conducting sound scientific research to lessen occupational accidents and diseases among workers in high-risk enterprises.
- Maintaining continuous flow of information and steady capacity building programs for the concerned stakeholders (be they workers, employers or the public) to prevent occupational diseases and accidents (NIOSH 2003).

The European Agency for Safety and Health at Work

The European Agency for Safety and Health at Work was set in 1996 and is currently located in Bilbao, Spain. Its mission is to make the work environments in Europe "safer, healthier and more productive," by promoting a safety and risk prevention culture. The asset of the agency is that it is a tripartite organization, triangulating the efforts among governments, employers and workers (OSHA 2008).

The new European Strategy will extend from 2007 till 2012 with a primary objective "to reduce by 25% the total incidence rate of accidents at work per 100 000 workers in the EU for the period 2007-2012."

Several steps are proposed in order to achieve this objective:

- Implementation of EU legislation
• Development of a legal framework
• Development and implementation of national OSH strategies
• Promotion and adoption of health-focused approaches
• Proper identification and evaluation of new potential risks
• Effective tracking of progress in OSH activities (OSHA 2008).

The Health and Safety Executive

The Health and Safety Executive is considered as the United Kingdom focal point for the European Agency for Safety and Health at Work. The 1974 Health and Safety at Work Act placed primary responsibilities on employers to prioritize the safety and health of their workers. The development of the Health and Safety Commission (HSC) and the Health and Safety Executive (HSE) came as a response to this Act. The commission's primary mission is to supervise the implementation of the Act provisions, with the support of the HSE. The new strategy for OSH in the UK for the year 2010 outlines the below aims of the HSC and HSE:

• To focus on creating and maintaining a health and safety culture, properly responding to the ever-changing working conditions.
• To invest more effort into controlling the newly emerging work-related accidents and diseases.
• To recognize OSH as a fundamental part of the contemporary business sector (HSC 2004).

It was important to visit the major OSH institutions in the world to find out their place and role in the whole occupational safety and health scope. This shows that safety and health in the workplace cannot be the responsibility of employers alone or governments alone, but everyone has to be open to collaborate and learn from
others who are active and have impacted this field in many ways.

Nevertheless, although governments are not required to be technical references on safety and health, they do have the authority in drafting and enforcing the law, which is a major step for the improvement of safety and health in the workplace.

2.3.4 The role of governments in enforcing OSH legislation

It is not enough to issue policies knowing that the country does not have the means or resources to implement them. In addition, if the main people who stand to gain from good OSH measures are not aware of the benefits, then it is not likely that they will protest and ask for better enforcement of legislation. An Occupational Health Specialist in South Africa once stated: "Implementation of occupational health and safety practices in South Africa is impeded not only by lack of funds, expertise, and technological sophistication, but also by worker apathy and employer ignorance, such that there is no pressure on government even to enforce existing regulations" (Joubert 2002).

Therefore, to set an effective OSH system, a comprehensive legal framework based on sound technical and scientific advice needs to be developed. In order to construct the legal framework, a prevention plan needs to be set based on accurate information, continuing education and training and supported by human and financial capacities to research current and new challenges. Thus, governments can be the main actors in putting forward the OSH framework as safety standards have to be set through laws and legislations.

In addition to the cost on the enterprises, there is a major economic burden incurred on the governments through social security costs, compensation payments, medical costs for treatment, and the loss of production. Indeed, OSH should be treated as an intrinsic part of social relations as it is affected by changes in the national and global
socioeconomic situation (EASHW 2006).

An industrializing country requires a legal infrastructure and political backup to develop national OSH policies and regulations. These countries then, need to make sure that these regulations are efficiently enforced on a large scale. Usually, the industry would oppose such endeavours, therefore it is crucial to involve the industry in all these phases for a sustainable improvement (LaDou 2003). All developing countries have difficulties while working with their governments who do not fully support their OSH programs. The problem is further aggravated in Lebanon due to the scarce amount of available data on current OSH provision (Nuwayhid 1995).

In the Philippines for instance, the Bureau of Working Condition (BWC) develops policies and programs and enforces working condition laws in all workplaces. But it is faced with many difficulties impeding enforcement of OSH standards. This is due to the limited number of labour inspectors to visit the large number of enterprises. In addition, there are few industries who report annual statistics on occupational injuries and diseases. Therefore, the BWC is unable to adequately enforce policies because it does not have the power to reprimand employers and inspectors can only give advice and warning notices of non-compliance. Consequently, in the case of the Philippines, compliance remains voluntary (Torres, Greaves et al. 2002).

On the other hand, in Poland, government inspection of industries takes place at least once every two years where the cost is covered by the employer. Otherwise the Polish system has very little financial and human resources and each enterprise would probably be inspected once every 20 years (Dawydzik, Rydzynski et al. 2002).

Similarly, it is also clear that present deficits in occupational health in developing countries such as in Lebanon are caused by the lack of government concern with occupational health, shortage of data and proper surveillance systems and frail
enforcement of health and safety regulations (Nuwayhid 2004).

One of the most important issues in developing countries is to raise awareness on the importance of OSH to the well being of workers, enterprises and societies (Rantanen, Lehtinen et al. 2004). Therefore, one of the recommendations put forth by Nuwayhid is that occupational health researchers in developing countries should focus more on the worker than on the workplace. There is a need to highlight the worker's social context in which performance at the workplace is rooted (Nuwayhid 2004).

In developed countries, there is a presence of a political mechanism that helps reflect scientific findings in policies and regulations, which are enforced by specialized agencies. On the other hand, governments in developing countries argue that they do have policies that protect workers' health needs. This is contradicted by evidence that shows most of these governments treat the issue of occupational health very superficially (Nuwayhid 2004).

Politicians, policy makers, employers and labour unions have to be fully persuaded of the importance of OSH. Meanwhile legislation is usually inappropriate and existing regulations are rarely enforced (Rantanen, Lehtinen et al. 2004).

The problems faced by the European countries in the implementation of their legislative framework on OSH are very similar to those found worldwide. Since Lebanon's law is inspired by the French legislation, it is essential to go through the European standards and the problems faced in Europe which may intersect with those faced in Lebanon.
2.3.5 Application of OSH Legislation in the European Union

Member States

In all European Union member states, legislation has been a conventional mechanism for advancing occupational safety and health in the workplace. The first regulation dates back to the 19th century. In the beginning, more emphasis was aimed at safety matters; it was not until later that health-related issues became the focus in the later stages. In the past few years, legislation has introduced even other more social and organization-related matters. European Member States have always used legislation as a means to improve occupational safety and health. However, the relevant matter is whether legislation has proved effective at the level of enterprises and to what extent.

Many of these Member States have noticed a decreased level of accidents and diseases over the years especially in machine safety, which they attribute to existence of legislation. There also seems to be a decline in the number of protests from employees regarding poor working conditions. Throughout some of the European Union Member States, there has been an increase in the degree that enterprises comply with legislation. There are certainly some aspects which make legislation more successful. For instance, Member states report that legislation should be realistic and pertinent in order to motivate those concerned, and social partners should also be involved in setting the legislation. Concerning the format of the legislation, there were different points of view as to whether it should be detailed so that companies can understand it and enforce it or whether such limited flexibility could arise in technical obstacles for some enterprises. In general, it is very complicated to test the effectiveness of legislation because it is impossible to separate it from other issues. Several Member States are in the process of improving the evaluation of regulation (EASHW 1997).
In spite of widespread legislation in the European Union, workers are still exposed to health and safety hazards at work. Access of workers to OSH services ranges from 15 to 96% depending on the country and type of work. There is an increase in the amount of small and medium enterprises which makes it more demanding to provide occupational health support to the EU's 158.4 million workers. But European legislation is not enough to enhance the health of employees and further effort is needed at the level of the state and employer and occupational health professionals. The EU health and safety Law is drafted in consultation with employers and trade unions. It is implemented through 'directives' which member states must abide by within two years. In the UK, EU directives are passed as 'regulations' presented by the suitable government department secretary of state (EASHW 1997).

2.3.6 The EU Law in practice as compared to the Lebanese context

The 1989 ‘Framework Directive’ (89/391/EEC) established occupational safety and health measures. This directive outlines the employer’s duty to provide the following: expert protective and preventive services (article 7); data on safety and health risks and preventive measures (article 10); consultation and involvement of workers (article 11); training of workers (article 12); and health surveillance (article 14). The Framework directive promotes the idea of multidisciplinary OSH according to the ILO’s Occupational Health Services Convention (No. 161) and its recommendation (No. 171), 1985 (WHO 1999).

The standard number for compliance with such social directives is over 90% in the EU as a whole with Spain having the highest record, 100% (Nicholson 2002). National Legislation on OSH is different from country to country (WHO 1999). Occupational Safety and Health is obligatory in Belgium, Finland, France, Germany and the Netherlands. Provision is compulsory in Spain for employers with over 1000
employees and in certain industrial sectors in Austria and Denmark. The Netherlands has the best OSH provision, with 96% cover for employers of over 100 employees and 91% for SMEs. There are 90% of Finnish workers, 85% of French workers, and 80% of Danish workers who have access to OSH. In Germany, Sweden and the UK, around 50 to 60% of workers have access, whereas in Spain and Italy access is around 15% (Wynne and Grundemann 1999).

It was noted that the best way to spread knowledge about OSH regulations is to provide workplaces with useful guidelines in which regulations are listed in a friendlier version. It was also useful to raise awareness in enterprises on the economic benefits of occupational safety and health to motivate them to take preventive measures. In some European Union member States there was a lot of concern about the level of implementation of the legislation at the workplace level, suggesting that this can only be monitored by proper inspection. As for the future role of legislation, there is a big emphasis on how it should be implemented at the workplace level. It is essential that employers and employees have the adequate capacity to put OSH measures into practice in their own enterprises (EASHW 1997).

In European Member States, there has always been a mixture of both legislation and enforcement to improve the state of occupational safety and health in the workplace. There is substantial data proving that supervision by inspectorate bodies has lead to a decline in severe hazards. The exact scope and job description of inspectors is a particular area of interest as many enterprises are visited by inspectors and sometimes action is taken such as improvement notices or legal proceedings, but there are long time intervals in which many companies are not inspected due to shortages in inspection resources. This is unfortunate knowing that inspection visits most often encourage enterprises to increase preventive measures. It is important to note that enforcement alone will not resolve all OSH problems at work. Employers
and employees at the enterprise level need to devote the required time and effort in prevention (EASHW 1997).

Making OSH a legal commitment is a helpful way of improving access, but as a standalone activity, it will not likely lead to better employee health and can only be part of a broader tactic for health development. The UK aims to decrease work related ill health by 20% and 'lost' workdays due to work-related ill health by 30% by the year 2010. To reach these goals, the government has launched five programmes: compliance, continuous improvement, knowledge, skills and support mechanisms. The compliance programme deals with improving the law and enhancing compliance with on hand and prospective legislation on occupational health (Nicholson 2002).

Learning from this advanced EU experience, this study tries to assess the current OSH legislation structure in Lebanon and find out if the existing national OSH policies are being implemented at the enterprise level and what are the reasons behind compliance or the lack of it.

A major issue to shed light on is the traditional method of legislation enforcement: Labour inspection bodies. How useful is this system and how has the role of labour inspectors evolved over the years? Understanding the reasons why labour inspection became a common practice and why it had to evolve to take on an advisory task can help understand the changing needs for safety and health compliance.

2.3.7 Labour Inspection to Enforce OSH Legislation

Prevention of occupational injuries and illnesses cannot be achieved without proper labour inspection services. These services are multi-purposed: they can serve as guidelines for OSH; as a trustworthy source of information for the organizations; as well as enforcing compliance with labour standards at the workplace (Albracht 2005).
2.3.7.1 Historical Overview

Labour inspection first emerged in Britain in 1802, when the parliament passed an act on the preservation of health and morals of the apprentices in textile and other industries. However, compliance with this act has proven to be ineffective, despite the fact that it was supervised by certain voluntary committees. Thus, in 1833, the British government assigned the inspection duties to “persons of high standing”, who carried out detailed inspection functions, specifically regarding child labour and excessive long working hours. During the 19th century, most European countries adopted legislation reflecting new developments in industries, accompanied by new socially-aware attitudes. In 1890, representatives of 15 states attended a conference in which they affirmed that inspection laws in each state should be monitored by an independent team of qualified officers appointed by the government. Consequently, Britain appointed the first medical inspector of factories in 1898, followed by the assignment of the first female inspector in Germany in 1901. These historical milestones represent the foundation of the modern labour inspection system that has been set in a number of European countries by the dawn of the 20th century (Richthofen 2002).

The Role of Labour Inspection

Article 3 of the ILO labour inspection convention, 1947 (No. 81) highlights the main duties of every modern labour inspection system. According to the Labour Inspection Convention No. 81, securing the enforcement of legal provisions, supplying technical information and advice to employers and workers, as well as drawing the attention of the competent authority about the flaws not covered by the existing legal provisions, constitute the principle functions of the labour inspection system (Diop and Biltgen 2005). A common understanding of prevention as opposed to sanction and punishment is currently growing. This new attitude is reflected in the recent labour
inspection convention 1969 (No.129), which dictates that inspectorates must be associated with preventive measures rather than corrective interventions.

Despite the common understanding of preventive measures among labour inspectors, their enforcement roles still vary widely from one country to another. For instance, they might be general and apply to all labour and social legislations, as is the case in countries such as Belgium, Bulgaria, France, Greece, Spain, and most Latin-American countries, or they may be restricted to certain fields such as safety and health and certain aspects of working conditions, as is the case in Nordic countries and the United Kingdom. However, more and more countries have expanded the scope of work of their labour inspectors to encompass almost all aspects of labour sectors (Richthofen 2002).

**Prevention Role of the Labour Inspectorate Body**

ILO Conventions Nos. 81, 129, 155, 174, and others define the mission of labour inspection in terms of prevention within the context of labour protection. These conventions contain several provisions that outline several important aspects of the preventive role of inspection services, such as the inspection of new establishments, materials and substances and work processes, and the prevention of occupational accidents and diseases. Prevention in labour inspection is synonym with avoidance of accidents, conflicts and occupational illnesses. Such prevention can only be assured through compliance with existing legislations. Prevention, however, has its own undeniable limitations with regard to preventive labour inspection activities. For instance, the occurrence of accidents, sanctions, and penalties, which have been documented, are much easily quantified and analysed as compared to accidents that did not take place. To further illustrate this dilemma, one would ask the following question: how does one calculate the cost saved because of accidents prevented
before they occur? (Richthofen 2002).

Inspection for the sake of prevention can be directed towards several work aspects such as: OSH, working conditions, industrial relations, or even employment. Therefore, prevention can eliminate or avoid the risk of physical or mental health damage, the risk of unfair treatment, the risk of costly conflicts, and the risk of unemployment. If prevented, these various categories of risks can lead to a substantial decrease of losses for individuals, the enterprises, and the society at large. However, designing an effective prevention policy requires the involvement of all directly affected stakeholders. It is therefore a necessity to have a common understanding of the value of prevention among social partners, policy makers, union labours, and management representatives. If any of these parties fails to adopt the prevention concept, then labour inspection cannot successfully promote any prevention policy (Richthofen 2002).

**Effectiveness of Labour Inspection**

In 1991, Gray and Jones examined the impact OSHA health inspections have on compliance with its regulations in the manufacturing sector. Results showed that the reported number of violations was linearly associated with additional health inspection visits. In other words, with every additional inspection, more workers are found to abide by OSHA regulations (Gray and Jones 1991).

**Integrated Labour Inspection Systems**

With the rise of globalization and the growth of the global world economy, there is an increasing need for a comprehensive strategy for the implementation of the Integrated Labour Inspection System (ILIS). The ILO defines the ILIS as a "holistic coherent while flexible concept that contains elements, such as: administrative
integration, procedural integration, and technical integration." It also aims at strengthening the existing resources, providing better services and increasing the presence of inspectors at the workplace. The main idea behind the ILIS is to raise worldwide awareness of the social dimension of the workplace. It is, therefore, a necessity that social consideration be given the same level of priority as economic, financial and environmental concerns. The labour inspectors and social partners act as principal agents of change because they are the only ones with the authority to access and impose new notions directly in the workplace.

In order to achieve this change, tripartism and social dialogue have to be promoted. Composed of workers, employers, and governments, the tripartite structure provides the strongest design of effecting international change and the widest possible range of influence. It is only through the cooperation of these three parties, at both the national and international levels, that a sustainable change can be implemented. The integration of the ILIS is accomplished on four distinct levels: the operational level, the sectoral strategic level, the member States strategic level, and the global policy level:

- **Global Policy Level**: on the global level, ILIS must be implemented through conventions, treaties, protocols, recommendations and social directives developed by the ILO, EU, UN, in addition to other regional structures and member States. On this level, ILIS looks to promote social peace, a culture of wellbeing among workers, and the right to decent work.

- **Member States Strategic Level**: on the narrower scale, the member States must promote synergy among the key components of the labour system. The latter include: ministries, employers, unions, shareholders and social
alliances. These diverse groups have to collaborate in order to promote a national tripartite committee that assesses OSH and working conditions.

- **Sectoral Strategic Level**: on this more focused level, ILO conventions are put into practice in local jurisdictions by competent authorities.

- **Operational Level**: it is on this level that all the work done in the upper levels come into play. These tasks are normally carried out by labour inspectors, enterprise OSH services, worker representatives and others. It is at this level that labour inspection plays its most important strengthening and supportive role (Albracht 2005).

Therefore, labour inspectors have a vital role to play in advising on health issues. Safety risks are often obvious but health risks are no so apparent, especially for small firms who cannot afford to hire external consultants. Well-trained competent inspectors can give on-the-spot advice about risks from toxic substances, noise, vibration, musculoskeletal disorder (MSD), ergonomic and psychosocial risks etc. and how to prevent them in practice. Properly equipped, they will often undertake measurements of noise or vibration levels, exposures to airborne fumes etc. at minimal costs.

The solution to the lack of labour inspectors could involve workers themselves being able to present their grievances to local union representatives who could in turn liaise with the inspection bodies.

Moving from the national constraints to the enterprise level, the possible factors, which may influence behavior change at the enterprise level, remain a major concern.

It is clear now that the government has a leading role in setting policies and enforcement, the worker and employer associations have a major collaborative role in information dissemination and following up on compliance issues, but what is the
role of employers at the enterprise level? Is there a continuous thread between the
development of a decree and its application at every enterprise? Even if managers
are aware of the benefits of a safe and healthy workforce, what stands in the way of
promoting such practices? Is it an issue of attitude and commitment?

Many inquiries lead the research to review some literature on other factors affecting
the end point of implementation at the level of the enterprise.

2.4 Knowledge, Attitude and Behaviour in Relation to Workplace Safety and Health

Both managers and employees come to work with preset beliefs, attitudes and
values. Many of these convictions and values may forecast behaviour at work.
However, it is incorrect to assume that behaviour can be altered if attitudes are
changed. Trying to quantify attitudes with the use of certain data collection tools such
as interviews and questionnaires may not be a valid way to make the link between
attitude and behaviour (Furnham 2005). In line with this thread of thought, this study
does not attempt to prove that certain attitudes and beliefs towards workplace safety
definitely lead to certain practices.

Engagement in unsafe practices at the workplace is a problem which requires a
multidimensional approach. Accordingly, it is essential that accident prevention
programs determine the various factors which influence the worker’s choice of
engaging in safe or unsafe practices. Such factors include: knowledge about the
health condition and its consequences, the attitude towards this condition, and the
behaviour adopted to curb the problem. According to (Brosseau and Li 2005)
employers’ intention to improve safety is also highly influenced by their attitude
towards safety. Eakin et al. (2000) consider that employers’ narrow perspective of the
benefits of health and safety interventions and the informal management structures constitute main barriers to installing OSH interventions (Eakin, Lamm et al. 2000).

A study by Whysall et al. 2006 conducted on a broad variety of occupational sectors concluded that key obstacles to effective enforcement of OSH policies were: employers’ attitudes towards health and safety in general and the resistance of employees to changing their behaviour. Employers experienced difficulties in having employees alter their behaviours and adapt to new working practices. This resistance might be best explained by existing employees’ attitudes. It was concluded that the most effective way to combating the disposition of employees to relapse to habitual ways of working, was to reserve time out of routine daily management tasks to enhance risk awareness, follow-up on the application of procedures and enforce rules (Whysall, Haslam and Haslam, 2006).

Another problem faced by employers is the difficulty in getting authorization and commitment from senior managers to put an OSH intervention into effect, which makes the process of implementing an OSH intervention very slow. Managerial attitude towards OSH was affected by the level of importance they gave to preventative measures, the appreciation and importance they accorded to health and safety initiatives, and their perception of such initiatives as negatively affecting their managerial competencies. Production rate was also stated by employers as one of the important barriers to change since it was difficult for them to convince senior and production employers to take some time out from managerial tasks long enough to train workers. The study found that one way to gain senior manager’s approval and commitment for making changes would be through highlighting to them the benefits of the outcomes, such as increasing employee’s efficiency rather than improving their safety and health (Whysall, Haslam et al. 2006).
Thus, a supportive and enthusiastic management that values health and safety would most likely enhance implementation and organization of change. Management reorganization can prompt action and facilitate modifications. Good communication between management and workers on health issues enhances the success of interventions. Finally, localized control over budgetary spending was identified as a change facilitator for health and safety interventions. The study by Whysall et al. concluded that it was important to tackle organizational and structural factors that shape managers’ and employers’ attitude towards safety and health (Whysall, Haslam et al. 2006).

On the other hand, worker’s perception of work-related risks is causally related to their behaviour at work which explains their exposure to health hazards. Worker’s perception and knowledge of risks is important to be able to control exposure. Providing information, instruction and training for workers on health hazards will improve their risk perception and thus limit their exposure to risks (Stewart-Taylor and Cherries 1998).

A questionnaire administered to salt workers working in the desert of Rajasthan, India, revealed a gap between their knowledge about health hazards and problems associated with their working conditions and their practice. It seems that most workers are aware of the adverse effects related to their work. However, workers do not have an adequate perception of the long-term health consequences of these work hazards. These findings suggest a need to make safety measures more useful and problem-free by the management (Kripa Ram Haldiya, Sachdev et al. 2005).

A study conducted by Yassin et al. in the Gaza strip agriculture sector, revealed that awareness of protective measures does not always lead to their usage. The authors explain this fact by reverting to the feelings of discomfort, cost, or unavailability of
proper protective devices that farmers confront when they attempt to use them (Yassin, Abu Mourad et al. 2002).

It is sometimes easier to prevent workers from performing unsafe acts through management of the work environment than through various training or stimulating programs. While it is essential that accident prevention programs try to find the reason behind unsafe behaviour in order to reorganize jobs and the work setting, in some industries, the work environment is often inherently risky, transforms quickly and is difficult to envisage, making it practically impossible to protect the workers by modifying the workplace site.

Therefore, it is important to identify other methods to convince employees to work in a safe manner. For instance, Skinner (1953) explains that human behaviour is regulated by the natural consequences of the behaviour, where a positive consequence of a behaviour results in its enforcement and a negative consequence results in the reduction of its occurrence (Skinner 1953). Therefore, the worker's engagement in safe or unsafe practices at the workplace may depend greatly on the natural consequences of their practices.

The unsafe practice of the employee could persist if it were naturally reinforced, such as having a task completed in a lesser amount of time, while not being followed by a punishment or admonition for failing to comply with safe regulations. Meanwhile, the natural consequences of safe practices, such as absence of damage or injury, do not result in a meaningful positive reinforcement. These findings suggest that there should be an alternative to relying on the natural consequences of worker's behaviour to ensure their safety (Sulzer-Azaroff 1982). The use of safety incentives has been reported to be an effective tool in bringing significant positive changes in workers' compliance with safety rules (Sulzer-Azaroff 1982; O'Hara, Jhonson et al.)
1985; McAfee and Winn 1989). Incentives should then be coupled with hazard control programs to achieve the optimum environment for employees to comply with safety measures (Cohen, Smith et al. 1979).

Moreover, the contribution of workers in the identification and control of hazards is most effective in improving safety procedures and establishing new policies. Workers themselves are most familiar with their environment, and are able to identify situations which prompt them to transgress safety rules. Therefore, a two-way communication between management and workers is an effective mean to produce good safety performance (Cohen and Cleveland, 1985).

Human error theories are better addressed in behavior models which take into account that the blame for accidents does not fall on human unsafe behavior alone, but on the design of workplace tasks that did not consider human limitations (HSE 2002).

The human factors approach calls for the need to have better-designed tasks, tools, and workplaces while paying attention to the limitations of human, physical, and psychological capabilities. While comparing legislation, engineering approaches, safety awareness, and safety training, (Cooper 1994) demonstrated that implementing a behavior-based-safety (BBS) program achieved better results for improving site safety.

Jannandi (1996) explained that to reduce the incidence of injuries, top management must be accountable and committed to the corporate safety policy (Jannandi 1996). Major accident causes reported in the study by (Choudhry and Fang 2007) were: inadequate supervision, inadequate training, inadequate planning, employee error, and accident beyond one's control.
Also, when explaining an accident, workers tend to focus on the circumstances of the accident, whereas supervisors tend to blame the employees as the source of the deviation from the normal work routine (Niza, Silva et al. 2008).

Workers in small industries in Al-Khobar area showed a lack of communication and understanding of occupational hazards and the protective behaviour. Most of them do not use personal protective equipment. Low educational level was one of the main barriers to worker’s adequate knowledge of occupational hazards and non-use of protective measures. Other factors contributing to these occupational hazards are passive attitude and negligence of business owners and workers, non-availability of proper protective devices and absence of adequate legislation. Many workers were reluctant to report occupational hazards in fear of losing their jobs if their employers were informed about it. The findings suggest the need to develop training and health education in work related health and safety for both employers and workers (Taha 2000).

The general issues of attitudes and knowledge affecting the behaviour of employers and workers has led the researcher to explore the possible theoretical frameworks that could be governing safety and health practice at the workplace level. The main theories visited are the protection motivation theory (PMT) and the expectancy theory and their possible application to the interest of this study.

Protection Motivation Theory (PMT)

There are several motivational theories which affect the behaviour of the human being in a certain direction. The two most relevant theories to this study are the PMT and the expectancy theory. Where the PMT is a good model to apply to worker behaviour change, the expectancy theory helps understand the employer motivation
process to promote safety and health measures in the workplace. The protection motivation theory (PMT) originally proposed by Rogers provided conceptual clarity to the understanding of fear appeals (Rogers 1975). However, the theory was modified in 1983 to a more general one of persuasive communication, stressing on the cognitive process mediating behavioral change. The revised PMT version describes adaptive and maladaptive coping with a health threat as a result of two appraisal processes: (i) a process of threat appraisal and a process of coping appraisal, in which the behavioral options undertaken by individuals to diminish the threat are assessed (Rogers 1983).

In order to engage in adaptive responses (protection motivation), and avoid maladaptive responses (those that place the individual at health risk), it is a must to assess health threats and the coping responses (Boer 1996).

The protection motivation theory states that stakeholders' motivations or intentions to protect themselves from harm are enhanced by four critical cognitions or perceptions, regarding the severity of the risks, the personal vulnerability to the risks, self-efficacy at performing the risk-reducing behavior, and the response efficacy of the risk-reduction behavior. People's intentions to protect themselves are also weakened by the perceived costs of the risk-reducing behaviors and the perceived benefits of the alternative risk-enhancing behaviors. Benefits of the risky behavior may include getting more work done in less time (Rogers 1983).

PMT is organized as two mediating sub processes that consumers use in evaluating threats (threat appraisal process) and in selecting among coping alternatives (coping appraisal). Assessments of threats (severity, vulnerability, and benefits) and coping factors (self efficacy, response efficacy, and costs) combine to form a motivation in stakeholders to protect themselves from the risk. Protection motivation arouses,
According to PMT, people can be motivated to engage in desirable health behaviors not only to avoid health risks but also to avoid social or interpersonal risks (Pechmann. C. 2003). The research in PMT has focused on the impact of health information (e.g., benefits of using PPEs) on the elicitation of both the appraisal of the threat and of the coping techniques (Rippetoe and Rogers 1987; Mulilis 1995; Floyd, Prentice-Dunn et al. 2000). People use the threat-appraisal process to evaluate potentially harmful responses such as not doing anything to protect one's self from hazards at work (maladaptive response). The intrinsic and extrinsic rewards or benefits (e.g. to finish more work in less time) will increase the probability of the maladaptive response whereas threat will decrease the probability of selecting the maladaptive response.

In contrast, the severity of the risk and personal vulnerability to the danger will decrease the probability of the maladaptive response while the response cost will increase the probability of selecting the adaptive response (e.g., using PPEs). In the case of workplace health risks, the likelihood of an individual being impacted by the risk of a hazard or disease is decreased by (a) belief in the severity of this risk, (b) belief in one's vulnerability to the risk (c) belief that preventive behaviors are an effective way to avoid the risk of workplace injuries and diseases, and (d) belief that one can successfully avoid the risk of workplace hazards and sicknesses (Floyd, Prentice-Dunn et al. 2000).

In contrast, the likelihood of not doing anything about the risk is increased by intrinsic rewards (e.g. enjoying work without gloves, or ear muffs), extrinsic rewards (e.g. manager approval-colleagues approval), and the costs of an adaptive response (e.g.
the cost of using PPEs). The increased likelihood of an adaptive response (acquiring PPEs) depends primarily on the four cognitive perceptions of severity, vulnerability, self-efficacy and response efficacy (Viscusi 1990).

The degree of these cognitive perceptions can enhance the persuasive effects of a risk communication strategy that elicits protection motivation. By eliciting a desire to protect oneself and one's health at the job, the risk information can then arouse, sustain, and direct activities for self-protection such as increasing the safety measures taken by the worker and maintaining these risk mitigating behaviors over time. Strong beliefs that severity, vulnerability, self efficacy and response efficacy will arouse the motivation to protect oneself should result in a change in their adoption rate of risk reduction behaviors. The protection motivation theory does not assume that the decision makers are rational. Individuals have difficulties in understanding probability due to biased media coverage, misleading personal experiences, and more, leading to the overestimation and underestimation of risk perceptions (Viscusi 1990).

Figure 1 shows the adapted PMT model components and linkages (Rogers 1983).
Figure 1: PMT Model components and linkages adapted from Rogers (Rogers 1983)
The protection motivation theory (PMT) therefore proposes five factors to explain healthy behaviour: perceived susceptibility, perceived severity of the health consequences, perceived effectiveness of taking a particular action to reduce the threat, perceived barriers to taking such action, and self-efficacy.

The first four components of the PMT are similar to those of the Health Belief Model, which has been extensively used to explain rationales behind promoting healthy practices. However, the inclusion of self-efficacy into the model follows the realization that either risk perception or the belief in the effectiveness of taking a specific measure or both are necessary but not a sufficient condition to mobilize actual change.

According to Bandura (1986), self-efficacy beliefs have proved to be a necessary component of engaging in a variety of health behaviours (Bandura 1986); it also determines how much people are prepared to persevere in the face of difficulty (Bandura 1990). Studies of the PMT showed self-efficacy to be one of the most accurate predictors of the intension and practice of health behaviour (Kelly, Zyzanski et al. 1991). In their study, Melamed et al. (1996) examined the usefulness of personal variables: noise annoyance and components of the PMT theory along with social organizational factors in explaining hearing protection device (HPD) use among Israeli manufacturing workers. Results have shown that HPD use was primarily related to personal but not to management pressure, co-worker pressure, or family support. The most powerful predictors of HPD use were found to be perceived self-efficacy, perceived susceptibility to hearing loss, and noise annoyance (Melamed, Rabinowitz et al. 1996).

Cognitive variables were found to influence nurses' compliance with safety regulations and use of safety equipment at the workplace. Nurses in the "exposure"
group were found to be less compliant with safety regulations than nurses who were not exposed. This may be justified by the fact the unexposed nurses had less demands to comply with. The health belief model sheds understanding on the health behaviour patterns of workers. In this study it showed that the health behaviour of the nurses was influenced by the judgment of their susceptibility to becoming ill. Older nurses felt more susceptible than younger ones and were more compliant with health regulations (Ben-Ami, Shaham et al. 2001).

The PMT model helps to explain the lack of compliance of exposed nurses despite their susceptibility perception. The model suggests that one element (susceptibility) is not enough to induce appropriate safety behaviours and those other elements of the model, such as “cues to action” is also needed to trigger safety behaviours. Compliance with safety guidelines was found to be influenced by nurses' general sense of well being which was shaped by their belief that they were contributing to prevent unnecessary occupational risks (Ben-Ami, Shaham et al. 2001).

Psychological benefits resulting from compliance with safety measures included a good general positive feeling that nurses reported. The ability to use safety equipment properly was defined as self-efficacy by the nurses. The study’s findings support the need to promote primary prevention by providing a safe environment for the employee by means of education, training with regards to safety measures, clear policy, written guidelines and their enforcement (Ben-Ami, Shaham et al. 2001).

In a study conducted by (Hope, Kelleher et al. 1999) in the agriculture sector, most farmers were found to be conscious of hazards associated with their work, are well-informed of the controls needed to deal with these hazards, yet protective measures were lacking within their work practices. This was attributed to the farmers' low perceived susceptibility, lack of time and money. Although farmers identified their
work hazards, they were unable to perceive themselves as susceptible to health risks, especially that they did not see any monetary benefit to it. Moreover, the lack of resources to purchase protective measures, such as suitable clothing, contributed also to the lack of compliance of farmers with safety and health regulations. These factors were defined through the study as the most important barriers to farmer's behavioural change. The findings suggest the need to have awareness campaigns and workshops that highlight personal and economic gains resulting from compliance with safety and health practices. These interventions should take into account personal perceived susceptibility and economic issues to be able to yield successful results (Hope, Kelleher et al. 1999).

Therefore, this section showed the importance of organizational and structural factors that shape employers' and employers' attitude toward safety and health. Further research is needed to capture the complexity of the occupational health phenomena and to fill the gaps.

**Expectancy Theory**

Victor Vroom first proposed the expectancy theory in 1964, which was later developed by Edward Lawler and Lyman Potter (Lee 2007). The theory explains how a person undergoes a certain process before making a choice. The theory tries to explain motivation from the perspective of why individuals choose a particular course of action rather than the other. In order to enrich the response, Vroom factored in his model several other variables such as individual perceptions and personal histories.

Furthermore, it was suggested that there is a relationship between people's behaviour at work and their goals. In fact it was postulated that an employee's performance is based on several individual factors such as personality, skills, knowledge, experience and abilities. The expectancy theory states that individuals
have different objectives and would be motivated if they perceive that: (i) there is a positive correlation between efforts and performance, (ii) positive performance will result in a desirable reward, (iii) the reward will satisfy an important need, and (iv) the desire to satisfy the need is strong enough to make the effort worthwhile (Vroom 1964).

The expectancy theory is based on three variables which Vroom calls Valence, expectancy and instrumentality. Valence refers to the emotional orientations employers/employees hold with respect to outcomes; if task completion, leads to an outcome desired by the individual, then valence is positive. Examples of positive valence are praise, promotion, recognition and pay rises (Thibaut and Kelley 1959; Rogers 1975).

Expectancy means that people/employees hold different expectations and levels of confidence about their capabilities of achieving a specific task. Nevertheless, expectancy is influenced by several factors such as: type of skills needed to complete the task, support expectations of co-workers and supervisors, availability of pertinent information, as well as previous experience. If an individual feels that he can achieve the task then expectancy is measured as one. On the other hand, if they feel that the task cannot be completed then expectancy is measured a zero. If the individual feels that the task may be achievable then it will be categorized between zero and one (See appendix 8 for the table describing Vroom’s variables).

For example, a task measured as 0.75 is believed to be more achievable than one measured as 0.45. Instrumentality is defined as the probability people/employees hold about securing the promised reward or not. The Probability would be equal to 1 if the successful achievement of the task would lead to the desired outcome, and probability would be equal to 0 if the successful achievement of the task would not
lead to the desired outcome, and probability would be between 0 and 1 if there is a chance that the successful completion of the task would lead to the desired outcome. Logically, employees will put in more effort if they believe that performing well will lead to a desired outcome (Vroom 1964).

According to Vroom, valence, expectancy and motivation are linked through the following equation:

Motivation (force) = Valence x Expectancy

At first this theory would seem most applicable to a traditional-attitude work situation which implies that the level of motivation of the employee depends on whether they want the reward provided for doing a good job and whether they believe more effort will lead to that reward (Vroom 1964).

However, it could equally apply to managers where the manager does something because they expect a certain outcome. For example, the manager implements safety and health measures because he/she thinks it is important to take care of the workers as a moral obligation (valence); The manager thinks that the more effort he/she puts into safety and health measures, the more healthy and safe workers will be (expectancy); and managers may think that the more workers are protected and healthy then the more productivity they will have (instrumentality). Thus, this theory of motivation is not about self-interest in rewards but about the associations managers, for example, may make towards expected outcomes and the contribution they feel they can make towards those outcomes. As for employees, Expectancy theory predicts that employees in an organization will be motivated when they believe that, practicing safety behaviour will keep them healthy and protect their lives, being healthy and performing well on the job will lead to organizational rewards, such as an increase in salary or benefits, and that these predicted organizational rewards are valued by the employee in question.
The theory is useful for this study because it allows for non-motivation, or simply for managers or workers to be unmotivated. It questions the assumption that people know or feel that action leads to result. For many people action does not lead to desired results in their lives, so it is critical for any theory to take this into account.

The models below are an attempt to apply these models to the Lebanese context and trying to understand the mechanism of employer motivation to put into place workplace safety and health measures.
Figure 2: Vroom’s expectancy theory adapted to managers
Motivational force:
The effort the worker puts into practicing safety and health measures in the workplace

Expectancy:
- Does the worker believe that being healthy and performing well on the job will lead to rewards?
- Does the worker believe that wearing PPEs will prevent injury?
- Negative expectancy:
  - Lack of management commitment
  - Culture of being lax about safety

Instrumentality:
What is the probability that practicing safety behavior will keep workers healthy and protect their lives?
What is the probability that wearing PPEs will lead to better salary, benefits, promotion, and recognition?

Valence:
Does the worker believe that good safety behavior will result in reward (valued by employee): better salary, benefits, health, promotion, and recognition?
How relevant are these outcomes to the worker?
Negative valence:
- Sick role
- Risk behavior

Figure 3: Vroom’s expectancy theory adapted to workers
Manager’s Expectancy:
Does the manager believe that healthy worker would lead to increased productivity? Does manager believe that good OSH MS will lead to safe worker

Worker’s Expectancy:
Does the worker believe that being healthy and performing well on the job will lead to rewards?

Factors influencing manager’s expectancy:
- Support expectation of workers and other stakeholders (Ministry of Labour, trade unions, employer associations)
- Availability of pertinent information
- Type of equipments/materials, guidelines
- Skills needed

Factors influencing worker’s expectancy:
- Support expectation of co-workers and line managers
- Availability of pertinent information
- Type of equipments/materials
- Skills needed
- Past experience

Figure 4: Factors influencing expectancies of managers and workers
A Framework Encouraging Adherence

WorkSafe Victoria\(^1\), as outlined in their 2000 strategy, sets out an agenda called “constructive compliance”, comprising all preventative activities in the workplace. This framework encourages both a learning and positive environment, through awareness raising, education, behavioural change communication and financial motivation. Moreover, low tolerance of weak safety and health is promoted through increased scrutiny and issuing of notices and guidelines, in case of non-compliance or when immediate hazards are detected in addition to stronger penalties where needed.

WorkSafe Victoria believes that the use of a combined variety of tools is the most successful approach to fully abide by legal requirements and sustained enhancement in shielding workers’ health. Therefore, the strategy can be divided into two clear categories where in one, adherence is voluntary through proper education, and the other category applies a strong deterrence against bad performance.

Encouragement for effective health and safety should be attained through information, education, communication strategies and provision of financial incentives by means of:

- Improving interaction with representative organizations for employers and workers, through social dialogue and trying to empower those bodies to take on a more deliberate responsibility.

- Producing specific guidance material for the industries in coordination with the social partners.

- Endorsing counselling systems at the enterprise level, highlighting the tasks of OSH focal points.

\(^1\) WorkSafe Victoria is the prevention division of the Victorian Work Cover Authority in Australia, it also entails the regulatory bureau which manages and puts into effect the OSH legislation in Victorian workplaces.
• Producing marketing campaigns to meet the objectives of the OSH programs.

• Setting up a fund to cover OSH initiatives.

These approaches aim to reinforce an environment of freely chosen compliance with legislative obligations and sustainable improvement in workplace health and safety. These strategies also take into account that labour inspectors cannot be omnipresent in all workplaces to inflict compliance with safety and health laws (Duane 2002).

Figure 5 is the researcher’s attempt to show the constructive compliance framework based on the WorkSafe Victoria approach.
Voluntary adherence

- Information
- Education
- Communication strategy
- Provision of financial incentives

Strong deterrence

- Regulatory role of inspectors
  - Issue written notices or directions when non-compliance or immediate risks are detected (rather than just give advice or verbal directions)
  - Escalation of enforcement activity if the same risk is evident on subsequent occasion

Social dialogue between ministry of labor, trade unions and employer organization to encourage them to take on responsibility.

Production of guidance material

Endorsing counseling systems at enterprise level, highlighting tasks of OSH focal points

Marketing campaigns to meet OSH program objectives

Setting up funds to cover OSH initiatives

Figure 5: Constructive compliance framework
Based on the above, both data collection tools used in this research, the questionnaire and interview schedule, address issues of education, communication strategies, rewards and the role of labour inspection in influencing compliance to safety and health measures.

The Effectiveness of Awareness Messages

Fear messages are considered to be an effective mean to encourage self-protective behaviours. According to Leventhal's model, fear messages can produce multiple responses such as intense fear, positive attitude towards safe practices, determination to execute the behaviours, and a high probability that safe practices will be adopted (Leventhal 1970). In addition to the content of the message, Cohen et al. (1985) found that the source of the message and the communication mode have an impact that should be taken into account when communicating warning messages to employees. They argue that the source of the message should be seen as a credible one and should enable workers to relate to it (Cohen and Clevland 1985).

Furthermore, spoken words are more persuasive than written ones since they allow a two-way communication and solicit greater attention and activity from the receiver. Messages can also have a greater impact if they are extended to reach target individuals' communities and families. This is due to the crucial role of social support and its influence on individuals' behaviours. Thus, directing safety appeals to worker's families can enhance the workers' safety consciousness (Cohen, Smith et al. 1979).

Further investigation into the enterprise level revealed general terms such as safety culture and climate which are interrelated and affect safety and health practice.
2.5 Safety Culture

Originally, efforts were geared towards controlling the physical conditions of the workplace in order to decrease occupational accidents and diseases, and there was a major emphasis on safety at the individual level and matters relating to non-compliance with OSH measures. Alternatively, in recent literature, there is a shift towards safety at the organizational level, such as safety culture (Neal and Griffin 1997; O'Toole 2002).

Defining Safety Culture vs. Safety Climate

The notion of safety culture has attracted a lot of attention; however, it has created a notable misunderstanding when used interchangeably with the concept of safety climate. There is a disagreement among safety experts on how to define safety culture and how this latter concept is related to safety climate. For Wiegmann, et al. (2002), safety culture and safety climate are defined as follows:

Safety culture is the enduring value and priority placed on worker and public safety by everyone in every group at every level of an organization. It refers to the extent to which individuals and groups will commit to personal responsibility for safety, act to preserve, enhance and communicate safety concerns, strive to actively learn, adapt and modify (both individual and organizational) behaviour based on lessons learned from mistakes, and be rewarded in a manner consistent with these values.

Safety climate is the temporal state measure of safety culture, subject to commonalities among individual perceptions of the organization. It is therefore situationally based, refers to the perceived state of safety at a particular place at a particular time, is relatively unstable, and subject to change depending on the features of the current environment or prevailing conditions.
Thus, safety culture and safety climate can be compared with personality traits and states. To further illustrate this analogy, we can visualize a person's reaction to a criticism, which will be influenced by his/her personality trait (pessimistic/optimistic) and also by a specific state of mind and circumstance at that point in time (anger/calmness). Likewise, safety culture is a stable feature of an enterprise, echoed in steady measures dealing with OSH issues; whereas safety climate is a momentary state of an organization that is continuously changing with different circumstances (Wiegmann, Zhang et al. 2002).

Relation between Organizational Climate and Safety Climate

Organizational climate is a construct with various dimensions. It includes individual evaluations of the work environment, ranging from the communication within the enterprise to the governing climate of safety (James and McIntyre 1996). The workers' perception of the organizational climate greatly affects their interactions with their colleagues, their responses to the work environment, and their motivation to achieve work outcomes (Neal, Griffin et al. 2000). Moreover, organizational climate is shown to shape the knowledge and skills of workers by enhancing participation in activities such as training (Morrison, Upton et al. 1997).

Safety climate is a component of organizational climate and is shaped by several factors such as management values, management and organizational practices, involvement of employees in health and safety activities and communication, and mutual trust and credibility between management and workers (Neal, Griffin et al. 2000).

Safety climate is related to the general organizational climate. If workers sense that there is a two-way communication in the organization, then they assume that open communication about OSH is esteemed in the organization. In the same way, if workers recognize that the management values their well-being, then they will realize...
that the organization is concerned with the safety of workers. Thus, the perceptions of the dominant safety climate within the organization will greatly influence their behaviours towards OSH (Neal, Griffin et al. 2000).

**Linking Safety Climate to Safety Performance**

Neal and Griffin (1997) introduced a model of safety performance. The model suggests compliance and participation as two dimensions of safety performance. Safety compliance is determined by the degree of adherence to safety procedures and measures, while safety participation includes helping co-workers, exhibiting efforts to promote safety programs to improve safety at the workplace, and by showing initiative (Neal and Griffin 1997).

Campbell et al. (1993) argue that knowledge, skill, and motivation are the three main determinants that create individual differences in safety performance (Campbell, McCloy et al. 1993). Other authors, such as Hesketh and Neal (1999), argue that situational factors can sometimes play a role and lead to individual differences in safety performance (Hesketh and Neal 1999).

However, numerous studies have shown that knowledge, skill, and motivation remain crucial factors that determine safety behaviour. The impact of these three factors on the different components of safety behaviour varies. Whereby safety knowledge and skill, for example, would have a stronger impact on compliance than on participation (Neal, Griffin et al. 2000).

These findings suggest that it is important to explore the general organizational climate and safety climate to predict the quality of safety performance and to tailor interventions aimed at improving safety climate (Neal and Griffin 1997).
Role of Management in Creating a Safety Culture

An adequate infrastructure should be prepared ahead in any enterprise prior to developing a safety culture among employers and workers. Miller (1998) advocates the establishment of proper OHS management and engineering systems at the workplace. Major advancements and improvements should be tangible at the physical level before an enterprise can begin to invest in the safety culture at the psychosocial level (Miller 1998). Although upper level management sets the overall organizational tone and establishes priorities at the workplace, its tangible impact on workers' safety is minimal. On-site employers, on the other hand, play a major role as they are in direct contact with employees. Senior managers are so overworked with administrative tasks that they find a hard time being proactive on OSH matters and visibly communicating their concern directly to the workers (Flin, Mearns et al. 2000).

Moreover, the management dedication to safety is not always evident, since it is usually diluted as it is funnelled down through the organizational structure to ultimately reach the workers (Kelley 1996). Thus, management keenness towards OSH should be translated into active participation in safety measures by: assigning the adequate resources and time for safety at work; being visible in the field with workers; being involved in risk assessment; and by acting safely. In this way, management's commitment to safety will be visible, hence establishing the basis for the promotion of safety culture at the workplace (Vecchio-Sadus and Griffiths 2004).

Role of Workers in Endorsing a Safety Culture

In addition to the responsibilities of the employers and managers in establishing safety culture, workers' ownership, contribution, and dedication to OSH are key ingredients for success. Workers should be guided by principles and not by policies; they should be empowered so as to instigate the feeling of belonging to the
organization. Consequently, the concept of safety is upheld and becomes a value (Vecchio-Sadus and Griffiths 2004). "Positive reinforcement" is a very powerful tool at the disposal of managers and employers which they can bring into their relation with the workers. Being positive and proactive in response to compliance to OSH regulations is much more efficient than being negative and reactive to accidents. Thus, the practices that support safe working conditions should be specifically recognized by the employers (Earnst 1997). This will in turn reinforce the value workers place on their own health and safety and reassure them that their efforts towards achieving this goal are appreciated and acknowledged. By empowering the workers and involving them in all aspects of OSH, they would develop a proactive attitude to adopt safety and health measures. This will then entail better risk management leading to a significant decline in the rate of workplace accidents and diseases (Griffiths 2001; Vecchio-Sadus and Griffiths 2004).

2.6 Gaps in the literature

Occupational safety and health is a very broad topic. Legislation related to this area is therefore also multi-sectorial. There are many international, national and enterprise level actors involved in the full roll out of safety and health measures at the workplace.

After reviewing the bigger picture and where Lebanon stands amongst these international initiatives, it is important to narrow the expected results from this research and identify the research gaps.

The researcher wanted to find in the words of the manager the real reasons safety and health is practiced or not in their enterprises. This would reveal how effective legislation is and what may be needed to improve the situation. None of the reviewed literature followed the track from policy to practice.
Therefore the data collection tools developed for this research have a broad scope covering this long path from policy development, to the issue of dissemination, to practice in the workplace. The findings from this study will be an original contribution to knowledge revealing novel data to inform policy.

Therefore, the objectives of this study are:

- To assess the factors affecting the implementation of safety measures at the workplace, especially the role of knowledge, attitude and behaviour of employers in this regard.
- To identify any shortcomings, if existent, in translating the policies to implementation in the OSH domain in Lebanon.
- To give recommendations that would assist policymakers and improve the OSH situation in Lebanon.

This research will provide Lebanon with a situation analysis of its OSH status and help identify the gaps between law and implementation. This study can also help provide recommendations for the ILO reporting system to be more effective especially in developing countries such as Lebanon.

In this regard and due to gaps in literature, this study will analyze possible factors which contribute to low adherence to Lebanese workplace safety and health legislation, the results of which will help advocate for a proper national OSH strategy and Programme and help identify the weaknesses and strengths of the current regulatory and executive system in Lebanon. Noting that the reasons behind non-compliance may be relevant even in developed nations where OSH regulatory infrastructure is well established.

In view of the high responsibility the employer has towards workers in providing a safe and healthy work environment, this study attempts to assess the factors behind adopting safety measures in Lebanese enterprises across the five main industrial
sectors: food, paper and cardboard, chemicals, minerals and metals. Several factors affect implementation of national OSH legislation at the enterprise level and also affect the level of management commitment. Table 3 summarizes the main themes guiding the rationale.

### Factors promoting or impeding safety and health at work

<table>
<thead>
<tr>
<th>At the Workplace Level</th>
<th>At the National Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employer’s knowledge and awareness of the concept of safety and health and related legislations and their motivation in this regard.</td>
<td>Legislation as a means to drive and improve OSH: Lebanon’s OSH decree versus international OSH laws and their implementation</td>
</tr>
<tr>
<td>Employer’s attitude towards occupational safety and health and their perception of that of workers</td>
<td>The role of the Ministry of Labour and its monitoring systems: Labour Inspection</td>
</tr>
<tr>
<td>Employer Practices relating to safety and health and worker involvement: Managing risks and hazards at work, maintenance, policy, training and communication etc.</td>
<td>Human and Financial Resources</td>
</tr>
<tr>
<td>Safety Culture</td>
<td>Political and socio-economic situation</td>
</tr>
</tbody>
</table>

Table 3: Main Themes guiding the rationale

The main theme guiding the rationale of the study is: what are the factors at both the national and enterprise levels promoting or impeding a safe and healthy work environment? Factors can either be seen as promoting or impeding depending on the circumstances. For instance, a manager’s positive attitude towards safety and health may help promote worker safety behaviour in the workplace, whereas a negative attitude on behalf of the manager, where no importance is given to safety, will impede good safety and health practices at the workplace.

Therefore, this study aims at identifying whether national OSH law in Lebanon is implemented or not and the reasons behind this at the enterprise level based on the views and practices of employers.
2.7 Research Question

- What factors at the enterprise level can play a role in either facilitating or impeding adherence to safety measures?
  - How are employer knowledge and attitude driving occupational safety and health practice?
  - Why are managers motivated or uninspired to implement health and safety legislation?
  - As part of the enterprise level OSH practice, to what extent are the articles pertaining to the National Decree 11802 and the ILO convention 155 being implemented at the level of enterprises?

An attempt to answer these questions will be conducted in a cross sectional study using two methodologies.

Part I

A questionnaire survey administered to managers across a representative sample of enterprises and which aims to:

- Assess employers’ level of awareness of the National OSH Decree 11802 in Lebanese enterprises;
- Study the relationship between Enterprises and the national authorities, mainly the Ministry of Labour;
- Study factors related to knowledge, attitude and practices that either facilitate or impede employers from providing a safe and healthy environment in Lebanese enterprises, along the provisions of the National OSH Decree 11802 and along the International Labour Organization (ILO)-OSH Convention 155.
Part II

In depth interviews with employers across the main industrial sectors in Lebanon which will explore:

- The organizational factors affecting safety and health enterprise level policies;
- What motivates management to implement safety measures or what discourages them to do so;
- Managers' perception of worker attitudes and practices;
- Managers' perception of safety;
- Elements most difficult or easy to implement in workplace OSH policies where applicable and why;
- Why managers consider safety and health in the workplace a priority or not.

As a result of this research, and based on the gaps identified between law and implementation, recommendations will be given to assist policymakers in improving the OSH situation in Lebanon and the Middle East.
CHAPTER III

3. RESEARCH METHODS

Figure 6: Methodology

Research Question
- What factors at the enterprise level can play a role in either facilitating or impeding adherence to safety measures?
  - How are employer knowledge and attitude driving occupational safety and health practice?
  - Why are managers motivated or uninterested to implement health and safety legislation?
  - As part of the enterprise level OSH practice, to what extent are the articles pertaining to the National Decree 11802 and the ILO convention 155 being implemented at the level of enterprises?

Literature Review
- Review of International and National OSH regulations
- Review of knowledge, attitudes and behaviour studies on OSH

Informal communication with key stakeholders (ALI, Ministry of Labour...)

Part I (Cont’d)
- Questionnaire design
- Pilot testing
- Administer to 70 managers
- Data entry
- Data analysis
- Output

Part I (Quantitative)
A questionnaire survey administered to managers in a representative sample of enterprises and which aims to:
- Assess employers’ level of awareness of the National OSH Decree 11802 in Lebanese enterprises.
- Study the relationship between enterprises and the national authorities, mainly the Ministry of Labour
- Study KAP along the Provisions of National OSH Decree 11802 and ILO conventions 155

Part II (Cont’d)
- Develop interview schedule
- Administer to managers until saturation
- Transcription
- Data analysis
- Output

Part II (Qualitative)
In depth interviews with employers across the main industrial sectors in Lebanon, which aims to dig deeper into:
- What motivates management to implement safety measures or what discourages them to do so;
- Managers’ perception of worker attitudes and practices
- Managers perception of safety
- Elements most difficult or easy to implement in workplace OSH policies where applicable and why
- Why managers consider safety and health in the workplace a priority or not.

Sampling
Sampling Frame
Industries from categories 1 and 2 across the 5 main industrial sectors in Lebanon: food products, chemical products, minerals, paper and cardboard, and metals.

Sampling Unit
Industry

Sample
77 enterprises are randomly selected out of the sampling frame of 234 eligible industries for questionnaire administration.
3.1 Introduction

Using scientific research methods entails studying a certain phenomena in a systematic way either by detailed observation based on the senses and/or using practical equipment. Scientific research seeks to produce accurate results while minimizing errors produced by external factors; in this case, inaccuracy may result from invalid questionnaires or researcher bias. This leads to the concept of “rigour” which emphasizes the correctness of the research through continuous recording of the whole process (Bowling 2002).

Each field of scientific investigation is supported by a group of theoretical paradigms on which research questions are based. Positivism aims to discover laws using quantitative methods and emphasizes positive facts. Phenomenology, on the other hand, is based on the principle that reality is manifold and is socially built through the interaction of individuals and the meanings that they assign to various insights and experiences (Bowling 2002).

Therefore, there is a need to combine different perspectives of quantitative and qualitative methodologies in this study. Qualitative techniques are essential for exploring occupational health in the Lebanese setting where it is still a new concept in order to be able to explore new topics and obtain insightful data on some complex issues. Therefore in this study, it would be essential to use this technique in the initial stages of questionnaire design. On the other hand, when assessing compliance of enterprises with National OSH policies, the matter becomes clear and there are conventional standards and measurements which are valid worldwide that should be used.

Hence, this study is a form of applied research. The rationale behind applied research is to add to the knowledge that will assist people to recognize the nature of a problem in order to interfere, thereby permitting human beings to manage their surroundings more efficiently. The basis of questions is in the problems and concerns
experienced by people and expressed by policymakers. It is important to note that applied qualitative researchers are able to bring their personal thoughts and expertise into any recommendations that may materialize because they get particularly close to the problems under study during fieldwork (Patton 2002).

Earlier research (Williams, Sobti et al. 1994; Dryson 1995) has tackled the issue of OSH provision in small and medium sized enterprises, but these studies have been conducted using postal questionnaires evaluating attitudes of employers and occupational specialists.

On the other hand, in this study, with the use of personal communication interviews, in-depth interviews and structured questionnaires, data was collected on:

- Knowledge, attitude and behaviour of employers with regards to OSH.
- Implementation of OSH policies.

The design adopted a positivist approach believing that general laws influence behaviour, and research findings are to be generalized. The study is a descriptive one on selected industrial enterprises in Lebanon. It is conducted in two parallel phases: part I – structured quantitative questionnaire survey; part II – in-depth interviews to probe further into the issues.

**3.2 Study Design**

There are no ideal research designs. There are always trade-offs. Limited resources, time, and limits of the human ability to understand the multifaceted nature of social reality force trade-offs.

In some ways, the differences between quantitative and qualitative methods involve trade-offs between breadth and depth. Qualitative methods allow inquiry into certain issues in great depth with vigilant awareness of detail, context, and tone; such that data collection need not be inhibited by programmed systematic categories and
contributes to the impending breadth of qualitative inquiry. Quantitative instruments, on the other hand, ask standardized questions that limit responses to predetermined categories (less breadth and depth). This has the advantage of making it possible to measure the reactions of many respondents to a limited set of questions, thus facilitating comparison and statistical aggregation of the data. By contrast, qualitative methods classically produce a wealth of comprehensive data about a much smaller number of people and cases (Patton 2002).

The Methodological mix used in this study, otherwise referred to as the Methodological Triangulation allows the use of multiple methods to study a single problem or program. This helps test for consistency in the qualitative and quantitative findings.

Therefore, the present study has a cross-sectional design and includes two methodologies of data collection, where the first one is the quantitative component and the second one is qualitative. A clear review was conducted of the national OSH regulations and where they should apply in a set of chosen industries; the reasons for choosing a cross-sectional survey design were: (1) availability of standardized methods; (2) relatively low economical cost in terms of time and resources; and (3) standardized data being easily coded. Another major advantage of cross-sectional surveys is that they are carried out in the natural environment and it is easier to randomly sample units than it is with experimental studies.

The researcher set face to face meetings with 70 Lebanese managers from selected industrial firms respectively. At the meeting, data was collected through structured questionnaires and in-depth interviews. Each manager completed a close-ended questionnaire which the researcher filled in. The first 32 employers interviewed also underwent a one hour in-depth interview after having answered the questions of the close-ended questionnaire. The data collection period ranged between December 2007 and December, 2008.
Before drafting the structured questionnaire and the in-depth interview schedule, informal personal communication took place with key stakeholders such as: (1) the Association of Lebanese Industrialists; (2) the Lebanese Confederation of Trade Unions; and (3) the Ministry of labour and its concerned departments; one of which is the Labour Inspector Body that is most involved in the supervision of legislation enforcement.

3.2.1 Review of Existing Information

Before engaging in any type of data collection, whether qualitative or quantitative, and in order to prevent any collection of data that might already exist, a review of existing information and reports published by the Association of Lebanese Industrialists, as well the Ministry of Labour, was done.

3.2.2 Key Informant Interviews

The first data collection method used in this research is the key informant interviews. The purpose behind conducting key informant interviews was to collect updated OSH information in Lebanon from different key stakeholders and professionals. These key informant interviews provided an insight on the nature of the problems as well as certain recommendations for potential solutions. All subjects participated voluntarily in this study. The chosen key informants were mostly familiar with the investigator.

3.3 Quantitative Methods

Quantitative research deals with quantities and relationships between certain aspects. It involves the gathering and analysis of organized data in a positivist manner (Kaplan 2004).
3.3.1 Study Subjects

The findings from the literature review and informal interviews with key informants were used to develop the survey questionnaire model (a copy of the employer questionnaire is found in appendix 6) aimed at the population sample of medium and large enterprises in Lebanon; targeting employers/managers. It is worth mentioning, that originally, a second questionnaire was also developed to target a sample of workers in the enterprise (a copy of the worker questionnaire is found in appendix 13). This was cancelled from the study due to the non-feasibility once it was piloted relaying to worker limited time and employer/manager refusal to allow workers to participate. The employers were hesitant to allow workers to participate thinking that the investigator will ask questions about wages or about the social security and insurance coverage provided to the worker.

Randomly selected enterprises across the largest five industrial sectors in Lebanon received a fact sheet describing the survey purposes and were invited to take part in the survey. Once they agreed, the researcher took appointments to visit them with a questionnaire. After signing an informed consent sheet, the investigator asked the questions to the employer and filled in the questionnaire. A major advantage of surveys is that they are carried out in the natural environment and it is easier to randomly sample units than it is with experimental studies. This would in turn allow for statistical inferences about the wider population, in this case other industries, and allow for generalizations to be made increasing the external validity of this study (Creswell 2003). On the other hand, surveys can only give estimates of association which may vary from the real underlying relationships due to the impact of confounding variables. The qualitative part of this study is an attempt to minimise these confounding variables.
3.3.2 Sampling

The Association of Lebanese Industrialists (ALI) classifies all member industries across 13 sectors: minerals, metals, transport, chemical products, food products, textile, furniture, industrial and electrical machines, paper and cardboard, leather products, different products, wood products, water and wastewater treatment. Each of these ALI member industries across these sectors are also then classified into four categories in the following way:

- Category 1: The industries that have gathered 10,000 points and above.
- Category 2: Industries having between 5000 and 9999 points.
- Category 3: Industries having gathered between 1000, and 5000 points.
- Category 4: Industries gathering below 1000 points, they have a right to be members in the association but don't have a right to vote or run for any posts.

The points are specified according to the following four criteria: number of employees, value of registered or actual capital, measure of operating electrical power, and approximate area of the industry. Where by:

- For every employee, the industry gets 50 points.
- For every USD $1000 or its equivalent in Lebanese pounds worth of machines: 10 points.
- For every kVA (Kilo Volt Amps) of power used: 10 points.
- For every square meter of area: 1 point (ALI 1994).

The sample for this study covers the top five largest sectors across categories 1 and 2 only as defined by ALI, this adds up to a sampling frame of 234 industries. The five chosen sectors are: minerals, metals, chemical products, paper and cardboard, and food products (table 4 classifies the main products produced across the sectors). The industries belonging to categories 1 and 2 are somewhat the bigger enterprises; this
helped limit my sampling frame.

Randomly selected enterprises across the largest five industrial sectors received a fact sheet describing the study purposes and were invited to take part in the survey and in-depth interview. After agreeing, each enterprise manager completed the questionnaire with the investigator and then the first 32 managers visited sat for an in-depth interview. The sampling unit consisted of the enterprise randomly selected from the sampling frame, in this case the list of member industries from the Association of Lebanese Industrialists (ALI). Random sampling gave each of the units in the targeted population a calculable probability of being selected.

For the purpose of this study, the sampling frame was limited to industries belonging to the five main industrial sectors in Lebanon and who belong to categories 1 and 2 based on the ALI classification points. (Table 5 lists the remaining sectors which were not chosen for the purpose of this study).
Table 4: The five chosen sectors

<table>
<thead>
<tr>
<th>Food products</th>
<th>Chemical products</th>
<th>Minerals</th>
<th>Paper and cardboard</th>
<th>Metals</th>
</tr>
</thead>
<tbody>
<tr>
<td>66 industries across the 1st and 2nd categories. This sector involves manufacturing alcoholic beverages, packing and packaging for Foodstuffs, Canned Fruits &amp; Vegetables, coffee, mixed nuts, spices, tea, chewing gum, candies, confectionery, oriental and occidental Sweets, Ice Cream, dairy products, oil, ice cream, juices, water, meat products, chicken, eggs, jam, chips, sugar and other different food products.</td>
<td>60 industries across categories one and two. It is involved in manufacturing Chemical Fertilizers, Agricultural pesticides and Fertilizers Cosmetics and perfumes, detergents, soaps, gas, oxygen-carbonic, oxygen-azote, Oxynge - Nitrous Oxide - Argon - Acetylene - Nitrogen - Helium - Carbon dioxide - Compressed air, paints, chemical products for construction, pharmaceuticals, synthetic rubber, plastic products, laminated sheets Tents for agriculture &amp; Nylon bags for trash, Plastic Pipes Aluminium plates &amp; Paper U PVC Pipes, Ind. Fiberglass Fittings, Tanks &amp; Flower Pots, Plastic containers &amp; covers, Flexible packaging converters, printing, Recycling of plastic products, rubber Polyurethane, Foam and Mattresses, drugs, serum Green-Houses and Irrigation Equipments.</td>
<td>39 industries across categories one and two. It involves manufacturing of cement and cement blocks, ceramic tiles and sanitary equipment s, stones and marble sawing, concrete, glass containers and derivatives , crystal, mineral oil, industrial oil, petrol, jewellery, marble and mosaic and granite.</td>
<td>39 industries across categories one and two. This sector involves manufacturing book binding, packaging, copy books, paper and cardboard, boxes, sanitary paper, toilet paper and tissue paper, printing, printing press, Printing Paper rolls for computer and Cellophane laminating.</td>
<td>30 industries across categories one and two. It involves manufacturing aluminium profiles, ladders, constructions, metal and aluminium works and electric automated doors, cables, different metals, welding electrode/grinding wheels, metal pipes and wires, iron, kitchen ware, metal cans, tin cans, sanitary equipments, furniture for bathrooms, silverware products, screws and nails, wires, copper.</td>
</tr>
</tbody>
</table>
Table 5: The eight remaining sectors which were not chosen

<table>
<thead>
<tr>
<th>Industrial and electrical machines sector</th>
<th>Textile Sector</th>
<th>Furniture sector</th>
<th>Leather Products</th>
<th>Transport sector</th>
<th>Wood Products</th>
<th>Water and Wastewater treatment sector</th>
<th>Different Products sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 member industries in ACL equally distributed across categories one and two. This sector is involved in the production, design, renovation or installation of electrical appliances such as air conditioners, light equipments, bulbs, generators, silencers, electric boards, heaters, industrial machines, lifts, elevators, escalators, transformers, agricultural machines, washing machines, and refrigerators.</td>
<td>25 enterprises distributed across categories one and two. The textile sector is involved in manufacturing carpets, different underwear, tights, socks, linens, clothes, readymade wear, different wear, fabrics, polyester fibre fill, pillows, blankets, tricot thread &amp; yarn, embroidery for textiles, hats, sportswear, ornaments for curtains &amp; garments in addition to Textile dyeing &amp; Finishing Weaving threads.</td>
<td>17 industries distributed across the first two categories. This sector is involved in manufacturing wooden furniture and decor, kitchen furniture, mattresses, film proplon for nylon bags, metal furniture, pillows, quilts, sofa and sponge, parquet and doors.</td>
<td>4 industries in the sector making leather shoes and bags and tannery.</td>
<td>3 industries in the 1st category and it consists of air and land transport manufacturing services, mainly maintenance of aircraft and aircraft engines, truck equipment and breaks for vehicles.</td>
<td>2 industries for making wood and block boards.</td>
<td>1 industry in the second category involved in greenhouses, mixers and filters.</td>
<td>4 industries involved in producing gas jars, fire extinguishers, heaters, diamond tools for marble and granite diamond tools.</td>
</tr>
</tbody>
</table>
3.3.3 Sample size needed for industries

Table 6 contains the sample size required to estimate a proportion to within 10% with 95% confidence where the population is finite with 234 enterprises. The sample size calculation was based on Wayne W. Daniel's biostatistics methods (Daniel 2005). As can be seen from the table, the largest sample size is when the estimated proportion is 50%. As there is no official data on the level of enterprise compliance with Lebanese national OSH legislation or on the factors causing it, the researcher chose to be conservative by selecting the largest sample size of 69 establishments. Below is the sample size needed for a 95% confidence interval for a proportion.

<table>
<thead>
<tr>
<th>Proportion</th>
<th>.20</th>
<th>.30</th>
<th>.40</th>
<th>.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>49</td>
<td>60</td>
<td>67</td>
<td>69</td>
</tr>
</tbody>
</table>

3.3.4 Sampling of establishments and managers

A total of 77 establishments were sampled at random from the sampling frame of 234 establishments. Assuming that 10% would refuse to participate or will drop out in the middle of the study; we would end up with 70 establishments; hence, the needed sample size. Note that the assumption of 10% is adequate because the ALI has distributed an official letter requesting its member industries to participate in this study. Industries that refused to participate were replaced through another random selection from the unselected industries in the first round. After choosing the industries from categories one and two, they were classified into micro, small, medium or large. This classification varies from one country to the other; in Lebanon, there is no national standard for classification. For the purpose of this study, classification of enterprises was done according to the number of employees: 1-4
employees were considered as micro; 5-25 employees as small; 25-50 employees as medium; and over 50 employees as large. This classification has been previously used by the Economic and Social Commission for West Asia (ESCWA).

3.3.5 Questionnaire design

In order to attend to the research objectives, a structured questionnaire was designed based on management knowledge and attitude literature regarding OSH whereas OSH practice questions were based mostly on the provisions of the Lebanese National OSH Decree 11802 and those of the ILO OSH convention 155. Therefore, data was collected pertaining to the following issues:

- Socio-demographics: notes the socio-demographic characteristics of the respondent.
- Employer's knowledge and awareness of OSH legislations: assesses the respondent's knowledge of OSH regulations.
- Employer's attitude towards occupational safety and health: measures the respondent's attitude towards OSH at the workplace.
- Practices relating to safety and health - Psychosocial health: examines the practices adopted to preserve the psychosocial health of the workers at the workplace.
- Practices relating to safety and health - Physical health: examines the practices adopted to protect the physical health of the workers at the workplace.
- Practices relating to safety and health - Communication of OSH policies within the workplace: examines the practices related to written policies and how they are communicated to the employees at the workplace.
- Practices relating to safety and health - Exposure to occupational
hazards: examines the practices related to handling hazards and risk exposure at the workplace.

- Practices relating to safety and health - Use of personal protective devices: examines the practices related to the provision and use of personal protective devices at the workplace.

- Practices relating to safety and health - Training and instruction on use of equipments: examines the practices related to instructions on the workplace equipments.

- Practices relating to safety and health - Accidents: examines the practices related to accidents in case they occurred at the workplace.

- Practices relating to safety and health - Maintenance of the facility: examines the practices related to the maintenance of the workplace facilities.

3.3.6 Pilot Testing

The validity of the questionnaire data depends on shared assumptions and understandings of the questions and response categories. Therefore, ideas and topics were tested on colleagues, and then pilot tested through face-to-face interviews with a small number of industrial enterprise managers. The worker questionnaire was only piloted with 10 workers from one enterprise then this section was excluded from the study. Pilot testing continued with new sample members until it was decided that no further modification to the questionnaire had to be introduced. In total, eight managers were interviewed during the pilot testing stage. After the pilot administration of the questionnaire, some changes and corrections were made. Mainly changes in wording to make it more understandable for the interviewe (this was due to the English-Arabic translation of the questionnaire where some words were too formal in Arabic and had to be clarified to the interviewees). Questions that
were repetitive were removed from the questionnaire and some questions were grouped into other sections where it proved to be more suitable and the structure for the data entry on SPSS was also adapted accordingly. One form of reliability of a questionnaire is the characterization of its temporal stability; hence, during the pilot testing phase a test-retest reliability for the questionnaire was performed through which the questionnaire was administered to the same employer on two separate occasions separated by a two-week time interval. Answers did not differ between the two questionnaires.

3.4 Qualitative Methods
The strength of qualitative research is to be able to study people in their natural environments describing the characteristics of certain phenomena in words rather than numbers, through observation, unstructured interviews, diary methods or focus groups (Ulin 2005). As for the sample size chosen in qualitative research, the main concern in choosing the suitable unit of analysis is to make a decision on what it is one wants to be able to articulate at the end of the study. The soundness and meaningfulness of the ideas generated from qualitative inquiry are related more to the quality of information gathered from the target groups as well as the analytical capabilities of the researcher rather than to the sample size (Patton 2002).

3.4.1 In-depth Interviews
The second data collection method used in this research is the in-depth interviews. Like any other data collection tool, in-depth interviews provide a range of advantages as well as disadvantages. On one hand, the advantages of in-depth interviews are that more complex issues can be probed, answers can be clarified and a relaxed research atmosphere can help in obtaining sensitive data. On the other hand, data collection can prove to be time consuming, there is also a greater chance for
interviewer bias, and it can only be applied to small sample sizes (Bowling 2002). In this study, the key informant informal interviews proved very helpful in developing the schedule/guideline for the in-depth interview.

Table 7: Interview Scope

| ➢ Organizational factors affecting safety and health enterprise level policies; |
| ➢ Employer perception of worker attitudes and practices; |
| ➢ Employer perception of safety; |
| ➢ Employer awareness of national OSH decree and reasons why they haven’t hear of the decree 11802; |
| ➢ For those companies who have workplace OSH policies, what are the elements most difficult or easy to implement in the policy and why; |
| ➢ What are the incentives for management to implement safety measures; |
| ➢ What are the reasons for non or partial implementation of safety measures at the enterprise level; |
| ➢ Relationship with the Ministry of Labour (MOL); |
| ➢ Do enterprises have any formal procedures for worker complaints; |
| ➢ Practices regarding communication with workers on OSH; |
| ➢ Are there any punishment/rewards for not abiding by safety measures; |
| ➢ The reason why OSH is a priority or not. |

3.4.2 Recruitment

An introductory telephone conversation between the investigator and the study subjects took place to introduce them to the purpose and method of the study. Then every participant received a written information sheet about the research which was translated to Arabic. They were then given a chance to study this sheet and ask related questions. Then once they agreed to participate in the research after signing an informed consent, they were interviewed at a time and location which was
convenient to them. The interviews were conducted on an individual basis after the
close-ended questionnaire and lasted for a period ranging from 90 to 120 minutes.
In-depth interviews were conducted with the first 32 employers visited only, which
was the point of saturation. Field notes were mostly used to document the interview
as not all interviewees allowed tape recording.

3.4.3 Data Sources
Data from this phase was obtained from compiling field notes taken during and after
the in-depth interviews with managers. Field notes included all non-verbal behaviours
and reactions of the participants during the interview. General data on the occupation
and role of the participant were also obtained at the beginning of the interview.

3.4.4 Data Collection
Face-to-face in-depth interviews were conducted with the managers. This allowed
more detailed questions to be asked and misconceptions to be clarified, as well as it
helped to gather more information with greater depth. The topic of research is rather
new in Lebanon and little information is available on the knowledge, attitude and
behaviour of employers and on the issue of occupational safety and health.

3.5 Data Analysis
3.5.1 Quantitative data
Descriptive statistics including means and standard deviations for continuous
variables and frequency distributions for categorical variables was obtained. The
proportion of employers who are aware of the National Occupational Health and
Safety Decree (11802) was assessed by calculating and constructing a 95%
confidence interval for such proportion.
The formula for the 95% confidence interval is

\[ \hat{p} \pm Z_{0.975} \sqrt{\frac{\hat{p}(1 - \hat{p})}{N}}, \]

where \( \hat{p} \) is the estimated proportion and \( Z_{0.975} \) is the 97.5 percentile of the standard normal distribution (Daniel 2005). Data from different questions were then combined in graphs and tables to show the relation between different variables.

3.5.2 Qualitative data

In order to analyse data collected from in-depth interviews (see appendix 5 for the interview schedule), all field notes and observational notes were laid out using Microsoft EXCEL 2003. Once written, interviews were read time and again in order to derive the emerging themes and organize them into codes. The interviews were analyzed by method of thematic analysis, which creates a matrix by target group and main codes (themes). Thus, the results can be seen as a whole and associations can be drawn.

Data Organization and Analysis†

The data was translated from Arabic to English. The core categories were identified. Grounded theory (GT) is the development of theory from data that has been methodically collected and examined. The theory originates from the study itself (Glaser and Strauss 1967). GT is a preferred technique in social medicine and health care to conceptualize behaviour in intricate conditions and to recognize the effect of health beliefs and experiences. Creating a theory in GT revolves around two main components: concepts and propositions. Concepts are terms used to shift observations from an abstract form into an experimental one through the use of

† A Thorough description of the analysis process for the qualitative part is found in the results section.
symbols. Propositions usually elucidate the associations between these concepts (Glaser and Strauss 1967; Chenitz and Swanson 1985). In this study, by interviewing managers, GT was used to identify themes relating to beliefs and attitudes of employers. The main methods of GT comprise theoretical sampling, theoretical sensitivity, data analysis (coding and categorizing), constant comparative method, memo writing, and theory generation (Jeon 2004).

As described earlier, this research aims to inform policy and guidelines rather than generate theory for the purpose of theory itself.

Rigour

The concept of rigour is pertinent in relation to the reliability and validity of the data. In qualitative research, it refers to integrity and competence (Holloway and Wheeler 2002). Rigour should be applied to various parts of the research. These include: the systematic approach to research design, the awareness of the importance of interpretation and not perception and guessing, the systematic and thorough collection, analysis of the data, the continuous exhaustive accounting of interviews and observations, the use of triangulated (more than one) research methods to ensure the validity of the results, and the potential of an independent qualified researcher to re-analyse the data using the same methods and attain the same conclusion (Glaser and Strauss 1967).

To ensure constancy in my research, the interview field notes were reviewed by a colleague who understands both Arabic and English to ensure translation of the interviewee's texts occurred correctly.

3.6 Ethical Consideration

Before conducting this research, a favourable opinion was sought from the ethical committee of the University of Surrey and from the Association of Lebanese Industries in Lebanon. A written informed consent was signed by respondents who
participated in this research (see appendix 3 for the consent form and appendix 2 for the information note). The enterprises randomly selected for the study were sent written information about the aims of the research, confidentiality and anonymity, detailing how the study would impact the enterprise/participant in terms of benefits and explaining the data collection tools: Interviews and questionnaires. All questions and inquiries from the managers' side were attended to, and participants had the choice of withdrawing from the study at any time.

3.7 Dissemination
The resulting recommendations will be shared with the tripartite constituents of the workforce: the Lebanese Ministry of Labour, trade union organizations and employer associations in Lebanon, in addition to other stakeholders in the Arab Region, who may benefit from this data to advocate for similar endeavours in their respective countries. The outcomes of the study will also be shared with the International Labour Organization adding a valuable contribution to data from the Arab States where research in the field of Occupational Safety and Health is minimal. The literature gathered, the methods used, analysis, discussion and strategy developed will also be shared with colleagues at the Faculty of health and Medical Sciences and other academic institutions. The outcomes of this research will also be published in relevant academic and scientific journals as they will hopefully be presented at appropriate national, regional or international seminars and conferences (See appendix 15 for a number of conferences and interviews where some of the results from this research have already been disseminated. Also, refer to appendix 16 for a copy of the qualitative article submitted to the International Journal of Occupational and Environmental Health, where it is being reviewed for publication).

The methods, data collection and analysis conducted, lead to a substantive amount of quantitative and qualitative results which attempt to answer the research question of this study.
Chapter IV

4. RESULTS

4.1 Quantitative Results

Table 8: Sample profile

<table>
<thead>
<tr>
<th>Size of enterprise</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small enterprise</td>
<td>27</td>
<td>38.6%</td>
</tr>
<tr>
<td>Medium enterprise</td>
<td>25</td>
<td>35.7%</td>
</tr>
<tr>
<td>Large enterprise</td>
<td>18</td>
<td>25.7%</td>
</tr>
</tbody>
</table>

Mean percent of male employees 77.4%
Mean percent of female employees 22.6%
Mean percent Lebanese employees 92.4%
Mean percent of employees at production site 75.20%

Table 8 displays the sample profile of the selected industries. A total number of 70 enterprises were sampled for this research. Out of the 70 enterprises, 27 were considered as small enterprises (10-70 employees); 25 were considered as medium enterprises (70-150 employees) and 18 were considered as large enterprises (more than 150 employees).

As table 9 displays, 45 enterprises visited fell under category 1 (refer to the methodology chapter for clarification on categories) and the remaining 25 fell under category 2. Most medium and large enterprises belonged to category 1 and most small enterprises belonged to category 2.

Table 9: Selected enterprises segregated by their ALI category and size

<table>
<thead>
<tr>
<th>ALI category</th>
<th>Small enterprises</th>
<th>Medium enterprises</th>
<th>Large enterprises</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>24</td>
<td>16</td>
<td>45</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>1</td>
<td>2</td>
<td>25</td>
</tr>
</tbody>
</table>
Socio-demographics

Table 10 displays the socio demographic characteristics of managers from the selected enterprises. Nearly eighty five percent of surveyed employers across all enterprises were males. The average age of employers in the study was around 41 years. The number of employers who are married adds up to nearly 60% with an average of around 2 dependants. All 91% of managers/employers interviewed had university degrees and 80% received a monthly salary > 3 Million Lebanese Liras (L.L.) which is the equivalent of around $2000 US Dollars. Up to 43% of the managers interviewed were general managers.

Table 10: The socio demographic characteristics of managers of selected enterprises

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>59</td>
<td>84.3%</td>
</tr>
<tr>
<td>Females</td>
<td>11</td>
<td>15.7%</td>
</tr>
<tr>
<td><strong>Mean Age in years ± Std. Dev</strong></td>
<td>41.06 ± 11.47</td>
<td></td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>29</td>
<td>41.4%</td>
</tr>
<tr>
<td>Married</td>
<td>41</td>
<td>58.6%</td>
</tr>
<tr>
<td><strong>Mean number of dependents ± Std. Deviation</strong></td>
<td>1.7 ± 1.8</td>
<td></td>
</tr>
<tr>
<td><strong>Highest level of education attained</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>Intermediate</td>
<td>3</td>
<td>4.3%</td>
</tr>
<tr>
<td>Technical school</td>
<td>2</td>
<td>2.9%</td>
</tr>
<tr>
<td>University</td>
<td>64</td>
<td>91.4%</td>
</tr>
<tr>
<td><strong>Monthly salary scale</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5,000,000-1 million L.L</td>
<td>4</td>
<td>5.7%</td>
</tr>
<tr>
<td>1-2 millions L.L</td>
<td>5</td>
<td>7.1%</td>
</tr>
<tr>
<td>2-3 millions L.L</td>
<td>5</td>
<td>7.1%</td>
</tr>
<tr>
<td>&gt;3 millions L.L</td>
<td>56</td>
<td>80.0%</td>
</tr>
<tr>
<td><strong>Position</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human resources</td>
<td>14</td>
<td>20.0%</td>
</tr>
<tr>
<td>General manager</td>
<td>30</td>
<td>42.9%</td>
</tr>
<tr>
<td>Operations managers</td>
<td>11</td>
<td>15.7%</td>
</tr>
<tr>
<td>Quality Assurance managers</td>
<td>6</td>
<td>8.6%</td>
</tr>
<tr>
<td>Production managers</td>
<td>9</td>
<td>12.9%</td>
</tr>
</tbody>
</table>
According to Table 11, fifteen enterprises manufactured food products, nine manufactured metals; fourteen were in the minerals sector, 19 in chemical products and 13 were in paper and cardboard.

Table 11: The production type of the selected enterprises

<table>
<thead>
<tr>
<th></th>
<th>Small enterprises</th>
<th>Medium enterprises</th>
<th>Large enterprises</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food products</td>
<td>3</td>
<td>7</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Paper and cardboard</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Chemical products</td>
<td>8</td>
<td>4</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Metals</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Minerals</td>
<td>8</td>
<td>5</td>
<td>1</td>
<td>14</td>
</tr>
</tbody>
</table>

Classification of management representatives interviewed

Most managers were partners or owners of the companies visited. In addition to the basic classification, more specific detail to the position was clarified through the in-depth interview where interviewees were either general managers/president/CEO/owners-partners; vice presidents; human resources managers/Children of owner; business development directors; operational managers/Children of owner; quality managers; head trainers of the company’s training Centre of technical excellence; technical managers; or production support managers.

In some cases, the basic questions on the company were answered by the human resources department, including facts about number of employees and medical procedures in the industry.

(Refer to Appendix 7 for all the remainder result tables based on the questionnaire answers).
Employer’s Knowledge and awareness of OSH legislations

It was clear that most of the managers interviewed had not heard of international nor national legislation on safety and health in the workplace where 91% of management had not heard of the ILO OSH conventions and a surprising 87% had never heard of the Lebanese OSH Decree 11802, which was endorsed by the government in 2005. Several justifications were given as to why they had never heard of this decree, which in principle they should be applying at their enterprises, by authority of the government.

Figure 7: Employer awareness and knowledge of OSH legislation

Workplace Policy on OSH

From the enterprises visited 81% did not have a policy on OSH. Most enterprises have what they call a "Nizam Dakheli" meaning "an internal system", which guides labour regulations and procedures in addition to further instructions through memos.
Figure 8: What enterprises used as guidelines to set their workplace OSH polices

Out of the 13 enterprises that did have OSH policies, 46% stated that they depended on employees/managers who had long-term experience and had gradually noticed what were the recurrent risks and accidents happening in their line of work. Another 46% relied on sample policies from other similar industries worldwide. Other options suggested by the enterprises were as follows: 38% reported that they relied on their mother company's OSH policy and 38% reported referring mostly to international standards while setting their policy. Zero percent reported having referred to ILO OSH conventions or the Lebanese National OSH decree 11802. Management in some enterprises claimed that any safety and health initiative they have is totally a personal endeavor; they try to work on international standards not Lebanese standards. They assert that they do their best to develop and improve, but it all takes time.
The OSH policy was reported to be re-evaluated/updated at different times once per 6 months or per year or never. The majority of enterprises re-evaluated their policy only upon an accident occurring or the introduction of a new regulation. Most of the enterprises with an OSH policy admitted that these policies are only “sometimes” implemented.

Some companies are making improvements as they go along and have a plan to write an OSH policy among other initiatives such as preparing a worker handbook on hygiene and safety. Some of them mention that they have ad hoc OSH practices but no policy but plan to have one meanwhile they have OSH manuals in other country factory sites (in Arab States) because the supplier there obliged them to have a full certification. This means that although the same company has sites in different countries, a lower level of OSH strictness is applied in Lebanon when compared even to neighboring countries.
Around 92% of the companies do not have a responsible health and safety person or committee. If they were asked to name a focal point, most answers fluctuated between the human resources manager and the quality assurance coordinator being the OSH Focal points respectively. In addition, they would deal with anything related to safety of workers. Of the 5 enterprises who do have a committee, 80% involve only management in the committee and not workers. The committees have specific written statement describing the duties of the health and safety committee. Most enterprises stated that the committee’s decisions about health and safety measures were distributed to all employees. These decisions were then circulated mostly verbally through meetings and rarely through email, company newsletter or an internal memorandum.
Employer’s attitude towards occupational safety and health

Figure 11: OSH as a priority in spite of high ignorance on OSH

Almost 61% of respondents perceived occupational safety and health provision as a “Priority”. This choice was validated through the in-depth interviews conducted with the managers. These interviews attempted to explore the reasons why employers/managers consider OSH a priority or not, in addition to what motivates them and what impedes them from promoting safety and health practices in the workplace.
The main reasons behind the enterprises' motivation for providing OSH at the workplace varied where: nearly 70% of employers stated that it was because safety of employees meant higher productivity: This is justified by the results of the in-depth interviews. Other reasons specified by the interviewees were as follows: 55% said the reason was ethical because they care for the workers, other employers adding up to 52% reported that it improves the image of the company, 29% said it was to respect international safety standards.

Nearly 25% said that it was because providing OSH does not cost much at all: “Providing OSH is not expensive, for example if you provide safety boots, this will prevent accident and then prevent absenteeism, so no loss there on the contrary gain.”

None of the employers reported that is was because employees requested the company gets involved in OSH. They stated that Employees would never come to you and request safety, managers are more aware of safety issues.
A major factor that was affirmed to hinder enterprises from fully practicing safety and health standards was their lack of knowledge on safety and health measures, which accounted for nearly 50% of the answers. Another 22% confirmed that they have too much work that does not allow them to concentrate on OSH issues. “Lack of budget” was stated at a rate of 16%.

None of management stated that fear of spending money and time and then failing, or fear of decreasing productivity were factors that hold them back from taking full OSH measures.

Other reasons specified by the interviewees were as follows: Nearly 25% declared that worker’s non-compliance with OSH measures was a major problem obstructing the full execution of safety and health measures, which highlights.
Another impediment to implementing OSH measures, which 15% of employers stated, was "lack of awareness of OSH importance". This brings us to Management perception of safety whereby some employers just don't recognize that there are many hazards on site and even if there are don't think it's an issue, where quote "I have one injury per day at least, its no big deal". "I never thought about it and I never saw the need: For instance, an interviewee admitted that the management lack of knowledge on OSH is what impedes further policy adoption and that most initiatives taken are to prevent accidents that they've seen through experience but not based on structured policy or international standards.

On the other hand, the "economic and political instability", ignorance, and no risk perception/assessment each accounted for 12% of the answers. Mainly while some employers/managers are willing to do more in the area of OSH, the country stability does not seem to allow them to invest in long term visions. An additional 7% stated lack of management follow up: "The worker may be the problem and we have no complete follow up from management".
Practices relating to safety and health: Communication of OSH policies within the workplace

![Bar chart showing percentages of issues related to OSH communication within the workplace.]

Figure 14: Communication and training for workers on OSH
With regards to communication on OSH within the workplace, while 83% of the enterprises organize a formal induction program for all new employees, nearly 55% of these programs do not address safety and health issues.

Some employers stated that in principle the orientation program should address OSH but it does not, they admitted that their safety awareness attempts were neither regular nor systematic.

A large portion of management up to 57% reported that it is “very unlikely” that they would communicate with employees about occupational safety and health. In addition, even if they do, it is minimal, “A bit, as much as we know”.

From the employers interviewed, 61% stated that employees are not allowed to conduct health and safety activities on work time. Nevertheless, they said it depends on the educational level of the employees. “Administration staffs don’t need it, as they don’t have safety hazards and workers are illiterate so no use sending them, but a representative of workers may go”. This shows managers attitude toward the capabilities of workers and their low knowledge on hazards at work where they consider office work poses no health risks at all. Many employers reiterated the fact that they do not have qualified workers to send, but that they would send heads of departments and top managers only. Some of those who would not accept for them to go during work hours suggested that they would accept trainers to train them on the spot in the plant.

A few made comments such as: “I've never heard of any OSH seminars going on, but if there are, yes why not I'll let workers attend”, “We were never exposed to this; we were never approached about any seminars”. This shows the lack of training on safety and health happening in Lebanon and if there are it is not reaching the enterprise level.

Around 63% of sampled managers reported that they have not installed in conspicuous locations of the workplace detailed instructions - in Arabic and any other language understood by the workers- related to workers' protection from the risks
they may be exposed to while performing their work, managers substantiated this by assuming that there is no need for this or that workers just know.

On the other hand, around 67% of managers reported that workers are given sufficient and appropriate information on the risk related to their work although 57% of managers said they would “very unlikely” communicate with employees on OSH. This brings us to the idea that foremen and line managers may inform workers about risks on the job but senior managers rarely have the time to show the workers of their commitment to safety and health in the workplace.

Another 74% of enterprises don’t have formal procedures for employees to report health and safety hazards, problems, issues or concerns, this was explained that some workers just go to the line manager as a first step and tell him/her the problem, others admitted that they as employers are present all the time to hear any complaints. Some said that the workers go directly to the human resources (HR) department, chef of personnel, head of department or quality assurance department while others confirmed that they have an employee suggestion and complaint paper.

Figure 15: Rewards and penalties for workers who behave safely
In terms of reward and punishment for safety behaviour, 81% would “very unlikely” reward the workers for following safe work rules, while 48% would “very likely” penalize the workers for violation of safe work rules. This shows that punishing the employees is more probable than rewarding them.

Figure 16: Budget for OSH

Around seventy-eight percent of enterprises do not have an annual health and safety budget designated for control measures, and all the enterprises who did assign a budget had less than 5% percentage allocated for safety measures and activities relative to the total budget. This was highlighted by some of the younger managers who took on management roles and had to clean up earlier generation problems such as lack of annual budget for anything, neither for marketing nor OSH. Now they are starting to include a budget for health: Insurance, health and safety. For renewing equipment: Ladders, machines, clothing.
All industries visited do not notify the Ministry of Labour of occupational accidents within 24 hours after their occurrence and did not know they had to.

Almost all employers, 89% admitted that the use of new mechanically-powered machines is not liable to prior licensing by the Ministry of Labour. This in turn does not at all comply with the National Lebanese OSH decree 11802.

A total 100% of enterprises do not notify the Ministry of Labour when their enterprise incurs an accident or fire. Also 100% do not send a report of occupational accidents to the Ministry of Labour. Most managers explained that they had no idea that they were supposed to. Obviously here lack of knowledge about certain legislations is a major factor for not implementing them.
Use of personal protective devices

![Bar chart showing the use of personal protective devices compared to lack of information on safety and health and related measures.](image)

- 23.8% of enterprises occasionally provide appropriate personal protection devices for workers.
- 49.3% lack information on safety and health and related measures.

Figure 18: knowledge on OSH versus providing protective devices

![Bar chart showing the provision of protective devices versus worker use of the devices.](image)

- 66.7% of managers always provide appropriate personal protective devices for workers.
- 73.0% require workers to use the personal protection devices put at their disposal.
- 64.5% admit that their workers only sometimes abide by all guidelines and instructions related to rules on safety.

Figure 19: Provision of protective devices versus worker use of the devices

On providing appropriate personal protection devices for their workers: 67% stated that they “always” provide appropriate PPEs. From the managers interviewed 57% said that they “always” maintain these personal protection devices in good condition.
In some cases this was because workers do not use them.

On requiring workers to use the PPEs, 73% reported that they "always" require workers to use the personal protection devices put at their disposal.

When employers were asked if the workers strictly abided by all guidelines and instructions relating to safety and health at work, 65% said that the workers only sometimes comply.

**Exposure to occupational hazards and prevention**

Most managers, up to 73% considered noise to be major problem. Around 60% stated ergonomic hazards and 28% reported hazardous chemicals: "We have a lot of flammable material, and workers breathe in a lot of chemicals".

Another 52% stated powered industrial vehicles: "trucks driving they need to be parked well". An additional 23% admitted to workers working in confined spaces: "A problem is that storage is between workers, weights are not organized, everything is jammed together due to confined spaces. Things may fall on them, forklift may hit people". Another issue identified by the interviewees is the architectural structure of the enterprises. Managers complained that due to the original structure of their workplace buildings, they now have confined workspaces. This they admitted is due to the vertical structure of the building, where it may have many floors upwards but enough space horizontally.

From the managers interviewed, 17% acknowledged work at elevation, 13% stated dust as a hazard.

Additional hazards recognized by managers were as follows: where 68% of employers considered that employees were exposed to physical hazards from machinery.
Figure 20: Hazards in the workplace

Several hazards were highlighted by employers, which make it even more surprising to note that 81% of these industries do not have OSH policies.

It was important to see that some employers openly declared that they have a lot of accidents: "I have workers coming to me with small injuries practically every day".

From the managers interviewed, 89% admitted that workers working in the noise area do not undergo regular hearing exams. This is a revelation noting that 73% of employers said Noise was the major hazard at their enterprise.
Figure 21: Noise hazards at the workplace

Figure 22: Accident documentation

Of all the managers interviewed, 78% stated that they do not record work-related accidents that occur in the workplace.

Some document and investigate accidents and give recommendations for improvement, others document accidents and near misses. In other companies the accident records are given directly to the direct supervisor or safety guards. These safety guards on call make sure the premises are always safe. Others broadcast the accidents and hang them at the plant door. Other enterprises have incident reports.
The quantitative results highlighted the key points of interest and variations among the managers. These responses were further probed in the qualitative section.

4.2 Qualitative results

The qualitative part of the study was conducted through in-depth interviews with managers. The interviews provided a rich database that helped answer many questions.

There are a range of theoretical outlooks that inform qualitative inquiry but not all problems are theory based. There are concrete and practical questions asked by people every day who are trying to improve something or doubting if what they are doing is working. These questions can be tackled without having to be bound to a theoretical framework. There is a practical face to qualitative methods that merely entails asking open-ended questions to target groups in realistic settings, in order to explain problems, develop programs, or inform policies. The methods of qualitative inquiry can be logical ways to find out what is happening in a certain environment of people. In this manner, qualitative inquiry can add to practical knowledge and pragmatic perceptions. Also, to examine the complications of implementation of laws and legislative decrees or delivery of government services, qualitative research can help decision makers to have detailed description of how services are operating and what is being accomplished (Patton 2002).

As in the case of this study, it is possible to conduct in-depth interviews to answer concrete organizational questions without working with a particular theoretical, paradigmatic, or philosophical perspective.

More importantly, qualitative research in this context confirms and explains the research by adding depth, detail, and meaning to the quantitative analyses.

The statistical results of the quantitative data indicate patterns that are generalizable across the sample frame but need more meaning, substance and insight to areas of
concern. The qualitative section shows what people really meant when they answered a question on the questionnaire and depicts the elaborations respondents provide to clarify responses. This meaningful addition has helped to interpret and make sense of the survey results. As Patton best described it "qualitative data can put flesh on the bones of quantitative results, bringing the results to life through in-depth exploration" (Patton 2002).

As mentioned in the methodology, interview transcripts were analyzed systematically through interactive and repeated re-readings of them. It was possible to gain an increasingly profound understanding of each interview’s viewpoint, perspective and contradictions within and across interviews. Interviews yielded rich data about organizational factors affecting safety and health. Support available from previous research is mentioned in the respective identified factors.

To identify emerging themes during the data analysis, a grounded theory approach (Corbin and Strauss 1990) was adopted as it was useful in developing context based descriptions and explanations (Orlikowsky 1993). Related particular pieces of conversation were identified and the common elements were placed under a separate theme. Themes are defined as units derived from patterns such as "conversation topics, vocabulary, recurring activities, meanings, feelings, or folk sayings and proverbs" (Taylor and Bogdan 1984). They are identified by "bringing together components or fragments of ideas or experiences, which often are meaningless when viewed alone" (Leininger 1985).

Basically, after each in-depth interview, the information was typed on an excel sheet. In the first stage, the interview guide was used to categorize the different answers under respective headings in the excel sheet. Managers were referred to as "M1-32". Therefore if all managers answered questions relating to the first topic on the
interview guide, the excel sheet would have 32 entries under this specific heading.

The excel sheet then showed data from the transcribed text of the in-depth interviews, where direct quotes and ideas were taken.

Figure 23: Thematic analysis of the data
The transcripts on the excel sheet which were categorized into several headings based on the interview scope table 7 in the methodology chapter, were printed out and displayed on the floor (see figure 23 for the transcripts spread on the floor).

Meaningful units were highlighted from the text and compared to similar statements from other parts of the sheet. Having all the information laid out next to each other helped relate and compare. Descriptive coding was used in the beginning to form a summary description of what is in the text. Word repetitions and other commonly used words and ideas were looked for. Several ideas emerged and many employers had similar points of view on the same topic.

Words were circled, underlined, highlighted, margins and arrows were made, to indicate different meanings and coding. Then patterns and significances were looked for (An example of how meaningful units were identified in the text is found in appendix 9).

Having laid out all this information and re-read it was an essential part of the process of analysis. Then codes were developed that go beyond description and start to categorise and analyse the data. This was followed by analytic and theoretical coding.

Therefore coding of the data involved categorising and indexing sections or chunks of the data. Codes came from the explanations which emerged from the data. Further literature review helped point out related theories from outside the data. Notes were kept to record thoughts and ideas about the codes during the process. A valid argument for choosing the themes was done by referring to the related literature and by relevance to the research question.
First order themes were identified, and then based on the meaningful units in the transcribed texts, higher order themes were categorized. An example of how a few higher order themes emerged from one 1st order theme is displayed in figure 24.

Table 12 shows the main themes extracted and their sub-themes.
Figure 24: Generation of higher order themes
<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-themes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Globalization and Occupational Safety and Health</strong></td>
<td>International standards certification and its effect on Safety and health</td>
</tr>
<tr>
<td></td>
<td>Links with company head quarters outside of Lebanon and their effect on safety and health standards and application</td>
</tr>
<tr>
<td></td>
<td>Safety measures as a comparative advantage between companies</td>
</tr>
<tr>
<td></td>
<td>Company Image</td>
</tr>
<tr>
<td><strong>Relation between managers and national OSH stakeholders and reflection of national priorities on enterprise management</strong></td>
<td>Lack of trust in the local government and its services and no information dissemination</td>
</tr>
<tr>
<td></td>
<td>Deficient expertise and lack of national guidelines in the field of OSH</td>
</tr>
<tr>
<td></td>
<td>Role of Trade Unions, Policing role</td>
</tr>
<tr>
<td></td>
<td>Lack of belief in the Lebanese people and their sense of compliance with the law</td>
</tr>
<tr>
<td></td>
<td>Economic and political Instability</td>
</tr>
<tr>
<td></td>
<td>Expanding business vs. investing in safety and health</td>
</tr>
<tr>
<td></td>
<td>Safety of employees implies higher productivity</td>
</tr>
<tr>
<td></td>
<td>Equity theory</td>
</tr>
<tr>
<td><strong>Knowledge and attitude of employers towards OSH</strong></td>
<td>Managers' grasp of the terms safety and health</td>
</tr>
<tr>
<td></td>
<td>Lack of knowledge about certain legislations is a major factor for not implementing them</td>
</tr>
<tr>
<td></td>
<td>Management commitment and involvement affected by their attitude to safety and health (Ignorance/risk perception): Comes with the Job</td>
</tr>
<tr>
<td></td>
<td>Lack of knowledge on who should be assigned responsibility of safety and health</td>
</tr>
<tr>
<td></td>
<td>Management attitude towards rule violations</td>
</tr>
<tr>
<td></td>
<td>Lack of employer compliance to safety practices</td>
</tr>
<tr>
<td></td>
<td>Policy driving implementation vs. risk awareness</td>
</tr>
<tr>
<td></td>
<td>Safety Procedure: Shattered OSH practice but no OSH policy</td>
</tr>
<tr>
<td><strong>Resources</strong></td>
<td>Valuing the human being</td>
</tr>
<tr>
<td></td>
<td>We are a family</td>
</tr>
<tr>
<td></td>
<td>Sense of duty</td>
</tr>
<tr>
<td><strong>Employer perception of workers' attitude towards OSH</strong></td>
<td>Victim blaming approach</td>
</tr>
<tr>
<td></td>
<td>Safety Behaviour</td>
</tr>
<tr>
<td></td>
<td>• Macho Concept and Risk behaviour</td>
</tr>
<tr>
<td></td>
<td>• Culture of being lax about safety</td>
</tr>
<tr>
<td></td>
<td>• Individualism</td>
</tr>
<tr>
<td><strong>OSH practices affected by the level of employer OSH knowledge and attitude</strong></td>
<td>Communication with employees</td>
</tr>
<tr>
<td></td>
<td>• Training on OSH</td>
</tr>
<tr>
<td></td>
<td>• Workers Education and Safety Behaviour</td>
</tr>
<tr>
<td></td>
<td>Managing risks and Hazards</td>
</tr>
<tr>
<td></td>
<td>• An accident waiting to happen</td>
</tr>
<tr>
<td></td>
<td>• Accident Documentation</td>
</tr>
<tr>
<td></td>
<td>• Medical records and sick role</td>
</tr>
<tr>
<td></td>
<td>• Formalities</td>
</tr>
</tbody>
</table>
Globalization and Occupational Safety and Health

*International standards certification and its effect on Safety and health*

The certification of certain enterprises by International Standard Organizations seemed to play a big role in the involvement of management and staff in quality, environmental and OSH issues. Most enterprises visited were either very recently ISO 9001-2000 certified or are in the process of receiving it and have consultants reviewing the company conditions and making the necessary suggestions for improvement. The mere process of accreditation and certification obliged companies to review their management systems and quality evaluation.

Although ISO 9001-2000 may not include safety and health standards as such, the practice of reviewing the manufacturing process has proven helpful. ISO standards seemed to have affected the employer's attitude towards OSH and more importantly introduced management to this broad and essential issue. As one manager stated: *"I know now because we follow ISO, we care for customer and the employee is a customer so we should care for him/her safety and health too"* (M3).

Other managers clearly stated that the only reason that they do implement safety and health measures is because the ISO standard they apply requests them to. *"Certain standards such as ISO 22,000 force us to take OSH measures"*. (M16-M22)

Therefore, in the aim of improving the quality of their products and their relation with other international companies, enterprises in Lebanon are acquiring international standards. This has indirectly had positive effects on occupational safety and health and the working environment.
Links with company head quarters outside of Lebanon and their effect on safety and health standards and application

Operating companies such as British Petroleum (BP) for instance produce hydrocarbon reserves from many geographically and culturally diverse countries. There are differences in the values, beliefs, training education and experiences of their respective workforces (Mearns and Yule 2008).

Some of the chemical industries included in this study are supplied by BP, hence the need to understand the dimension of globalization and its affect on workplace safety and health standards in developing countries such as Lebanon.
Increasingly, oil and gas companies are moving into less developed areas of the world where traditionally there has not been such a strong focus on health and safety issues. Moreover, employees are predominantly concerned with securing employment to provide for basic needs such as food, water and shelter. This is in line with Maslow's (1943) 'Hierarchy of Needs', where physiological needs have to be fulfilled before employees move on to fulfilling safety or security needs (which are next in the hierarchy) (Mearns and Yule 2008).

In this research, some enterprises are part of a multinational with operating units in several other countries such as the gulf, Cairo, Holland, USA and Dubai. Some companies in Lebanon are in direct relation with head offices who apply international health and safety standards, which flows down on them. Some claim that OSH became a major priority at their company based on the mother company's Global strategy. They are also audited by supply companies hence the need to apply safety measures and send reports on a regular basis. Some of them mention that while there is no OSH policy in their company in Lebanon, they do have OSH manuals in other country factory sites (in Arab States) because the supplier there obliged them to have a full certification. This means that although the same company has sites in different countries, a lower level of OSH strictness is applied in Lebanon when compared to even neighboring countries.

"We follow British standards which are much higher than the national ones" (M32)³.

"We have the same operation in Gulf, but there is more implementation of OSH measures because the government is more strict and in control". (M2)

Safety measures as a comparative advantage between companies

Enterprises in Lebanon compare themselves to other companies in Lebanon too. They want to attract employees and present a pleasant environment in comparison to the national market.

³ Where M stands for manager interviewed and the Number distinguishes between the different managers interviewed; e.g. M17 is the reference for Manager number 17
“It is an added value to have good safety measures in our company and gives us a comparative advantage for workers to choose to work with us and for other companies to choose to work with us”. (M17)

Company Image

Many managers were worried about the company image and claimed that the incentive to practice safety and health at the enterprises is to keep up this good image of the company. “We urge the government mainly the MOL to follow up on enforcing safety and health regulations. We need to have a good image so that international companies will work with us and do business with us” (M 17). “Safety and health measures are a priority because what is most important to us is the worker, his safety reflects on the image of the company, if you hear a lot that accidents are happening this would give us a bad reputation and decrease the credibility of the company” (M4). “It is better for the image of the company and in order to decrease turnover of employees and retain them safe and healthy in their jobs” (M25).

Relation between managers and national OSH stakeholders on OSH and reflection of national priorities on enterprise management

Lack of trust in the local government and its services and no information dissemination

Mainly, the lack of communication is considered a shortcoming on behalf of the Ministry of Labour (MOL). Employers viewed the MOL as very weak, providing no services, making it incomparable to the services they provide and the services they expect in the private sector. In their words “The government is not concerned, not interested and not committed enough, otherwise they would've made sure we knew about the national OSH decree” (M6). Managers complained that they have not heard of the national OSH decree 11802 because there is nothing about it on the Ministry of Labour (MOL) website and they weren't informed, admitting that they usually look into the European standards rather than the Lebanese one.
anyway. "MOL should keep industries informed and updated on such decrees" (M26). "The Lebanese law is not very punishing" (M20). Some of the enterprises referred to their operations in the States, which follow OSHA standards for example, and wondered why they do not have a similar agency in Lebanon.

Another major complaint is that labour inspectors rarely visit enterprises. "In twenty four years, the MOL Inspectors have visited us maybe three times only". (M32). Basically, managers did not have any faith at all in the national partners including the Association of Lebanese Industrialists and the Chamber of Commerce among others. Employers could not understand why the Chamber of Commerce did not make more effort to inform all enterprises of the national OSH decree 11802. They consider that it should have been much better promoted. "The Chamber of commerce should inform us. For example they should include it in the newsletter of the chamber of commerce" (M27). The employers seemed to have completely lost contact with the Ministry of Labour and perceive the Ministry itself as being negligent in this issue which seems to, in turn, reflect on the employer's negligence to OSH. "The Labour law in Lebanon is secondary to us because it is not enforced. I believe there is a lot of shortage on behalf of the MOL" (M30).

Some companies have heard of the concept of OSH but not specifically ILO conventions on OSH at all.

Management in some enterprises claimed that any safety and health initiative they have is totally a personal endeavour; they try to work on international standards not Lebanese standards. They assert that they do their best to develop and improve, but it all takes time.

Some advanced companies try to do bench marking (that is compare themselves to other local companies) but they are so much ahead of Lebanese companies and at the same time still very behind compared to companies overseas who have zero accidents.

In the managers' opinion, the only reason Labour inspectors visit enterprises, if they do is to see how they can make money from enterprises and make them pay taxes/penalties and certainly not to help them improve safety for workers.

It was suggested that there should be a newsletter or email sent to all HR Managers in
enterprises informing them of the decree, they criticized that laws were not publicized nor marketed well at all. Others suggested that the Association of Lebanese Industrialists (ALI) should have sent it to them via email for as they do with other issues.

Deficient expertise and lack of national guidelines in the field of OSH
Another area where help was needed was technical advice in the field of safety and health. It was clear that employers needed to be briefed on what OSH is and how it has anything to do with them. They are also looking for hands-on training and practical tools for implementation of good OSH measures. This again falls into the pool of unmet expectations from the national stakeholders. Employers need good guidance and they are lost as to where they can go to get that. “There aren’t enough available resources, in terms of proper equipment and information. For example I’m looking for good masks and I can’t find them and there is no institute to guide me” (M20). Some companies have a positive attitude and commitment but that is not enough without the proper knowledge and expertise. “There is no OSH management system, there is a will and there is management commitment, but we need the tools” (M19). On the other hand, some companies consider that they are well advanced compared to other enterprises in Lebanon, but they feel they cannot invest in OSH too much in order to stay within the minimum requirements that the national Labour Law calls for. “The company cannot exceed the requirements of the national labour law, as we need to stay comparable to the local market and standards, nevertheless we always try to aim for higher standards” (M30).
Role of Trade Unions, Policing role

Some management staff interviewed thought that safety and health conditions were better in the past when Trade Unions for certain sector factories were active but then during the civil war, there was no follow up for yearly fees or meetings that were held on safety and health. This was found to have brought safety and health measures backward. Therefore, it was claimed that in the old days there were more rules and more compliance than what they have now.

For one enterprise, the only reason the manager had heard of the Lebanese OSH decree 11802 was due to the company's active trade Union (TU). This person was directly involved with the TU at the company which is affiliated with the Lebanese Federation for workers. More comments were made regarding non-dissemination of information, suggesting that their sector Syndicates should have been informed.

Another reported no difficulties in implementation of an OSH policy because the Trade Union is fully involved in all aspects of safety policy implementation.

Lack of belief in the Lebanese people and their sense of compliance with the law

Managers not only did not have faith in their workers but also in the Lebanese community as a whole. Managers considered the Lebanese attitude towards safety and health in general is very negligent. "Anyway, who follows any rules and laws in Lebanon?" (M10).

Moreover, this is a broad declaration because in the end, government officials, decision makers, managers and workers are Lebanese and this attitude affects the whole system.

"People just don't want to follow rules the government itself is not enforcing" (M10),

Another problem is the lack of Lebanese people willing to take on blue-collar jobs.

"Our Company is unhappy with the low number of Lebanese workers who are sitting jobless in their homes but refuse to work on production lines." (M25)
Economic and political Instability

While some employers/managers are willing to do more in the area of OSH, the country stability does not seem to allow them to invest in long term visions. Many employers complained that their work has decreased during the past 3 yrs. One enterprise for instance had 120 employees, a number that has now gone down to 45 due to the political and economic situation in the country.

Employers complained that they face a lot of problems and big doomed worries and concerns that decide the future of their work. They think the issue of OSH can wait until the situation in the country is better as other matters supersede OSH in urgency. There are increasing costs in business, they do not even know if their work can be sustained or if they would have to shut down if the situation continues as such. “The country situation is affecting us, we now tend to think very short term, living day by day and this doesn’t allow us to have long term vision” (M17). The political instability and low salaries in Lebanon are at the forefront of all problems, this brings OSH down on the list of priorities. “OSH is not at all a priority for me at the moment due to the situation in the country and due to the rising costs of everything and basic salaries cannot fulfill anything” (M28).

A big concern for employers in Lebanon is the social security “Daman” of workers where not all our workers are covered, and employers do not disclose the amount of annual wages given to workers. These two issues were the reason why most employers were reluctant to be interviewed, as they were afraid of an audit. This is all linked to the economic instability in the country. “Our main problem is the low salaries that we give because even we as industrialists are not treated fairly in the regional competitive market. Lack of government supervision is not helping us” (M26).

Expanding business vs. investing in safety and health

Managers should preferably feel that they master their work situation and their duties. Employees should not give the impression to managers that involvement in accident prevention is time consuming and makes it difficult to reach production goals (Rundmo and
Hale 2003). Especially when the employer portrays to the workers that production comes at any price. "We are more interested in expanding our business and investments, and we look for new ideas to increase our productivity rather than think of OSH matters" (M3).

"The general inclination of our industry is to worry about our product. Therefore food safety/quality/cleanliness is our priority and not workers' safety and health." (M26)

"The Industry is growing and expanding but as it does, OSH is diminishing further and further" (M33).

One manager admitted that there is a severe lack of care for workers.

"The appearance of the company from outside is great, a huge modern building...but the worker needs are ignored while the employer is busy fixing the building esthetically" (M33).

**Safety of employees implies higher productivity**

Many managers admitted that safety of employees is a priority because it means higher productivity: "It is not a priority but important as it affects productivity, since I've taken on this job, I've realized that the employees have a lot of injuries such as broken hands and falling from ladders. I realized it was more effective to change how they operate and make them happier, which shows we care about them and their health" (M10).

"It is a priority because absenteeism leads to decreased productivity. This also affects our productivity" (M12). "By improving safety of employees and the workplace there will be less work stoppage because human resources are a valuable asset and any absenteeism reflects negatively on production. It makes more economical sense to protect worker. And also cause I can't stand disorganized dirty places" (M20).

"Most measures are done to keep our workers. The incentive is that accidents lead to absenteeism which leads to increased cost" (M23).

"The motivation behind it for us is our care for employees, and obviously the more you invest in your workers this will reflect positively on your company". (M30).

"It should be a priority cause if worker is safe then he will continue to work and he will give good results at work and this will increase productivity and the whole cycle improves" (M 27).
"Labour is an asset to the company, a good operator means good productivity. Just like I take care of a machine it makes sense to take care of the operator for better productivity" (M23). "I believe that the worker needs to be rested in order to provide more" (M26)

"OSH is a priority cause any accident will be an obstacle for my production, at any stage it happens it will affect the rest of the production lines, this is on top of the fact that I care for my workers, and I also care for my business, any safety problem will be reflected in productivity" (M29)."We care about the employees it is important to provide a safe environment and keep the personnel at ease, this will not only increase productivity but we really care about the workers, management here is completely dedicated to its employees” (M31).

Equity theory

Adam's equity theory calls personal efforts and rewards and other similar 'give and take' issues at work respectively 'inputs' and 'outputs'. Inputs are what one gives or puts into their work. Outputs are everything one takes out in return. These terms help emphasise that what people put into their work includes many factors besides working hours, and that what people receive from their work includes many things other than money. Adams used the term 'referent' others to describe the people with whom we compare our own situation. Equity theory thus helps explain why pay and conditions alone do not determine motivation. Adams' use of the terms inputs and outputs, covers all aspects of what a person gives, sacrifices, endures, invests, etc., into their work situation, and all aspects of what a person receives and benefits from in their work and wider career, as they see it (Carrel and Dittrich 1978). “It is a priority because if the worker is not working in a healthy environment then we get a bad output, I believe in giving in order to expect something in return. I'm demanding at work and if I really want the results I expect, I need to provide the worker with optimal conditions for good production. So primary reason is ethical and humanitarian and the second reason is the equation: you give the worker, the worker gives you back” (M6).
Knowledge and attitude of employers towards OSH

Managers’ grasp of the terms safety and health

At first many managers had a hard time understanding the term safety and health, and then once it was explained a little, they referred to safety boots and helmets that they provide. If anything, some of them have heard of OSHA as a reference. The old school employers soon realize they cannot answer any of the questions and refer me to their manager sons or daughters. For example, one of the older generation owners upon beginning the interview embarked on describing the high-level security system the company has against thieves, completely unaware that safety and health of workers is a workplace issue.

"Of course we have safety and health, the building is completely secure from break in and theft". (M25)

Both research and practice point out that the role of top management is of fundamental significance for attaining results in safety (Hakkinen 1995).

In this study, employers’ answer to everything was that workers have insurance therefore regardless of what happens to them, the employer is not worries because the workers are insured. Other employers completely ignored the existence of the term OSH.

"This issue of safety and health has never crossed my mind; I would welcome the idea if someone were to explain this concept to me. I’ve never thought of it because we don’t have too many accidents so it has never occurred to me to provide PPEs to workers." (M27)

"We only get information on OSH from international exhibitions" (M29).

Lack of knowledge about certain legislations is a major factor for not implementing them

The Lebanese national OSH decree requires enterprises to document and notify the Ministry of workplace accidents or in case of fire. However, this study showed that none of the enterprises notified the Ministry of Labour when their enterprise incurred an accident or fire. Neither do any of them send a report of occupational accidents to the Ministry of Labour.
Explanations ranged from "No, didn't know", "should we really? Haven't heard of this", and "We had no idea about this". Obviously, this shows that lack of knowledge about certain legislations is a major factor for not implementing them.

Management commitment and involvement affected by their attitude to safety and health (Ignorance/risk perception)

The current research revealed manager's attitude towards risk management in the workplace. Ignorance of employers to the nature of workplace risks and hazard was very apparent. They do not perceive risk and therefore do not encourage prevention efforts. "There is a lot of noise, and I don't give them ear plugs, I don't allow them, if I come in and I want to talk to them, I want them to hear me!" (M8). Some managers made it clear that they believe some risks and hazards come with the job and the workers have to take it and get used to it. "They inhale a lot of salt and dust but they're used to it" (M8). It was important to see that some employers openly declared that they have many accidents; they did not seem to think there was anything wrong with that or that they can play an active role in preventing these accidents. "I have workers coming to me with small injuries practically every day" (M8). "I have one injury per day at least, it's no big deal" (M11).

This shows that managers in Lebanon consider injuries as part of the job of workers. It seems to be taken for granted that injuries will take place and there is nothing much an employer can do to prevent that. Some employers think that if there are no traditional clear hazards, then OSH is not a matter of concern in their enterprise, "It is not a priority because we don't have any hazards. Good safety measures are important but don't apply in our sector" (M18). Enterprises do not even make an effort to minimize the risk even when they realize it exists. "We don't replace hazardous chemicals by safer ones because this is our job and we deal with hazardous chemicals, so hazards come with the job" (M4).

In this research, management attitude to safety and health was negative and the perception of risk is low: "Some PPEs are optional, for example the ear plugs were provided to workers who were told if they are annoyed by the noise they can use them" (M21).
"We don't force them to wear PPEs, but there is one guy who likes to wear Ear muffs, there is noise but I don't think it's too much" (M14).

Some managers claimed that they may have seen the national OSH decree in the newspaper but did not give it importance. Others do not read newspapers and claimed that their company lawyer did not inform them also because he probably did not consider it too important. Some admitted that they usually revise everything that comes out in the national newspaper whereby they have a person responsible for purchasing and legal issues nevertheless they personally had not heard about it.

"There is lack of info on OSH, and we are overloaded with work" (M6).

"It is not a priority because we don't have any hazards. Good safety measures are important but do not apply in our sector, we get only small hand injuries not serious (M18).

"For me specifically it is not a priority, it is important but I haven't had any major problems yet and it doesn't affect my production, so it's not a priority yet" (M27).

When asked whether they forbid a worker to manually move any load that might, due to its weight, expose his/her health or safety to danger, some managers just assume that hazards just come with the job.

"We don't forbid, sometimes they have to do it, its part of the job" (M4).

"They carry a lot of weights; it is part of their job, but mostly its not more than 30Kg" (M7).

"No we don't replace hazardous chemicals by safer ones because this is our job and we deal with hazardous chemicals, so hazards come with the job" (M4),

One enterprise on the other hand admitted that management commitment to OSH was the reason safety measures are successful.

"Another enabling factor is management commitment to OSH, its been 10 yrs since we first introduced this issue and have been trying to improve it ever since. There is
constant awareness and training on the floor, we have reached a stage where workers themselves talk about near misses and not just accidents. They are involved in the risk assessment process and help investigate accidents and suggest solutions (M32).

Some junior managers, who are more aware about safety and health than others, criticized upper managers where they considered the managers are the culprit.

"They are too ignorant about OSH so they are afraid of it. They think of it in dollar sign which is a myth and a misconception" (M20).

"There is no complete follow up from management or any management system" (M4).

"Mainly due to ignorance and no risk assessment, it is definitely not a budget problem as it is cheaper to have people safe" (M10).

Lack of knowledge on who should be assigned responsibility of safety and health

Some enterprises had read the Labour Law in Lebanon when they first began work prior to 2005 but then were not informed of the OSH decree; they were lost as to who should be informed at the enterprise if it is they or someone else from management.

A worry though expressed by enthusiastic operations managers is that when it comes to OSH its all about the individual whereby if he/she leaves, someone will replace him who does not place importance on OSH.

If they were asked to name a focal point, most answers fluctuated between the Human resources manager and the quality assurance coordinator being the OSH focal point respectively. In addition, they would deal with anything related to safety of workers. Some companies have security officers who do this on the side besides being the on site engineer; others have security officers in charge of public security, pest control, fire fighting and general premises.

"We have the head of security responsible to make sure all is safe on the premises,
and the personnel manager gets involved sometimes" (M30).

In other companies, if accidents happen to the workers, they go to the General Manager's secretary who sorts out their insurance issues, others go straight to the manager if they have an injury so he can directly make decisions, and therefore if someone broke an arm falling from an inappropriate ladder, the manager can decide to change the ladder. One company used to have an OSH committee composed of workers and management. Then it did not work, so they changed to management only and then that did not really work either so they have restricted it to an even smaller group from management. They used to meet on a regular basis as dictated in policy, but not anymore.

Management attitude towards rule violations

A study by Rundmo showed that Safety climate and employee attitudes towards safety and accident prevention added considerably to the discrepancy in employee occupational risk behaviour. Worry and the degree to which the employee felt safe/unsafe was the essential forecaster for the cognitive opinion of risk. Tolerability of regulation breaches seemed to be the most important predictor of behaviour, probably because tolerability also affected how frequently the respondents took chances and broke safety rules (Rundmo 2000).

In this study, most companies stated that they only made verbal remarks such as: be careful, be aware. Some give warning letters others said they follow common sense with the workers and there is no formal punishment.

"In theory we have punishment for people who don't abide by safety rules, but we just give verbal warnings" (M2).

Some employers take punishment more seriously whereby they have a Security Inspection form and they decrease pay as punishment for employees who do not comply with safety instructions.
On the other hand, most employers do not give rewards for good safety measures:

"We consider it is their minimum duty to stick by safety measures" (M14).

"It is implemented successfully for the most part because we consider it their duty to comply and not a choice" (M23).

"They sign paper that it is not our responsibility if he doesn't wear his PPEs" (M24).

"We definitely don't give reward for abiding by safety measures because we think it's their duty. On the other hand, we do punish them if we see any incompliance by deducting from their salary. We once had an incident where 13 workers didn't take the safety measures required and they were fired" (M29).

"We don't have an award system in place but we are preparing for it now, meanwhile due to the socioeconomic situation in the country we don't punish them by reducing their wages" (M30).

"It's a procedure and they have to follow it otherwise they are expelled" (M31).

"There are no rewards as this is their duty, on the other hand there is punishment in the form of internal penalty or no entitlement to promotion ...but no decrease in wages" (M32).

"They are punished with warnings and salary cuts" (M33).

Lack of employer compliance to safety practices

It was noticed that employers themselves do not abide by basic safety measures where the interviewee was being asked about whether there were anti-smoking lifestyle health promotion interventions at the workplace and he did not stop smoking. Others work on site with the workers and do not set a good example.

"I work on site practically like they do and I don't wear any PPEs, but if they ever want them I don't have a problem with providing them, but I distribute the occasional ear plugs if needed" (M6).
Policy driving implementation vs. risk awareness

In this research, some employers claimed that their line of work does not have any hazards at all where at best there is hand injury. Many companies admitted to being very much behind when it came to OSH implementation. For those companies who have workplace OSH policies, the most difficult part is to introduce the concept of security and its understanding. It is difficult to get people in administration and labourers to grasp the concept of safety at work and its importance.

It was said that

"In general the safety measures are implemented because it's a policy and not because workers or even managers are aware of the risk" (M2).

"It is a policy to replace hazardous substances with safer ones, if we can replace it we do" (M2).

An interviewee admitted that the management lack of knowledge on OSH is what impedes further policy adoption and that most initiatives taken are to prevent accidents that they've seen through experience but not based on structured policy or international standards, he also doesn't feel they have a lot of hazards to begin with.

Safety Procedure: Shattered OSH practice but no OSH policy

Policies and actions are the central elements of safety management systems (Mohamed 2002; Choudhry and Fang 2007). Some of the enterprises visited mention that they have shattered OSH practices but no policy although they plan to have one.

It was often stated that fire protection measures are well implemented because people are more conscious about fire hazards. The policy for fire fighting is a high priority in some kinds of businesses visited, therefore, it was reported as the easiest to implement.

"We don't have an OSH policy per say but we have rules scattered in production policy and lab policy but we should definitely develop an OSH policy" (M31).
Resources

Some managers claimed that there was no need for first aid kits since there were nearby pharmacies in case of need. They are in the same building or across the road so they saw no necessity to have a first aid kit. Some managers admitted that their first aid kits were not well equipped and that they never thought about it nor supervised it. Some had first Aid Kit with the basics stuff; others had a comprehensive one and even started training employees on it. Others received the kit from the Red Cross and were very conscious of its need as they had a lot injuries and burns on the work site. Some had just recently become aware of such a need and just replaced the old one, which had not been changed for 15 yrs.

Others reported that a positive aspect is that money is never a problem; it is available to cover any OSH requirements.

“The first incentive to practice safety measures at the workplace is to protect the employee as a human resource, which is the most valuable asset, and this I believe is the biggest investment in a company, this would then lead to better production and leads to a better company” (M19).

“It is rare that budget is an issue but sometimes it is when for example masks need to be changed to newer and better ones, managers may ignore this need due to the cost required. There is lack of awareness of the importance of the issue” (M2)

A specific budget for safety and health is rarely assigned at the beginning of the year. This was highlighted by some of the younger managers who took on management roles and had to clean up earlier generation problems such as lack of annual budget for anything, neither for marketing nor OSH. Now they are starting to include a budget for health: Insurance, health and safety. For renewing equipment: Ladders, machines, clothing.

“We don’t have a company doctor, how useful is it? We just get the medical reports from their individual doctors”, “We don’t have any doctor for plant but we have insurance for all”. (M4)
On providing appropriate personal protection devices for their workers:

"We provide, masks, goggles, safety shoes, helmets, gloves, ear defenders and overalls", (M2)

"No opened shoes allowed, we provide masks and gloves mainly for maintenance crew. We plan to give them ear plugs; we just purchased them but haven't provided them yet to them". (M3)

"We do provide PPEs, except for safety boots which are purchased yearly because they are expensive" (M33)

"Buying PPEs is the easiest part to implement and therefore the section most implemented of the policy" (M33).

Most reported that they "always" require workers to use the personal protection devices put at their disposal:

"We provide goggles, safety shoes, safety clothes, gloves and ear plugs. We ask them to sign papers, if they have eye or ear damage, we are no longer responsible, we do this to scare them so they can use their PPEs but still they are not complying. But obviously we fully cover them if something happens to them but it just to scare them". (M19)

"We understand the ear plugs annoy them especially in summer. Of course we can decrease and remove noise if we install the new machines with silencers which will cost us $10 million but you will see us bankrupt the next day and we'll shut down". (M19)

The very few companies who have OSH policies have based them on the risks they were experiencing on the job, so they wrote safety procedures for them. However, most have witnessed a decrease in application due to the rise in costs.

"The OSH policy used to be applied before, this implementation has decreased a lot, because it is starting to require too much money, they used to have a safety
specialist etc...which they don't have anymore” (M33)

“We have the head of security responsible to make sure all is safe on the premises, and the personnel manager gets involved sometimes” (M30).

On the other hand, a company admitted that

“Budget is not a problem, it all depends on the risk assessment, if the risk is severe then if it would cost a million dollars to fix we do it” (M32).

Human resources were also valued:

“We believe Human resources are an asset to the company” (M32).

**Valuing the human being**

According to Helmreich and Merrit (1998), safety is a ‘universal value’, which every culture should attempt to embrace and there is almost certain that people will react adversely to their family, friends and colleagues being harmed at work (Helmreich and Merrit 1998). There are human expenses linked to all accidents, but risk and safety regulation and the strategies used to manage risk and safety, differ extensively among countries and organizations. Whereas the ‘value of life’ is immeasurable at an individual level. (Mearns and Yule 2008).

In this study, many managers considered that their workers are like family, they have known them for a long time and care for them as they would for their families. This is typical of Arab and Lebanese cultures. Issues are easily personalized and human bonds are easily made. Relations are rarely restricted to business but tend to become more profound.

Some managers considered that the human being should be the centre of attention in any job. This is in respect to individuals and in compliance with a minimum level of ethics and a sense of responsibility towards them. These managers believed that they should not comply with safety measures just because it is a rule, their incentive should be the human being. They offer a job to somebody, these workers then offer them a service, which makes it a matter of give and take and should not give managers the right to exploit workers. “We care
about the people, we have a family environment "what is good for the employees is good for the company is our slogan". (M22, M30)

“It is part of our mandate; the worker is a valued human factor” (M22).

“I consider that the Human being should be the centre of attention in any job. Moreover, it is the responsibility of the employer to ensure training and safety to all employees. This is in respect to the human being and in compliance with minimum level of ethics and a sense of responsibility towards them. The industry should be designed to protect people from accidents and to preserve a good image of the company. We should not comply with safety measures just because it is a rule, our incentive should be the human being. We offer a job to somebody, they offer us services, and it’s a give and take and shouldn’t give us a right to exploit them” (M2).

“Cause safety of workers implies safety of our factory and we protect our workers cause we value human factor and protect premises” (M22)

“We have a balance agenda with 5 related priorities: Quality, cost, delivery, safety and moral, "where safety comes first". We have daily meetings on safety issues. Additional incentive for implementing OSH is that we are convinced that human resources are our wealth we tell them we want you to go home as you came in the morning. Laborers are our partners” (M32).

We are a family

Many managers considered that their workers are like family, they have known them for a long time and care for them as they would for their families.

“Yes it is a priority to protect workers so that they can keep working with us otherwise, 1. They will need to stop working because for a certain disability and we would have to train someone knew, 2. Alternatively, they leave our company to go work with someone else. 3. I love them and treat them like my own kids. Three quarters of the people who work with us are uneducated or left school, they come to
us to grow up with us and for us to teach them a skill from scratch. We have a family Bond between us. For example, I have a 60 yr old worker who has been working with us since he was 15. Our workers are skilled laborers; they need experience so we need to take care of them. We help them financially on a personal level, we give them loans to buy houses etc.” (M7).

“Good OSH makes employees happy and healthy and this would increase productivity and decrease work related stress” (M10).

**Sense of duty**

Some managers considered taking care of workers' safety and health is their responsibility and duty.

“It is not a priority but it is important. As a worker, I am interested in my safety; I should be able to provide the worker with salary and safety. It is MY DUTY.

Some managers confirmed that the sense of responsibility of management towards their workers helped. This was driven by the aim for better productivity whereby if worker feels at home and safe, this lead to a decrease in absenteeism which indirectly leads to income and benefits for the company” (M13).

“It is a responsibility because they work in a risky environment. The worker is our responsibility, it is really bad to know that we could've prevented an accident and we didn't” (M12).

“I do it on my own initiative as an individual to rest my consciousness even though here is lack of inspection from MOH” (M26).

“Our consciousness does not allow us not to take care of our workers cause we realize that working with glass is hazardous, in one accident 10 workers might die so it doesn't only affect one worker” (M29).

**Employer perception of workers' attitude towards OSH**

Another issue clearly identified in this study is that managers blamed workers for being
nonchalant when it comes to safety and health. "Workers are reckless while using machines, sometimes they don't pay attention" (M27). Some managers were very convinced that workers are the main cause of accidents and workers' lax attitude and laziness is what causes them to have accidents "Accidents happen due to worker mishandling of machines and abuse of machine guarding" (M32).

**Victim blaming approach**

According to Chan et al. (2005) accidents happen due to a random combination of many contributing factors (Chan, Wong et al. 2005). Traditionally, they are categorized due to unsafe conditions and unsafe practices. Health and Safety Executives (HSE 2002) concluded that human behavior is a contributing factor in approximately 80% of the accidents. Many studies revealed that the majority of accidents and resulting injuries are attributed to unsafe work practices of the workers rather than unsafe working conditions (Garavan and O'Brien 2001). Some studies (Mullen 2004) reveal that organizational and social factors are not to be overlooked because these factors influence safety behaviors. The argument in favor of this is that if unsafe conditions are present, it becomes the normal practice of workers to accept the risks associated with the work. In this situation, accidents cannot be only attributed to the unsafe work practices of workers. It shows that rather than attributing the blame for accidents and injuries to workers, one must pay attention to and view the injury from the worker's perspective (Choudhry and Fang 2007).

In this study managers rush to point a blaming finger at the workers. They reported that "Accidents happen by mistakes due to the stupidity of workers" (M8). They explained that the worker may be the problem. "We have a lot of machines where they can cut their fingers if they're stupid and don't pay attention" (M8). Some managers therefore truly believed that there was nothing they can do to prevent accidents since they happen because the worker does not pay attention or is too stupid to be careful.
Safety behaviour

It is often assumed that accidents happen because there is something “wrong” with individuals' perception of risk. "Misjudgement" of risk may cause inappropriate decisions as well as unsafe behaviour and “human error”. Accordingly, several studies have been aimed at classifying such errors (Mashour 1974; Miller and Swain 1987). Therefore, to avoid accidents, tasks have to be fitted to “human limitations” and taken care of in the design phase (Rundmo and Hale 2003).

In this research, managers reported that workers usually start abiding by safety rules and wearing personal protective equipment (PPE), when they see something go wrong with one of their colleagues then they start taking better care. In general, PPEs are available but not used. Managers attributed this to worker illiteracy and lack of safety consciousness. This idea was repeated many times expressing the frustration in convincing employees to wear PPE. Employers felt that this was due to the workers low level of awareness on this issue. In some enterprises, helmets and safety boots are provided on a yearly basis but are not always worn.

Employers were surprised at the irony of worker nonchalance. "We find ourselves having to push workers to take care of themselves! (M12)."

Managers complained from a lot of resistance on behalf of workers to abide by safety instructions provided to them where “mostly employees who have been working with us for a long time hesitate to change the way things were done before, it's difficult to convince them” (M8).

Manager perception of worker attitudes and practices shows that the workers have low awareness of risk and a fatalistic attitude "Kadaa w Kadar" which means its fate, where if something bad goes wrong, the workers think, what's the worst thing that can happen, "kelha mawte" meaning it's all a death.

Lack of worker compliance was clearly articulated on behalf the managers. "I've provided them with ear plugs but only one worker wears them" (M10). In some cases, management
tried to implement a non-smoking policy but it did not work. Workers could not stop no matter what. An interesting finding mentioned by employers is that workers tend to follow rules and prevention efforts only when the danger is apparent and they understand the risks involved. “The jobs where the dangers are obvious are where compliance is higher...If they can see and feel the danger, they take safety measures, if the danger to them seems far, then they take fewer measures.”(M30)

**Macho concept and Risk behaviour**

For many years, industries have been dominated by a male-dominated, ‘macho’, ‘can do’ culture (Wright 1994). The early pioneers were ‘rough and tough’ guys, who enjoyed taking risks and accepted it as part of the job (Mearns and Yule 2008). For many years, industries have been dominated by a male-dominated, ‘macho’, ‘can do’ culture. The early pioneers were ‘rough and tough’ guys, who enjoyed taking risks and accepted it as part of the job. In this research, management staff interviewed noticed that Lebanese people seem to be embarrassed to wear PPE; “The Lebanese feel it is beneath them to wear PPEs. Also some view it as an insult to their manhood” (M4).

**Culture of being lax about safety**

National culture has been defined as ‘the collective programming of the mind acquired by growing up in a particular country’ (Hofstede 1991). Five dimensions which prove to differentiate national culture groups are: Power Distance, Uncertainty Avoidance, Individualism (Collectivism), Masculinity (Femininity). A High Power Distances could result in a one-way flow of communication from superiors to subordinates resulting in the knowledge and experience of frontline operators not being utilized to aid the development of a positive safety culture. As Reason (1997) points out the emergence of a ‘good’ safety culture is dependent on the willingness and active participation of the workforce (Reason 1997). Extremes of either Collectivism or Individualism may be detrimental to the safety of an organization.
If Collectivism becomes too strong, known in psychological terms as ‘groupthink’ (Janis 1972), individuals may refrain from offering a divergent point of view vital in critical safety decision-making situations. On the other hand, according to Fiske (2002), individualism is related to more direct communication and speaking up about issues, an attribute that appears to be particularly important in developing a positive safety culture (Fiske 2002).

Extremes of the Masculinity/Femininity dimension indicate differences in the need for challenge, progress and distinction, which could ultimately result in the loss of interpersonal relations and good communication. While it is likely that no culture possesses all the optimum components necessary for safety, it is possible that certain combinations of national dimensions (especially Power Distance, Individualism, and Masculinity) have the potential to create cultural norms that will determine the tendency to engage in risk-taking behaviours at work. The support and commitment of management may be an important mediating influence by encouraging employees to behave safely even if they may be more naturally disposed to take more risk than is deemed acceptable (Mearns and Yule 2008).

In this study, many managers claimed that the shortage in safety and health practice is a cultural issue, where people are too preoccupied with politics and everything else comes second. Labour disputes revolve around money and wages and safety is sometimes not even on the table. The Lebanese law in this case is not very punishing. Human life seems to be cheap. Moreover, employers made it clear that the biggest obstacle is people’s culture, “we don’t have a safety culture and there is no external enforcement, the government seems to be busy with other priorities all the time, it doesn’t ever seem that OSH is one of them”. Therefore the combination of lax legislation and practically non-existent culture of prevention have a synergistic affect on non-implementation of workplace safety and health measures. “There is low culture of safety, you get safety boot, and the worker says it hurts my foot” (M23).

Moreover, employers made it clear that the biggest obstacle is people’s culture,
"The main problem is that there is no safety culture. The culture of workers does not include OSH. Like father like son, they don't comply with PPE" (M13).

"The most difficult part in implementing the policy is the culture of the workers, there is a general resistance from employees, its been 2 yrs we urge them to use earplugs and other PPEs still you find some that do not" (M32).

**Individualism**

Another feature managers noticed is the mentality in Lebanon where they have a sense of individualism in working and is no sense of teamwork and no collective thought. "The worker takes a risk without thinking of the consequences on other fellow workers or management, they don't think as a group" (M2).

**OSH practices affected by the level of employer OSH knowledge and attitude**

Choudhry and Fang tried to find out why operatives engage in unsafe behavior. The findings indicated that workers were involved in unsafe behavior because of: a lack of safety awareness; to exhibit of being 'tough guys'; work pressure; co-workers' attitudes; and other organizational, economic and psychological factors. The results validate the considerable role of management; safety procedure; psychological and economic factors; self-esteem; experience; performance pressure; job security; and education as well as safety orientation and training (Choudhry and Fang 2007).

The study by Choudhry et al, (2007) identified various reasons that explain why workers continue to engage in unsafe work behaviors, some of which are listed below:

1. Ignorance and lack of safety knowledge.
2. Failure to follow safety procedures and attitudes towards safety that include not wearing safety helmets or working when tired or with insufficient sleep.
3. Work environment that supports unsafe behavior such as performance pressure.
4. Financial incentives offered at the cost of safety such as production incentives without giving necessary time and resources for completion of an activity.
5. Psychological factors such as poor living conditions, social or domestic pressure.
6. Exhibiting 'tough guys' in performing risky jobs on-site and co-workers encouragement to
undertake tasks that are unsafe. This also includes engaging in behavior that goes against safe procedures with an aim of getting a promotion or to please the boss.

7. Lack of skill or safety training or absence of job-specific training and incompatible training to site conditions.

8. The nature of the task at hand including the worker's failure to identify an unsafe condition that exists or develops after a task begins. This includes the design of work that did not consider human limitations for which management is responsible to identify the unsafe conditions in advance for each new task.

Table 13: Primary attribution: Internal Causes associated with the worker and External causes associated with the context (Niza, Silva et al. 2008).

<table>
<thead>
<tr>
<th>Internal attribution</th>
<th>Lack skill</th>
<th>Deficient knowledge about task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention lapse</td>
<td></td>
<td>incorrect course of action selected</td>
</tr>
<tr>
<td>Misconduct</td>
<td></td>
<td>Failure to use protective equipment</td>
</tr>
<tr>
<td>Inexperience</td>
<td></td>
<td>Lack of adequate ability</td>
</tr>
<tr>
<td>Carelessness</td>
<td></td>
<td>Exceeded prescribed limits</td>
</tr>
<tr>
<td>Bad day</td>
<td></td>
<td>unusual misbehavior</td>
</tr>
<tr>
<td>Fatigue</td>
<td></td>
<td>reduced alertness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External attribution</th>
<th>Lack inspection</th>
<th>No external safety assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack supervision</td>
<td>No management control</td>
<td></td>
</tr>
<tr>
<td>Bad luck/destiny</td>
<td>Inevitability of accidents</td>
<td></td>
</tr>
<tr>
<td>Unsafe equipment</td>
<td>Faulty utensils and tools</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inadequate training</th>
<th>Deficient preparation and Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure</td>
<td>Excessive work pace</td>
</tr>
<tr>
<td>Poor housekeeping</td>
<td>Lack of workplace tidiness</td>
</tr>
</tbody>
</table>

As this study is based on interviews with managers, the main emphasis would be on external attributions to worker unsafe behaviour, in adequate training, pressure and poor housekeeping.

The current research revealed manager's attitude towards risk management in the workplace.

"There is a lot of noise, and I don't give them ear plugs, I don't allow them, if I come in and I want to talk to them, I want them to hear me!" (M8),

"We have a lot of flammable material, and workers breathe in a lot of chemicals" (M14).

"They inhale a lot of salt and dust but they're used to it" (M8).
Another issue identified by the interviewees is the architectural structure of the enterprises. Managers complained that due to the original structure of their workplace buildings, they now have confined workspaces. This they admitted is due to the vertical structure of the building, where it may have many floors upwards but enough space horizontally.

"A problem is that storage is between workers, weights are not organized, everything is jammed together due to confined spaces. Things may fall on them, forklift may hit people" (M 13).

Several specific hazards were mentioned across the industries visited: Some managers admitted that workers are exposed to dust due to a lot of grinding, fumes and fire potential where there is highly flammable material-self ignition. They are exposed to chemical products during the making of fiberglass. We deal with composites; workers are exposed to chemicals of chop fiber, which may lead to allergies and respiration problems. Others specified that the employees work with risky machines, such as Makhrata (lathe), they are Lathe operators and others handle heaters. Ergonomic problems was mentioned a lot as well due to continuous standing of workers during the job.

"Ergonomics mainly in packaging machines which has decreased a bit since we installed semi-automated machines" (M32).
Others acknowledge that their industries use Benzene that is volatile cause vapor is heavier than air and it goes down. They work in a restricted and hazardous area, as for hazardous waste they cooperate with the Ministry of Petrol on that.

Most employers considered that employees were exposed to physical hazards from machinery:

"Most hazards are physical from cutting blades, rotating wheels, gears, open/shut which close on hands, we have fire potential due to high temperature for some machines because we process polyethylene" (M 12).

Figure 28: Dangerous work with no PPE and no safeguards

Figure 29: Steep entrance of a printing industry
Figure 30: Confined spaces

Figure 31: Unhealthy and unsafe storage sites

Figure 32: Small toilet space/locker and bad hygienic conditions

Vs.

Figure 33: Good Locker space for workers
Figure 34: Workers resting on the floor Vs. Figure 35: Good cafeteria space and seats

Figure 36: Neat electrical boxes and storage
Others mentioned driving (for distribution), and handling machines as major hazards on the job. A lot of employers considered accident can happen randomly such as if box falls on them, if a hand pallet comes on his feet (especially if they're wearing open shoes). In addition, if there is a dysfunction of the security gauge of the machine, then they cut their fingers and hands. Sometimes the workers remove security on purpose to make procedure quicker.

"Mainly if they put their hands in machines or if something heavy falls on them" (M 11).

"The recklessness of workers while using machines, sometimes they don't pay attention" (M27).

"Possible accidents with machines by mistake" (M30).

"Possible accidents due to mishandling of machines and abuse of machine guarding" (M32).

"Cutters, machines, slippery floors are all hazards in our industry and on top of it some people remove security options from machines which lead to accidents" (M 7).

Other industries admitted a major problem is burns due to Mahmasa (nut making machine-Roaster) and packing machines, which are risky. Others admitted lacking working spaces. On the other hand some industries declared that the only chemical exposure is for cleaning ladies who use very strong detergents.

"Now that you mention it, I should probably get gloves for them because they work with a lot of water and salt and it ruins their hands completely but I never thought about doing anything about it, it's just the job I thought" (M 8).

Some workers work at heights for deep cleaning. Some admitted to problems with ventilation. Employers tend to see the obvious risks:
"The only major risk I see is the workers direct contact with toasting machine for nuts and coffee" (M 8).

Some were oblivious to the fact that accidents happen:

"We don't have any work accidents; we had one slippery 15 years ago. I am confident that the Chemicals we use come from Europe and Far East and they are accepted in other countries. The cleaning agents we have (solvents) needs ventilation which I have done" (M9).

"We don't have much hazards because we do the installation well, it all starts by building the premise right and installing the equipment right, we have a problem with noise we plan to measure decibel if too high we will get them earplugs. Any hazards will be due to mishandling of a machine but they are all well trained" (M31).

Some employers confessed to the variety of hazards their workers are exposed to:

"They are exposed to driving around and hazards at construction sites were they install aluminum. Ergonomic problems are restricted to Admin staff. Workers also do a lot of repetitive movements, they stand a lot, they may mishandle machines, they get aluminum splinters in their eyes, they work with saws, electric skewers, and outside on sites they fall from heights (it happened were employee died falling from 3d floor)" (M10).

"Mostly slips but we just treated the floor to prevent this, or hand cuts with the saw" (M 16).

"Workers are exposed to poner and patex inhalation in addition to manual work with sharp instruments ex. Scissors and blades" (M25)

"There are 3 production sites and hazards, when dealing with iron, in print house and in the plastic plant. They carry weights, they use knives, and they may get injured on machines. I'm not the kind who if the worker gets injured, I dance cause he's insured and I don't care" (M28).
It was important to see that some employers openly declared that they have a lot of accidents:

"I have workers coming to me with small injuries practically every day" (M8).

When asked whether employers accommodate workers:

"Yes we do if we get proof from their medical reports, if it is really serious we shift them to another job" (M8).

After a loud laugh "Are you for real? Next you will ask me to allow him to bring his girlfriend to work to give him a massage!" (M29)

In terms of PPE provision:

"For maintenance workers I provide them with goggles, safety boots, and gloves for welding. For production I just provide them with earplugs and for some Safety boots where necessary. They are not kept in good shape, cause they go home with them and ruin them" (M23).

"I didn't know I should provide PPEs" (M26).

"They don't use goggles but I don't blame them even I can't wear them myself they are annoying" (M28).

"We provide them with gloves and safety boots and goggles and we make sure they are kept in good shape if not we deduct from their salaries" (M29).

**Communication with employees**

When managers in this study were asked about orientation and induction programs: Some employers stated that in principle the orientation program should address OSH but it does not, they admitted that their safety awareness attempts were neither regular nor systematic, they lacked visual means (films, clips, CDs). Most managers thought that visual media can affect workers mostly and these tools are not available to be used in trainings. Some companies give the worker a paper that they sign explaining the procedure and the description of the job and they sign it in the form of a memo and it asks them to protect the product and themselves.
As for formal procedures for worker complaints, they do not exist in most enterprises. Usually workers go to the line manager as a first step and tell him the problem,

"No formal procedures, but employers are present all the time to hear any complaints" (M2).

Some said that the workers go to HR, chef of personnel, head of department or Quality assurance department; others confirmed that they have an employee suggestion and complaint paper.

"The workers aren't so sophisticated (low caliber), they don't have any procedure for complaints" (M22).

"We have an open door policy and we do surveys every 6 months to investigate if employees have any complaints and we also have suggestion boxes" (M30).

"The workers may complain during the meetings" (M32).

Most admitted that it was "very unlikely" that they would communicate with employees about occupational safety and health.

"A bit, as much as we know" (M6).

"In the job description, the job risk is explained, he signs it knowing the risks involved on the job" (M16).

"In orientation program only" (M23 M24).

"Line manager gives instruction" (M26).

"The supervisors explain to the workers the nature of the work at the beginning" (M29).

"We used to discuss OSH with workers, not anymore" (M33).

Others admitted that they do not discuss it as such but give workers PPEs. Foremen and line managers may inform workers about risks on the job but senior managers rarely have the time to show the workers their commitment to safety and health in the workplace. Most managers make sure identification tags are placed on all containers of hazardous chemicals. However, most of these tags are written in a language not understood by the workers.
"No they're not, but people who are head of the production sites or line managers just know" (M4).

Most reported that they have not installed in conspicuous locations of the workplace detailed instructions - in Arabic and any other language understood by the workers - related to workers' protection from the risks they may be exposed to while performing their work.

"There is no need for that" (M6)

"Workers should just know" (M28)

"We have written safety signs but its useless cause workers can't read, so we should probably put picture signs" (M23).
Figure 37: Where signs exist, they are not in a language workers can understand, or are not pertinent where they are placed

Some employers have signs on hazards of chemical products but not on ways to take prevention measures. Most do not continuously train workers on the procedures and methods of chemicals' safe and sound use. Those who said yes admitted that it was not on a regular basis. Most do not display warnings to indicate the locations of hazardous and cancerous chemicals.

"No never, cause I don't consider them too dangerous, as long as detergents are separated from food" (M8).

"If replacements are available I try to do that" (M20).
Training on OSH

Wilson (1989) described that workers learn by ‘doing’ or by following the co-workers or by ‘trial and error’ (Wilson 1989). One of the problems with training is that it does not represent actual working environments. There is definitely a need for more job-specific formal training. It appears that more research is required to conduct effective training that changes workers’ belief and attitude to safety.

Most said that employees are allowed to conduct health and safety activities on work time. Nevertheless, they said it depends on the educational level of the employees.

“Administration staffs don’t need it, as they don’t have safety hazards and workers are illiterate so no use sending them, but a representative of workers may go” (M3).

“Workers have low level of education, they wont understand trainings as they are illiterate” (M23 M24)

“For management staff only and they’ll come and explain to workers, what we should do is on the premises training for workers” (M30).

This shows managers attitude toward the capabilities of workers and their low knowledge on hazards at work where they consider office work poses no health risks at all. Many employers reiterated the fact that they do not have qualified workers to send, but that they would send heads of departments and top managers only. Some of those who would not accept for them to go during work hours, suggested that they would accept trainers to train them on the spot in the plant.

A few made comments such as:

“I've never heard of any OSH seminars going on, but if there are, yes why not I'll let workers attend” (M11),

“We were never exposed to this; we were never approached about any seminar organizers” (M19).

This shows the lack of training on safety and health happening in Lebanon and if there are it is not reaching the enterprise level.
Some enterprises were open to ideas, they need any help they can get on safety and health, they would be happy to be informed of any trainings happening in the country on OSH, they wanted suggestion on any improvements they can make and what they can do to make OSH better.

"Workers receive a notion on safety and health as part of the General manufacturing practices training (GMP)" (M31).

"Knowledge is not a problem cause we have yearly conferences, audits and benchmarking practices. Nevertheless we can't say we are 100% safe company cause we still have accidents that happen" (M32).

In general, employers considered that the low rate of education among workers is the reason they do not involve workers in any awareness raising or training sessions to promote a preventive behaviour in the aim of avoiding work related accidents and diseases.

**Workers Education and safety behaviour**

Managers related the low compliance with safety measures and low use of PPE to the level of education of employees that is very low so they do not wear PPEs.

"There are no sessions or campaigns on health lifestyle issues but it is very much needed. Most production workers come from very low socioeconomic backgrounds, so a lot of smoking, drug use, exposure to HIV etc. goes on and some of them live in dorms on site". (M25)

"Sometimes if they're drunk, things may fall on them, we used to have many cases where workers came in drunk" (M29).

"OSH seems like a sophisticated thing and well above the level of education and background of the laborers we have." (M27)

"Our problem is that workers aren't involved in safety and health meetings, it is not possible cause they don't speak English. We correspond to the head engineers who relate the news back to the workers verbally" (M32).
Managing risks and hazards

An accident waiting to happen

Two companies clearly stated that there are accidents waiting to happen due to neighbouring enterprises storage and practices. One is sharing same building with a plastic manufacturing plant owned by his brother, which is in terrible condition and described literally as

“an accident waiting to happen” (M 20).

In addition, the other enterprises claimed that the problem is the hazardous thinner material stocked right outside their plant but belonging to a neighbouring paint industry and nothing is done about it no matter how much they tried.

“This is an industrial and electrical machines company which produces generators and silencers and electric boards...It is an accident waiting to happen” (M33).

Other than the operation inside, there was construction work happening at the entrance of the building with all sort of hazards from people welding iron with no masks, people on high ladders, no safety boots, and no helmets.

Accident documentation

Managers should agree that accidents are serious events and that near misses are a sign that also more accidents could happen. Both these statements indicate priority of activity related to safety matters, which may give safety promotion and accident prevention priority and, hence, contribute to safety. Managers should feel nauseous and afraid when thinking about what consequence an accident and a serious injury could cause to a victim (Rundmo and Hale 2003).

Some enterprises visited document and investigate accidents and give recommendations for improvement, others document accidents and near misses. In other companies the accident records are given directly to the direct supervisor or safety guards. These safety guards are always on call and make sure the premises are always safe. Others broadcast the accidents and hang them at the plant door. Other enterprises have incident reports.
All the managers do not notify the MOL of any accidents and did not know they had to.

"It is documented at personnel for insurance purposes" (M23 M26 M29).

"We have a "Sejel El gharamat w sejel hawadeth el amal" Inventory for penalties and inventory for work accidents" which are 2 notebooks for documentations of penalties and injuries , these reports are presented to MOL" (M25). Both books proved to be empty.

"Accidents are documented, analyzed and minutes are written, on their type...for corrective action. There is also a safety calendar where workers mark accidents" (M32)

"We used to record accidents for the insurance, it used to be reviewed for corrective action, but not anymore!"( M33)

Medical records and Sick role

The sick role is a notion, which began with the work of the important American sociologist Talcott Parsons in 1951. Parsons was concerned with understanding how the sick person related to the whole social system, and what the person's function is in that system. Basically, Parsons defined the "sick role" as having four chief characteristics. First, the sick person is freed or exempt from carrying out normal social roles such as going to work. The more severe the illness, the more one is freed from normal social roles. For instance, a major heart attack "allows" considerable time away from work and social obligations. Second, people in the sick role are not directly responsible for their troubles. Third, the sick person needs to try to get well. The sick role is regarded as a temporary stage of deviance that should not be prolonged if at all possible. Finally, in the sick role the sick person or patient must seek competent help and cooperate with medical care to get well (Parsons 1951; Kasl and Cobb 1966).

This is clear in one company's description of the sick role their workers play:

"We gather info on reason for their sick leave, but our workers lie a lot, they are illiterate sometimes they would have a gynecological problem and they get report
from a dentist. They are lousy even at lying, so we investigate to see if they are
telling the truth and not to investigate if sickness is work related" (M 8).

Many enterprises included in this study admitted that they do not gather info on reason for
absenteeism of sick workers, but can access medical reports from the doctors if need be. It
was noticed that even if enterprises gather information, the managers' attitude is not
necessarily to care for the etiology of worker sickness as much as to make sure that the
employee's absenteeism is justified.

"We don't gather any information, but when he applies to job in job application we
ask if he/she has medical case" (M6).

Formalities

Some consider checking up on employees when they are sick is a mere formality to show
respect to the worker and his family.

"We have a retired guy who has continued to work with us on this only. He is now a
full time employee to develop worker relations and checks out any psychosocial
problems or family problems that employees may have. Because there are a lot of
"wajbat" (Formalities) to do and owners don't have time for all this" (M19).

This shows that there is a culture in Lebanon of duty calls rather than real care for people
sometimes. They have to keep face, hence they show their concern as a duty not more
delegated to lower management staff.

All in all, the qualitative results revealed a wide range of themes and factors which play a
role in shaping the workplace safety and health situation in Lebanon. This qualitative section
helped inquire into the numeric results of the quantitative section, paving the way to a richer
discussion.
Chapter V

5.1 DISCUSSION

Summary of findings
This study set out to answer a number of research questions, based on which, it was revealed that the provisions of ILO OSH Conventions and National OSH decrees do not reach the enterprises, which are ideally, the audience the law is meant to benefit. The enterprises are not aware that a national OSH decree exists; it is not accessible to employers and not promoted. In the rare cases that the decree reaches the enterprise, it is generally discarded because relevance is not understood. There seems to be a lack of awareness at all levels, as there is no communication between government (Ministry of Labour and its inspection arm), employer associations and enterprises.

In terms of incentives for employers to implement workplace safety and health measures: Enterprise OSH management systems that are recognized in the international market are more appealing to employers because they are hands on, provide certificates and hence improve the company’s image and raise their competitive profile i.e. lead to an increase in productivity.

This is also apparent in the fact that where workplace OSH policies do exist, they are never based on the national decree. Instead, either they are based on similar companies’ policies worldwide or they are the result of trial and error and institutional memory. Employers in Lebanon and the region value the human being and family; this is an important drive to protect their workers, because workers who are safe and healthy will keep working, which will also increase productivity.

As for the impeding factors: Management lack awareness on occupational safety and health: its core matter, its relevance and significance in the workplace. There is no perception of risk
or risk assessment. Most impediments to why Lebanon does not have safe and healthy workplaces today directs us right back to the issue of management knowledge.

In light of managers’ lack knowledge on OSH and lack of worker participation in OSH decision making: Management believe workers who have very low education are not worth training on OSH and will not understand it; Management also believe that even if they were to enforce safety and health measures, there is high worker non-compliance. Moreover, the direct link between a safe and healthy environment and productivity is just not always clear - the benefits do not seem to be tangible. Lower management complain that there is no higher management commitment where some good initiatives start, but there is no follow-up; They believe that there is the real work to do which makes money and pays salaries to worry about, rather than the conditions of work, which are secondary. Economic and political instability furthermore bring the priorities down to the basic needs of survival, in light of which, OSH is considered a luxury.

Basically, the study revealed that the lack of knowledge on OSH is affecting the attitude management have towards occupational safety and health. This in turn results in poor safety and health practices.

**Discussion of the findings in relation to the literature**

Accidents and diseases often have several contributory causes, including organizational factors, physical factors and human factors. Ideal manager behaviour for controlling hazards would require managers to detect hazards; find ways to control them, prioritize them, choose good solutions, implement them and then monitor and learn. This means that they have to have or mobilize the knowledge to carry out each of the steps and they have to give the tasks resources (time, money, competence and equipment). In addition, they have to know with whom to collaborate and also be prepared to do so. Then they have to apply effective management control methods to ensure that the tasks are carried out to schedule and have
been successful which is a management and control function (Hale, Heming et al. 1997; Rundmo and Hale 2003). This study tried to touch upon the various factors which affect safety and health in Lebanese enterprises and where the attitude and knowledge of managers play a role in their practice in this regard.

Multinational companies based in Lebanon or companies, which are part of the supply chain of other multinationals, were included in this study and this has had varying affects on the safety and health measures in Lebanon. In spite of decades of international initiatives, and an array of recommendations, developing nations remain susceptible to exploitive and dangerous activities of Multinational Companies (MNC) (Baram 2008).

In his study, Michael Baram emphasizes the need for relocated technology to be accompanied by the delivery of practices for using it safely. Baram tried to define a standard of care which aims to provide equivalent treatment of worker health and safety across all nations, irrespective of their level of development, and establishing contractual relationships between multinational companies and host countries as a feasible means of implementing the standard and achieving equivalent treatment (Baram 2008).

Mearns et al. suggest that the values of globalization, embodied by management practices that are mostly consistent across national contexts are stronger than locally held cultural values in determining behaviour within a prescribed environment. Management and leadership have emerged as important determinants of safety performance in most sectors, even those usually considered as low risk. This will continue with increasing globalization and organizations should be aware of the national setting in which they work (Mearns and Yule 2008).

This study showed that globalization plays a significant role in determining the workplace safety and health policy implementation, specifically the ISO certification.
On the other hand, most of the managers interviewed had not heard of the ILO international standards or the Lebanese national legislation on safety and health in the workplace. Several justifications were given as to why they had never heard of the national OSH decree 11802, which in principle they should be applying at their enterprises, by authority of the government.

Most of the enterprises visited did not have a policy on OSH. For those companies who have workplace OSH policies, the most difficult part was to introduce the concept of safety and its understanding. In their opinion, Managers' negative attitude towards safety and health was basically due to their lack of knowledge in this field. This conforms with Brosseau and Li's study which showed that employers' intention to improve safety is highly influenced by their attitude towards safety (Brosseau and Li 2005). Eakin et al. (2000) consider that employers' narrow perspective of the benefits of health and safety interventions and the informal management structures constitute main barriers to installing these OSH interventions (Eakin, Lamm et al. 2000).

Many companies admitted to being very behind when it came to OSH implementation. Moreover, employers confessed that the biggest obstacle is people's culture and government shortcomings where no technical assistance in this field is provided.

The economic and political instability proved an impediment and prohibited managers from having a long-term vision, this brings us to the concept of hierarchy of needs where basic needs of security and stability need to be met before safety at the job can be addressed. Mainly while some employers/Managers are willing to do more in the area of OSH, the country stability does not seem to allow them to invest in long term visions. The majority of the enterprises also do not assign an annual budget for safety and health.
Nevertheless, most managers admitted that safety and health is a priority for the enterprise, the main reason was that safety of employees meant higher productivity. Some managers confirmed that the sense of responsibility of management towards their workers helped. This was driven by the aim for better productivity whereby if a worker feels at home and safe, this leads to a decrease in absenteeism, which indirectly leads to income and benefits for the company. This matches Rundmo’s findings (Rundmo 2003), that management priorities of safety versus production goals are important for the safety status. It is the strongest predictor of acceptability of rule violations, which also may influence employee risk behaviour.

A good company image was stated important for better competitiveness in the international market in addition to the value for the human being which was also a major drive for safety and health provision in the workplace.

On the other hand, a major factor that was affirmed to hinder enterprises from fully practicing safety and health standards was their lack of knowledge on safety and health measures. However, managers who are themselves uninformed in this field kept blaming workers. Managers justified their disincentive for implementing safety measures by accusing workers of non-compliance. Managers related this to the attitude of fatalism that workers have. In this study, employers found that workers expressed individualism and not collectivity, as they took risks without thinking about the consequences for co-workers.

In workplaces, frequently incidents or near misses make workers realize the magnitude of safety and strengthen safe work practices. There is a need to share these near misses more effectively among the workers through talks. In addition, management can help workers to improve safety behaviors through the influence of rules and regulations, training and increased communication. Further action is to be directed towards the psychology of workers and what could make a worker think before performing a task (Choudhry and Fang 2007). This should be taken into consideration when managers feel that workers are becoming
negligent to their safety.

Also, people tend to commit unsafe acts because they have been rewarded for doing so (Sawasha, Naoum et al. 1999). Mullen (2004) suggests that workers always compare the positives (e.g. money) against the negatives (e.g. perceived potential health risks). As long as these positives overshadow the negatives, workers are more likely to continue to engage in unsafe behaviors. For that reason, production incentives need to be in sync with good safety performance (Mullen 2004). Most managers interviewed throughout this research, did not express willingness to encourage workers in this positive manner.

It was noticed that even if enterprises gather information on worker sick leave, the managers’ attitude is not necessarily to care for the etiology of worker sickness as much as to make sure that the employee’s absenteeism is justified. Although most managers stated that they do document accidents and injuries, they would not share the file with others. It was also found that there is no real relation between enterprises and the Ministry of Labour in Lebanon and thereby breaking most of the provisions of the national decree 11802.

While most enterprises organize a formal induction program for all new employees, only a few of these programs address safety and health issues. Most companies do not have a responsible health and safety person or committee.

In addition, there were many clear hierarchical and power distances, as managers did not discuss safety and health issues with the workers and no real communication took place between managers and workers.

This brings us to the idea that foremen and line managers may inform workers about risks on the job but senior managers rarely have the time to show the workers their commitment to safety and health in the workplace. Whereas most managers reported that workers are given sufficient and appropriate information on the risk related to their work, only a few said
they would “very likely” communicate with employees on OSH.

This echoes Flin et al’s study results where it was found that although upper level management sets the overall organizational tone and establishes priorities at the workplace, its tangible impact on workers' safety is minimal. On-site employers, on the other hand, play a major role as they are in direct contact with employees. Senior managers are so overworked with administrative tasks that they find a hard time being proactive on OSH matters and visibly communicating their concern directly to the workers (Flin, Mearns et al. 2000).

The escalation of legal necessities in occupational safety, including safety committees and professional resources, during the 70’s, distanced top management from health and safety issues. Safety became an activity of safety specialists and labour inspection (Tammi and Hakkinen 1991). This diminished commitment of safety management led to reduced activity and awareness, which in turn had a harmful consequence on the safety awareness of secondary managers. Some severe and tragic accidents have confirmed the central role of head executives in fostering the safety culture of the company (Booth 1992; Booth 1993).

The key role played by top management in the safety improvement process is prevalent through their level of risk awareness, involvement and commitment which leads to successful safety records at the workplace (Cohen 1977). Top management should have an idea of the severe risks and the most imperative causes of loss within the company. Moreover, management should recognize the positive and weak points of the enterprise’s safety culture and practice. Hakkinen (1995) also stresses the increasing need for new education and training strategies targeting top management, especially in the period of “internal control”, “human factors”, “safety management” and “safety culture”, quite the turn around from the earlier eminence of external control, enforcement and inspection. Hakkinen highlighted the need for more information and influence to enhance awareness and commitment among the decision-makers in enterprises (Hakkinen 1995).
Therefore, the dedication of management to safety is not always evident, since it is usually diluted as it is funneled down through the organizational structure to ultimately reach the workers (Kelley 1996). An ideal safety attitude is an attitude contributing to enhancing safety behavior and lowering the frequency of accidents and near-accidents. A non-ideal attitude is one that contributes to the opposite. Safe behaviour is behaviour that leads to a reduced frequency of accidents. An ideal attitude is best attained through management commitment and involvement. Thus, management keenness towards OSH should be translated into active participation in safety measures by: assigning the adequate resources and time for safety at work; being visible in the field with workers; being involved in risk assessment; and by acting safely. In this way, management's commitment to safety will be visible, hence establishing the basis for the promotion of safety culture at the workplace (Vecchio-Sadus and Griffiths 2004).

The issue of employer attitude versus employee attitude towards workplace safety is very inter-related. In this study, managers complained that it was difficult to get people in administration and labourers to grasp the concept of safety at work and its importance. From the employer's point of view, workers are mostly illiterate and have no safety consciousness. Managers expressed their frustration in convincing employees to wear personal protective equipment (PPE). They felt that this was due to the workers' low level of awareness on this issue. This is in line with the study by Whysall et al. which found that key obstacles to effective enforcement of OSH policies were: employers' attitudes towards health and safety in general and the resistance of employees to changing their behaviour. Employers experienced difficulties in getting employees to alter their behaviours and adapt to new working practices. This resistance might be best explained by existing employees' attitude. It was concluded that the most effective way to combating the disposition of employees to relapse to habitual ways of working, was to reserve time out of routine daily management tasks to enhance risk awareness, follow-up the procedures application and enforce rules (Whysall, Haslam et al. 2006).
It is argued that although innate culture of workers can affect safety attitudes, risk taking and safety behaviour, the most important aspect which shapes the front-line operator performance and which can lead to or prevent accidents, is workers’ perception of management commitment to safety (Mearns and Yule 2008).

Wilson (1989) described that people are frequently put at risk mainly through ignorance or failure to follow safety procedures. Managers are often not aware of all the factors that affect their calculations of risk. It is more important to increase a person's knowledge of related dangers and how to evade them (Wilson 1989).

A study by Varonen (1995) aimed at determining whether better safeguarding of lathes used for metal cutting affects the number of occupational accidents occurring during metal lathe work. Varonen found that the number of lathe accidents decreases as the safeguarding of lathes improved. The number of lathe accidents did not, however, correlate directly with the safeguarding of lathes. Therefore, it was obvious that safeguards have significant effect on lathe accident, but safety cannot be merely guaranteed by safeguards. Consideration must also be given also to safe working practices (Varonen 1995). Therefore, management has an important role to play in addition to providing a safe environment.

A clear theme identified in this research is that employers considered that workers in Lebanon like to take risks and show off a macho attitude. This is in line with the study conducted by Choudhry et al (2007) which revealed that all workers like to behave safely during training. However, onsite they want to prove they are 'tough guys'. They are not scared of getting hurt. The same study also showed workers who have more site experience did not feel comfortable following safety procedures. On-site, workers perform risky jobs to exhibit their self-esteem. In addition, subcontractor’s workers choose not to use personal protective equipment to avoid being teased by their co-workers (Choudhry and Fang 2007).
Most enterprises have no training and no communication procedures on safety and health. In some cases safety and health is restricted to making PPEs available where the managers feel that by so doing their duty is accomplished. This is not helpful in spreading a safety and health culture since as confirmed by Stewart Taylor and Cherries; Providing information, instruction and training for workers on health hazards will improve their risk perception and thus limit their exposure to risks (Stewart-Taylor and Cherries 1998).

Moreover, the contribution of workers in the identification and control of hazards is most effective in improving safety procedures and establishing new policies. Workers themselves are most familiar with their environment, and are able to identify situations, which prompt them to sometimes ignore safety rules. Therefore, a two-way communication between management and workers is an effective means to produce good safety performance (Cohen and Cleveland 1985).

Employees are notified about the potential consequences of safe or unsafe behaviour by paying attention to open announcements and actions by managers, supervisors and co-workers regarding safety as well as implied communication from management about the relevance of safety compared to other organizational goals such as productivity, efficiency, schedule, service, and quality. It is important to note that different levels and different types of management within an organization will be applying an effect on the attitudes, perception and behaviours of the workforce (Yule, Flin et al. 2007).

Langford et al. (2000) pointed out that the more relationship-oriented supervisors were, the more probable it was that workers will perform safely (Langford, Rowlinson et al. 2000).

Mohamed (2002) revealed that training allows workers to have the ability to carry out a particular job safely. Nevertheless, training needs to stress on shifting attitudes of workers to safety (Mohamed 2002).

Most managers in this study would not reward workers for good safety practice but would
more likely punish them. This is a drawback since as stated by Earnest, "Positive rein-
forcement" is a very powerful tool at the disposal of managers and employers which they can bring into their relation with the workers. Being positive and proactive in response to compliance to OSH regulations is much more efficient than being negative and reactive to accidents. Thus, the practices that support safe working conditions should be specifically recognized by the employers (Earnst 1997). This will in turn reinforce the value workers place on their own health and safety and reassure them that their efforts towards achieving this goal are appreciated and acknowledged. By empowering the workers and involving them in all aspects of OSH, they would develop a proactive attitude to adopt safety and health measures. This will then entail better risk management leading to a significant decline in the rate of workplace accidents and diseases (Griffiths 2001; Vecchio-Sadus and Griffiths 2004).

Although managers admitted to most of the risks workers are exposed to, most managers still found little risk in their companies, this related back to the definition of what is a probable occupational accident. A striking reality is that although most of these employers admitted to the numerous hazards present in their respective workplaces, most of them have not adopted an OSH policy.

While most workers in the industries visited in this study, are working in noisy areas, none of them undergo regular hearing examinations. This is a revelation, noting that most of employers acknowledged noise as the major hazard at their enterprise. A study conducted by Arezes and Miguel showed that workers exposed to high-noise levels often ignore the consequences of such exposure. The results of Arzez and Miguel’s study indicate that companies must play an important role in promoting the regular use of HPD(Hearing Protection Device). The promotion of HPD use in industrial settings should be based on two main aspects: the promotion of workers’ risk perception and the removal of barriers to compliance, such as uncomfortable devices and interference with oral communication
Also, half the employers interviewed said that hazards come with the job portraying a fatalistic attitude to hazard exposure. Management’s support, involvement and commitment in safety is the factor of utmost importance for a satisfactory safety level (Jaselskis, Anderson et al. 1996; Mohamed 2002). On the other hand, if managers had a more fatalistic attitude towards the necessity and the value of accident prevention, this will reflect in low safety commitment and involvement. Such an attitude has been shown to be one of the major predecessor of employee risk behaviour (Rundmo 1996).

Powerlessness is negatively associated with problem solving behaviour. People avoid seeking help because they believe it implies incompetence and dependence, and therefore is related to powerlessness (Lee 1997). Powerlessness also has been found to be positively correlated with dissatisfaction (Begin, Sabouring et al. 1997), mistrust and decreased knowledge (Ross and Reynolds 1996), anxiety (Fiske, Morling et al. 1996), lack of job control coping (Strassen 1994) and risk behaviour (VanWesenbeeck, R et al. 1994). A study conducted by Rundmo and Hale showed that safety attitude may be a significant connecting factor for managers’ behavioural intentions as well as behaviour. High management commitment, low fatalism, high safety priority, and high-risk awareness seemed to be particularly important attitudes for managers. The study by Rundmo and Hale also showed that low tolerance for rule violations, few problems with talking to employees about safety, high worry; low powerlessness, high safety priority and mastery, low hindrance and high risk awareness are correlated with an ideal manager safety attitude (Rundmo and Hale 2003).

Therefore, the mixed message given by the managers included in this research, has affected safety practices negatively. While OSH seems to be a priority to them, they lack the knowledge and they have no faith in worker behaviour change. The studies mentioned here show that managers should begin by assuming their responsibility and by taking initiative in
breaking the obstacles to behaviour change. Otherwise, this mutual mistrust between the managers and the workers will not help improve the OSH situation.

The two main motivational theories mentioned in the literature were not tested as such through this study, but the results of the study do not negate the line of thought proposed by the protection motivation theory (PMT) and the expectancy theory.

The protection motivation theory (PMT) proposes five factors to explain healthy behaviour: perceived susceptibility, perceived severity of the health consequences, perceived effectiveness of taking a particular action to reduce the threat, perceived barriers to taking such action, and self-efficacy (Rogers 1983).

In the case of workplace health risks, the likelihood of a worker being impacted by the risk of a hazard or disease is decreased by: belief in the severity of this risk; belief in one's vulnerability to the risk; belief that preventive behaviors are an effective way to avoid the risk of workplace injuries and diseases; and belief that one can successfully avoid the risk of workplace hazards and sicknesses.

Accordingly, two major issues which are clear in this study, are that the value the manager places on safety practice which in turn affects the worker behaviour, and the education and training on risk perception and safety behaviour which can motivate workers to behave safely.

Also according to the PMT model, the likelihood of not doing anything about the risk is increased by intrinsic rewards (e.g. enjoying work without gloves, or ear muffs), extrinsic rewards (e.g. manager approval-colleagues approval), and the costs of an adaptive response (e.g. the cost of using PPEs or other protection equipment may be too high).

Therefore, this study also revealed several impediments employers placed such as the economic and political situation of the country, the budget implications and other obstacles
which, in their opinion, prevented them from ensuring safe workplaces.

On the other hand, the expectancy theory tries to explain motivation from the perspective of why individuals choose a particular course of action rather than the other. The expectancy theory states that individuals have different objectives and would be motivated if they perceive that: there is a positive correlation between efforts and performance; positive performance will result in a desirable reward; the reward will satisfy an important need, and the desire to satisfy the need is strong enough to make the effort worthwhile (Vroom 1964).

In this study, several employers complained of their lack of knowledge on safety prevention programmes and strategies. This could be the reason why they do not promote the implementation of safety measures.

The expectancy theory could apply to managers where the manager implements safety and health measures because he/she thinks it is important to take care of the workers as a moral obligation; the manager thinks that the more effort he/she puts into safety and health measures, the more healthy and safe workers will be; and managers may think that the more workers are protected and healthy then the more productivity they will have.

As for employees, expectancy theory predicts that employees in an organization will be motivated when they believe that, practicing safety behaviour will keep them healthy and protect their lives, being healthy and performing well on the job will lead to organizational rewards, such as an increase in salary or benefits, and that these predicted organizational rewards are valued by the employee in question.

The theory is useful for this study because it allows for non-motivation, or simply for managers or workers to be unmotivated. It questions the assumption that people know or feel that action leads to result. For many people action does not lead to desired results in their lives, so it is critical for any theory to take this into account. This is reflected in the fatalistic attitude of employers and workers in Lebanon.
In this study, employers were discouraged to provide PPEs to the workers because they had the perception that workers will not use them. On the other hand, employers did value the safety of workers and considered it a duty and ethical concern to care for the worker, not to mention, that healthy and safe workers will lead to decreased absenteeism and increased productivity.

All in all, in addition to the national barriers identified and which may impede effective safety and health implementation in enterprises, management have a key role in promoting safe and healthy practices.

The results have also shown that lack of knowledge of managers on safety and health affects the low importance they place on promoting this issue. In addition, their perception that workers are not worth training due to their illiteracy and non-compliance affects safety and health measures taken. Management lack of communication with national stakeholders and authorities on safety and health only aggravates the situation. Figure 38 outlines the major factors identified and possible ways to address them.
Figure 38: The Strategy

International OSH standards and globalization

Community Culture: Non-preventive culture: where safety not a priority, making quick money comes 1st. OSH should not be a luxury but a need even in unstable economic situations

National Influences: Political & economic instability.
OSH is a wise investment regardless of national instabilities

Ministry of labour
Gives no incentives or support to employers and they have a competitive regional market
- Tax free & approval of only OSH friendly projects at their licensing phase
- National law should have guiding and practical nature as compared to ISO
- Compensation systems require prevention

Trade Unions (sector indicates should be formed & trained)

Build trust & share knowledge (Bulletin, brochure, website, email), training for management on OSH and on decree, simplify decree, with the help of OSH Institutes.

Employer Association & Chamber of commerce (member industries should be informed & trained)

Enterprise (management):
Lack OSH awareness -> lax attitude & Performance pressure
OSH Training

- Worker attitude and behaviour influenced by management attitude and behaviour
- Management perception of worker: Worker low education means no use training them and blames worker for risky behaviour
- If so many accidents are due to human error as employers put it, then to avoid accidents, tasks have to be fitted to “human limitations” and taken care of in the design phase
- Internationally recognised OSH management systems—link to profit
- OSH focal pts. trained on OSH in order for OSH decrees not to be brushed aside
- Proper promotion of PPEs by sensitizing workers to risk perception and removal of barriers
5.2 RECOMMENDATIONS

Recognizing the scale of work-related accidents and diseases and their effects on the national work force and economy,

Acknowledging that the work environment should be maintained as hazard-free as sensibly feasible and that the right to a safe and healthy work environment is one of the fundamental human rights,

Recognizing the need for cooperation between the government, employers, workers and other decision-making and technical bodies in the field of safety and health,

Recognizing the importance of education and training and exchange of information on OSH,

Recognizing that: employers have the responsibility to provide safe and healthy working conditions; governments have the crucial role of providing regulations on sound OSH practices; workers have the right to a safe and healthy work environment, and are obligated to follow and apply safety rules and instructions; and that society has a major role to play in promoting a safe and healthy work environment;

This study proposes the following plan of action as a basis for the development of a national OSH programme for Lebanon.

The international and civic arena: Building a safety culture

Although the end point is the safety and health of the worker, many principle players at the international, national and enterprise level can directly affect this outcome.

The issue of international OSH standards and globalization seems to play a key role in enterprise level application of OSH measures.

International UN agencies and other non-profit organization should coordinate better with other international standard setting organizations such as ISO, because these organizations make a more effective case and give employers a better economic link.
The culture of the Lebanese community is a non-preventive culture: where safety is not a priority unless it is reactive and corrective action, and making quick money comes first. It should be made clear that one does not have to negate the other and that OSH should not be a luxury but a need even in unstable economic situations.

Follow up on the legislation, how does it translate to practice?

National influences and political and economic instability can have a negative effect on OSH, but the argument remains that OSH is a wise investment regardless of national instabilities.

The Ministry of Labour (MOL) in Lebanon gives no incentives or support to employers and they have a competitive regional market. The MOL could provide tax-free incentives and they could approve only the OSH friendly enterprise establishment projects at their licensing phase. In addition, the national decree 11802 should have a guiding and practical nature similar to ISO, which is more accepted at the enterprise level. Compensation schemes in Lebanon should focus on prevention.

Trade Unions and sector syndicates should be informed & trained as well as the employer association and the Chamber of commerce. Their member industries should be well informed and trained on OSH.

Employers at the enterprise level, the Ministry of Labour, and other national worker and employer associations, should build trust among each other and share knowledge (through bulletins, brochures, websites, emails) supported by an effective communication strategy.

The adoption of a sound national OSH policy and the strengthening of the Ministry of Labour (MOL) capabilities should be coupled by a sound mechanism of enforcement. This implies entrusting the inspectors with the needed power to have access to work sites including records, collection of information, sampling and the ability to give sound advice as educators as well as the power to charge fines as a last measure.
Such a task requires sound technical expertise and knowledge of the law’s provisions.

**What can be done at the enterprise?**

At the level of the enterprise and concerning employers and managers, there is a lack OSH awareness, which leads to a lax attitude. Managers are also faced by performance pressure, which further exacerbates their deficient interest in OSH matters. In addition, the management perception of workers showed that managers believed workers have a low level of education, which from the manager’s point view is the reason for worker risky behavior and allows managers to imply that there is no use training them on safety issues.

Nevertheless, if there are a rising number of workplaces accidents due to human error, as employers believe, then to avoid accidents, tasks have to be fitted to “human limitations” and taken care of in the design phase.

In addition, no matter what language the workers speak, or what their literacy level is, raising their awareness on protective measures needs to be adapted to their specific needs. Only providing workers with PPEs is not useful, there should be proper promotion of PPEs by sensitizing workers to risk perception and removal of barriers.

Also at the enterprise level, internationally recognized OSH management systems should be promoted as they have a direct link to profit by placing companies high on the competitive market.

The adoption and implementation of a notification and recording system is one of the major tools needed for an effective OSH system. The system should provide accurate and reliable data on work-related injuries, diseases and fatalities. However, enterprises should start by documenting at the level of the workplace in order to be able to share it with different national parties.
Training and awareness raising at all levels

The Ministry of Labour, in collaboration with other concerned agencies and social partners should activate the promotion of OSH training and awareness raising activities. This should not be restricted to employers and workers only, but should also be regarded as a societal and corporate role in promoting OSH. In the process, the benefits of sound OSH policies in terms of productivity, reduced absenteeism and enhanced labour relations, should be highlighted; and a safety culture will emerge.

To achieve the above, a number of tools may be applied. These include the organization of OSH campaigns, celebration of world safety day, conferences, publications of booklets and pamphlets with the full involvement of enterprise level managers and workers and not only their representatives.

OSH institutes should be involved for training of managers on OSH and in the implementation of the national OSH decree, by simplifying it and providing guideline notes to make its provisions more straightforward.

Academic institutions in Lebanon and the region are urged to consider the development of a university degree on OSH.

There need to be trained OSH focal points in enterprises in order for OSH decrees not to be brushed aside when they arrive to the enterprise.

National assumptions

The adoption and implementation of a national strategy in Lebanon must take into consideration a number of possible restraints. First, OSH must be placed high on the national political agenda. This depends on the existing political mayhem.

Secondly, in the continued absence of a high priority for OSH at the national level, it remains uncertain if the Ministry of Labour (MOL) will be able to push for a substantial increase in its budget for the purpose of upgrading its OSH capabilities.

Thirdly, there is a shortage of available qualified OSH personnel.

Finally, unless the labour protection inspectors are able to move in Beirut and other
districts free from political pressure, inspection and enforcement will lose strength.

5.3 LIMITATIONS AND FURTHER RESEARCH

This study only visited the issue of workplace safety and health from the views and perceptions of employers and managers and did not address the worker's attitude and perceptions. Further research will be useful to explore the opinions of workers and their level of awareness and attitudes towards occupational safety and health and their perception of management's attitude in this regard and how this may affect their safety behaviour. It will also be useful to check for consistencies with the views of managers. Another area worth exploring further is the application of Vroom's expectancy model on the employers and workers as related to safety and health practices. This would entail advanced investigation into how the value placed on safety and health affects change. Also how the belief that the tools available for employers and workers will help them reach the expected reward respectively, and in turn, how this will motivate employers and workers to positively change their behaviour.

5.4 CONCLUSION

This research has revealed that managers lack a lot of knowledge on occupational safety and health. They are not aware of legislation regarding this issue; they do not understand its scope and therefore cannot be expected to practice its provisions. Awareness raising on safety and health in the workplace should start with the promotion of this issue among managers before or concurrently to raising the awareness of the workers themselves.

Managers in Lebanon need to be guided and given practical tools for implementation of the national legislation. Other major national constraints, such as the economic and political instability keep occupational health low on the list of national priorities,
which is then reflected at the enterprise level.

A proposed strategy to solve this problem will need to factor in all the variables mentioned in this study, building on the motivators of employers in Lebanon and the region whilst answering to the hesitations and misconceptions, which impede implementation.

It is therefore essential that employers understand their critical role in providing occupational safety and health measures but they also need to recognize the importance of occupational safety itself, in order to properly commit to health and safety provision.

Future research needs to target workers' safety and health knowledge, attitude and practices to find consistencies and inconsistencies with management beliefs. Nevertheless in the hierarchy of responsibility, it is primarily the duty of the employer to ensure a safe and healthy environment, all the while training the worker in this regard; blaming the worker of ignorance only highlights the shortcomings of the employer.

The culture building must start from the commitment of the top management at the enterprise, must include the hierarchy of preventive measures, and must be supported by the legal and enforcement system. In this regard, the management of the enterprise or organization plays a key role, nevertheless national support and targeted programmes are essential in successfully building and maintaining a preventive safety and health culture in an enterprise and in society as a whole.

The next step for the Ministry of Labour in Lebanon would then be to establish a comprehensive national occupational safety and health programme in order to build upon current services and address the prevalent weaknesses.
Do not count the number of policies you have...

count who is implementing them...

and then ask why?
REFERENCES


ALI (2007). The Association of Lebanese Industrialists: Who We Are...What We Do, Association of Lebanese Industrialists.


Duane, C. (2002). Enforcement and Compliance Occupational Health and


Husman, K. (1993). "Principles and pitfalls in health services research in


Nielsen, J. (2007). "Struggles for health and safety in the Danish construction

NIOSH (2003). Fact Sheet on the National Institute for Occupational Safety and Health (NIOSH) - National Institute for Occupational Safety and Health, United States.


Political Economy 83: 677 - 725.


Rantanen, J., S. Lehtinen, et al. (2004). "The opportunities and obstacles to collaboration between the developing and developed countries in the field of occupational health." Toxicology 198: 63-74.


Salminen, S., T. Klen, et al. (1999). "Risk taking and accident frequency


Wilson, H. A. (1989). "Organizational behavior and safety management in the


Appendices

1. Surrey Approval Letter the Researcher

2. Association of Lebanese Industrialists (ALI) information letter to its members

3. English Consent Form

4. Information sheet for employers in English and its Arabic Translation

5. Employer interview guide

6. English employer questionnaire and its Arabic Translation

7. List of all quantitative result tables

8. Vroom’s expectancy theory table of variables (Vroom 1964)

9. Example of transcript thematic analysis

10. Decree 11802 in English and the original in Arabic

11. ILO convention 155 (1981) and its recommendation 164

12. PPT presentation given at Surrey University on 2 July 2009

13. Worker questionnaire (Developed but not administered for this study) in English and its Arabic Translation

14. Template form for inspection in enterprises in English and Arabic, as retrieved from the Lebanese Ministry of Labour

15. Participation in international conferences and interviews

- Arab States Regional Workshop on HIV and Occupational Safety and Health, (Dubai-2007)
- Yasa Interview Newspaper Clipping-2007
- World Congress on Safety and Health at Work – Seoul, Korea, 2008
• Fourteenth European Congress of Work and Organizational Psychology – Spain 2009.

• Implementing Occupational Safety and Health Standards Globally. International Labour Conference, Düsseldorf, Germany, 3-6 November 2009.
Appendix 1

*Surrey Approval Letter to the Researcher*
Ms Manal Azzi  
Division of Health & Social Care  
FHMS  
Ethics Committee

Dear Manal

**Occupational Safety and Health in Lebanon: Between Policy and Implementation**  
**EC/2007/90/FHMS**

On behalf of the Ethics Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the submitted protocol and supporting documentation.

Date of confirmation of ethical opinion: 14 January 2008.

The final list of documents reviewed by the Committee is as follows:

<table>
<thead>
<tr>
<th>Document</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>14 Jan 08</td>
</tr>
<tr>
<td>Detailed Protocol</td>
<td>14 Jan 08</td>
</tr>
<tr>
<td>Evidence of agreement of other collaborators</td>
<td>14 Jan 08</td>
</tr>
<tr>
<td>Information Sheet</td>
<td>14 Jan 08</td>
</tr>
<tr>
<td>Consent form</td>
<td>14 Jan 08</td>
</tr>
<tr>
<td>Questionnaire/Interview Schedule</td>
<td>14 Jan 08</td>
</tr>
<tr>
<td>Protocol Submission Proforma: Insurance</td>
<td>14 Jan 08</td>
</tr>
<tr>
<td>Association of Lebanese Industrialists letter of consent</td>
<td>14 Jan 08</td>
</tr>
</tbody>
</table>

This opinion is given on the understanding that you will comply with the University's Ethical Guidelines for Teaching and Research.

The Committee should be notified of any amendments to the protocol, any adverse reactions suffered by research participants, and if the study is terminated earlier than expected with reasons.

You are asked to note that a further submission to the Ethics Committee will be required in the event that the study is not completed within five years of the above date.

Please inform me when the research has been completed.

Yours sincerely

Aimee Cox (Miss)  
Secretary, University Ethics Committee

Registry  
cc: Professor T Desombre, Chairman, Ethics Committee
Appendix 2

Association of Lebanese Industrialists (ALI) Information Letter to its Members
To whom it may concern,

The Association of Lebanese Industrialists (ALI) was approached by Ms. Manal Azzi requesting consent to undertake her research in the field of occupational safety and health.

We have carefully reviewed her research proposal, objectives and methodology, and we understand that she will administer two questionnaires on 77 industries members of our association. We understand that there is one questionnaire addressing the 77 employers and a separate one prepared for the approximate number of 770 workers.

In this regard, we have no objections to this study as it completely respects all ethical requirements and the questionnaires are not invasive to the privacy of the respondents.

Furthermore, we are very pleased that occupational safety and health is gaining a priority in Lebanon and we hope that this study will contribute significantly to improve the OSH situation in the country.

Best regards,

Association of Lebanese Industrialists

Fadi Abboud
President
Appendix 3

*English Consent Form*
Consent Form

• I, the undersigned, voluntarily agree to take part in the study on occupational safety and health in Lebanon.

• I have read and understood the Information Sheet provided. I have been given a full explanation by the investigators of the nature, purpose, location and likely duration of the study, and of what I will be expected to do. I have been given the opportunity to ask questions on all aspects of the study and have understood the advice and information given as a result.

• I agree to comply with any instruction given to me during the study and to co-operate fully with the investigators.

• I understand that all personal data relating to volunteers is held and processed in the strictest confidence. I agree that I will not seek to restrict the use of the results of the study on the understanding that my anonymity is preserved.

• I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice.

• I confirm that I have read and understood the above and freely consent to participating in this study by answering the questions asked by the investigator. I have been given adequate time to consider my participation and agree to comply with the instructions and restrictions of the study.

Name of volunteer (BLOCK CAPITALS) ............................................................

Signed ..................................................................................................................

Date ....................................................................................................................

Name of researcher/person taking consent (BLOCK CAPITALS) ........MANAL AZZI..............................................

Signed ..................................................................................................................

Date ....................................................................................................................
Appendix 4

Information Sheet for Employers in English and its Arabic Translation
Information Sheet for participating in a survey on Knowledge, Attitude and Behaviour related to Occupational Safety and Health (OSH)

Dear Participant,

You are being invited to take part in a research study on occupational safety and health. This study aims at assessing the knowledge, attitude and behavior of employers and workers regarding occupational safety and health and what factors encourage or impede employers and workers to take safety and health measures at the level of the enterprise.

This stage of the study involves filling a questionnaire that assesses workers'/employers' knowledge, attitude and behaviour in relation to occupational safety and health. We will be visiting 77 industries around Lebanon, interviewing 77 employers and 770 workers, randomly selected from the list of member Industries in the Association of Lebanese Industrialists.

In this survey, we will ask you a series of questions and statements concerning occupational safety and health issues. You are entitled to believe or think the way you wish and to have your own opinion as there is no right and wrong answer, so please do not hesitate to answer honestly. Your participation in this study might not bring you a personal benefit but the results will help find out what are the reasons behind taking safety and health measures in the workplace. It will also help policy makers in designing new policies that would insure additional safety at the work place.

It is important to note that your participation is voluntary and you have the right to decide whether to take part or not in this survey or to withdraw at any time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect your job.

We ensure anonymity of the survey, your name will not be taken and information will be presented as an aggregate; thus, there is no possibility of retracing your name from your answers. All information you will share with us will remain confidential and will only be used for the purpose of the research study.
Once the results of the study are ready for dissemination, a copy of the report will be sent to your enterprise and will be made available for you.

Please note that all the questions will be asked in one session that may take up to 30 minutes.

Should you have further inquiries please feel free to contact the main investigator, Ms. Manal Azzi
Mobile: +961-3-719790
Email: manalazzi@hotmail.com
azzi@ilo.org

For any complaints regarding the study, please feel free to contact Mr. Said Hmadeh at the Association of Lebanese Industrialists on Tel: 01-350280 or send an email to Dr. Jason Devereux, main supervisor for this research on J.Devereux@surrey.ac.uk
نموذج الموافقة على المشاركة في دراسة حول ادراك السلامة والصحة المهنية والوقاف وتصريحات حياتها

عزيزي المشترك

لقد تم دعوتكم للمشاركة في بحث حول السلامة والصحة المهنية. تهدف هذه الدراسة إلى تقييم ادراك أصحاب العمل والعمال ومقترحاتهم وتصرفاتهم في ما يتعلق بالسلامة والصحة المهنية وما هي العوامل التي تشجع أو تمنع أصحاب العمل والعمال من اتخاذ إجراءات السلامة والصحة على مستوى المؤسسة.

تتطلب هذه المرحلة من الدراسة لمثواسمثلة لاستطلاع الرأي عن شأنها تقييم ادراك وموقف وصرف العملاء، وساهم العمل في ما يتعلق بالسلامة والصحة المهنية. سنقوم بزيارة 77 مصنع في لبنان ومقابل 77 صاحب عمل و700 عامل يتم اختيارهم عشوائياً من لائحة المصنع المتصلة إلى جمعية الصناعيين اللبنانيين.

ستشارككم خلال هذه الدراسة سلسلة من الأسئلة والبيانات تتعلق بموضوع السلامة والصحة المهنية. يتوجب عليكم إبداء رأيكم الخاص بحرية مطلقة بما انه لا يوجد اجابة صحيحة أو غير صحيحة لذلك يرجى يمكنك عدم التردد والإجابة صدق.

قد لا تتأثر مشاركتك بهذه الدراسة بمنفعة شخصية غير إن نتائجه تستند على اكتشاف الأسباب وراء التقييد بإجراءات السلامة والصحة المهنية في مكان العمل كما قد تساعد أصحاب السياسات العملية على إعداد سياسات جديدة من شأنها تأمين سلامة اضافية في مكان العمل.

تذكر الإشارة إلى أن مشاركتك طوعية ولديك مطلق الحرية في المشاركة في هذه الدراسة أو عدم المشاركة كما يمكن أن تقبل في أي وقت ومن دون اعطاء أي تبرير. إن استماعك في أي وقت أو قرارك بعد المشاركة ليس لمساهمتك لتأثير عن عملك.

تضمن في هذه الدراسة عدد إبراز الأسئلة إذا انها لن نسألك عن اسمك كما وان المعلومات ستتم بشكل اجباري لذلك تستطيع معرفة اسمك من إجابتك على الأسئلة. تبقى كافة المعلومات التي تأتي لنا بها سرية وتم استعمالها فقط بهدف هذا البحث.

ما ان تصبح نتائج الدراسة جاهزة للنشر يتم ارسال نسخة من التقرير إلى مؤسستك وتوضيح متوفرة لدينا.

يمكنك طرح أي سؤال يتعلق بتفاصيل هذه الدراسة قبل البدء بها.

هل تتفقون على الإجابة على الأسئلة؟

(في حال الموافقة) ستطرح كافة الأسئلة في جلسة واحدة لمدة نصف ساعة تقريباً.

يمكنك الاتصال بي لطرح أي سؤال إضافي حول الدراسة على العنوان التالي:

مثال الغزي

منزل مارون الفيديار - جبيل - لبنان

azzi@ilo.org

البريد الإلكتروني:

شكراً لتعاونكم
Interview Guide for Employers

1. Have you heard of the National OSH decree 11802? If not, why is that? How could things have been done differently to make you aware of such a policy? Whose responsibility is it?

2. If your company has adopted a national OSH policy, what are, in your opinion:
   a. The most difficult provisions of that policy to implement and why?
   b. The easier provisions of that policy to implement and why?

3. What are the main incentives for your enterprises to implement safety measures?

4. In case safety and health measures are not fully executed, what are the reasons in your opinion for this partial implementation?

5. Probes specifically about the below OSH measures:
   a. Personal protection equipments
   b. Replacement of hazardous chemicals by safer ones
   c. First aid kits
   d. Carrying heavy weights
   e. Availability of lockers for workers
   f. Accommodation of workers who cannot handle certain hazards

6. Do you gather information and document sick leaves and workplace accidents? If yes, for what purpose? If not, why not? Do you notify the Ministry of Labour? If not, why not?

7. Do induction orientation sessions address OSH? If not, why not, and if yes, how elaborate is the OSH section?

8. Do you discuss OSH with workers? In what way? Are workers allowed to attend OSH seminars during work hours? If not, why not?

9. Is there any punishment or rewards for workers for not abiding or for abiding respectively to safety measures? Such as what?

10. Are there any formal procedures for worker complaints? If yes in what form?

11. Do you think OSH is a priority?
   a. If Yes, why?
   b. If not, why not?
Appendix 6

Employer Questionnaire in English and its Arabic Translation
# Employer - Survey Questionnaire

<table>
<thead>
<tr>
<th>Main sections</th>
<th>Definitions</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Socio-demographics</td>
<td>Notes the socio-demographic characteristics of the respondent</td>
<td>1-9</td>
</tr>
<tr>
<td>II- Employer's knowledge and awareness of OSH legislations</td>
<td>Assesses the respondent's knowledge of OSH regulations</td>
<td>10-16</td>
</tr>
<tr>
<td>III- Employer's attitude towards occupational safety and health</td>
<td>Measures the respondent's attitude towards OSH at the workplace</td>
<td>17-19</td>
</tr>
<tr>
<td>IV- Practices relating to safety and health: Communication of OSH policies within the workplace</td>
<td>Examines the practices related to written policies and how it is communicated to the employees at the workplace</td>
<td>20-31</td>
</tr>
<tr>
<td>V- Practices relating to safety and health: Physical health</td>
<td>Examines the practices adopted to protect the physical health of the workers at the workplace</td>
<td>32-43</td>
</tr>
<tr>
<td>VI- Practices relating to safety and health: Psychosocial health</td>
<td>Examines the practices adopted to preserve the psychosocial health of the workers at the workplace</td>
<td>44-49</td>
</tr>
<tr>
<td>VII- Practices relating to safety and health: Exposure to occupational hazards</td>
<td>Examines the practices related to handling hazards and risk exposure at the workplace</td>
<td>50-64</td>
</tr>
<tr>
<td>VIII - Practices relating to safety and health: Use of personal protective devices</td>
<td>Examines the practices related to the provision and use of personal protective devices at the workplace</td>
<td>65-68</td>
</tr>
<tr>
<td>IX- Practices relating to safety and health: Training and instruction on use of equipments</td>
<td>Examines the practices related to instructions on of the workplace equipments</td>
<td>69-72</td>
</tr>
<tr>
<td>X- Practices relating to safety and health: Accidents</td>
<td>Examines the practices related to accidents in case they occurred at the workplace</td>
<td>73-79</td>
</tr>
<tr>
<td>XI- Practices relating to safety and health: Maintenance of the facility</td>
<td>Examines the practices related to the maintenance of the workplace facilities</td>
<td>80-92</td>
</tr>
</tbody>
</table>
Questionnaire Identification

Code Number of the Establishment: _______ ____________

ID Number of the Participant: _______ ____________

Type of industry:
1- Food product
2- Paper and Cardboard
3- Chemicals
4- Metals
5- Minerals

Name of the establishment: ___________________________________________

Address of the establishment: _______________________________________

Date of interview: _______ ____________
DD - MM

Start of interview (time): _______ ____________
hh - mm

End of interview (time): _______ ____________
hh - mm

Total number of employees in the enterprise: _______ ____________

To which industrial category does this enterprise belong to: __________

Number of employee by sex:
Male _______ ____________
Female _______ ____________

Number of employees by nationality:
Lebanese _______ ____________
Other: _______ ____________

Number of different sites at the workplace: _______ ____________
What are these different sites? _______________________________________

Number of workers at each site:
Site _______ ____________
Site _______ ____________
Site _______ ____________
Site _______ ____________
Interviewer: [___|____]

Supervisor: [____|___]

Interview status:  
1- Interview completed
2- Refusal converted
3- Partly completed
4- Refusal

Comments: 

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
I. Socio-demographics

1. Gender:  
   1- Male  
   2- Female  

2. Age:  

3. Marital status:  
   1- Single  
   2- Married  
   3- Divorced  
   4- Separated  
   5- Widowed  

4. Number of dependents:  

5. Highest level of education:  
   1- Never attended school  
   2- Primary school  
   3- Intermediate school  
   4- Secondary school  
   5- Technical school  
   6- University  

6. What is your monthly salary scale?  
   1- < 500,000 L.L  
   2- 500,000-1 million L.L  
   3- 1-2 million L.L  
   4- 2-3 million  
   5- >3 million  

7. What is the nature of your work?  

8. How long have you worked in your present job for your current employer?  
   1- Less than 6 months  
   2- 6-12 months  
   3- More than a year (Specify)  

9. When was the enterprise founded?  

239
II- Employer's knowledge and awareness of OSH legislations

10. Are you aware that the ILO has conventions on Occupational Safety and Health (OSH)?
   1- Yes
   2- No

11. Are you aware of the national OSH Decree No 11802 endorsed by the government in 2005?
   1- Yes
   2- No

12. Do you abide by any other Lebanese workplace safety and health national legislation?
   1- Yes
   2- No

13. Does your establishment have a written occupational safety and health policy?
   1- Yes
   2- No→ skip to question 17

14. What did you refer to as guidelines in setting your OSH workplace policy? (Please circle one or more options, if applicable).
   1- ILO OSH conventions
   2- Lebanese Decree No 11802
   3- Sample policies from other similar industries world wide
   4- Other, please specify:_______________
   5- None

15. How often are the guidelines re-evaluated and/or updated in your enterprise?
   1- Once per 3 months
   2- Once per 6 months
   2- Once per year
   3- Once per 3 years
   4- Never
   5- Other, please specify:_______________

16. Are the provisions of the OSH policy at your enterprise implemented?
   1- Always  2- Sometimes  3- Rarely  4- Never
Ill- Employer’s attitude towards occupational safety and health

17. How do you perceive occupational health provision?
   1- Of minor importance
   2- Important
   3- Priority

18. If your enterprise provides OSH at the workplace, what was the motivation behind this? (Please circle one or more options, if applicable).
   1- Safety of employees means higher productivity
   2- Safety and health is a priority on the enterprise’s agenda
   3- Improves image of the company
   4- To lower workers’ compensation cost
   5- Providing OSH does not cost much at all
   6- Employees requested that the company get involved in OSH
   7- To please the workers
   8- To abide by national OSH regulations
   9- To respect international safety standards
   10- Other, please specify:______________
   11- Not applicable

19. If your enterprise does not provide OSH at the workplace completely, what are the factors that impede you from providing occupational safety and health? (Please circle one or more options, if applicable).
   1- Lack of budget
   2- Lack of information about how to apply the regulations
   Fear of changing traditional working conditions
   3- Fear of spending time and money for failure
   4- Fear of lowering productivity
   5- Overloaded with work thus unable to focus on improving working conditions
   6- Task of improving working conditions is too large to tackle
   7- Other, please specify:______________
   8- Not applicable
In case there is no OHS policy in the enterprise, skip to question n° 22

20. Are employees informed of any legal texts or guidelines pertinent to the rules of occupational safety and health?
   1- Yes
   2- No → skip to question n° 22

21. If yes, do your employees have access to it?
   1- Yes
   2- No

22. Do you organize a formal induction program for all new employees?
   1- Yes
   2- No → skip to question n° 24

23. If yes, does this induction program address health and safety issues?
   1- Yes
   2- No

24. Does the company have a responsible Health and Safety person/committee?
   1- Yes
   2- No → skip to question n° 30

25. If yes, specify representation on the committee:
   1- Management only
   2- Employee only
   3- Management / employee

26. Are there specific written statements describing duties of the health and safety person/committee(s)?
   1- Yes
   2- No

27. How often does the person/committee meet the senior management?
   1- At a regularly scheduled time
   2- At irregular intervals
   3- When there is an health and safety emergency
28. Are the person/committee's decisions about health and safety measures distributed to all employees?
   1- Yes
   2- No → skip to question n° 30

29. If yes, how are these decisions circulated? (Please circle one or more as applicable).
   1- E-mail
   2- Verbally through meeting
   3- Company newsletter
   4- Internal memorandum
   5- Other, please specify: ________________

30. Is there an annual health and safety budget designated for control measures?
   1- Yes
   2- No → skip to question n° 32

31. If yes, what is the percentage allocated for safety measures and activities relative to the total budget?
   1- < 5%
   2- 5-10%
   3- 10-15%
   4- 15-25%
   5- >25%
32. Are pre-employment medical examinations mandatory irrespective of the number of workers in the enterprise?
   1- Yes
   2- No

33. If you have more than 15 workers, have you appointed a physician to supervise the medical condition of workers?
   1- Yes → skip to question n° 35
   2- No

34. If no, do you take all prevention and health measures in the workplace and mitigate the risk of exposure to common diseases, occupational diseases and occupational accidents?
   1- Yes
   2- No

35. Do all workers in the enterprise undergo regular medical examination during employment?
   1- Yes
   2- No

36. Do you keep a record of the examination results?
   1- Yes
   2- No → skip to question n° 38

37. If yes, are these records put at the disposal of the labour inspector, when need be?
   1- Yes
   2- No

38. Do you collect health-related absence data?
   1- Yes
   2- No

39. Do you record work-related accidents that occur in the workplace?
   1- Yes
   2- No
40. Do you notify the Ministry of Labour of occupational accidents within 24 hours after their occurrence?
   1- Yes
   2- No

41. Do you notify the Ministry of Labour of occupational diseases within 24 hours after their occurrence?
   1- Yes
   2- No

42. Are there formal procedures for employees to report health and safety hazards, problems, issues or concerns?
   1- Yes
   2- No

43. Is there a kit provided comprising all necessary first aid products?
   1- Yes
   2- No
VI- Practices relating to safety and health: Psychosocial health

44. Do you communicate with employees about occupational safety and health?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Very likely  Very unlikely

45. Do you reward the workers for following safe work rules?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Very likely  Very unlikely

46. Do you penalize the workers for violation of safe work rules?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Very likely  Very unlikely

47. Are employees allowed to conduct health and safety activities on work time (such as training, meetings etc.)?

1- Yes
2- No

48. Is education on healthy lifestyles available to workers on the following topics? (Please circle one or more options, as applicable).

1- Smoking
2- Alcohol and drug use
3- Nutrition
4- HIV
49. Is there a workplace policy on any of the following? (Please circle one or more options, as applicable).

1- Smoking
2- Alcohol and drug use
3- Nutrition
4- HIV
5- Stress management
6- Fitness and exercise
7- None of the above

VII- Practices relating to safety and health: Exposure to occupational hazards

50. Are employees potentially exposed to hazards connected with the following? (Please circle one or more as applicable).

1- Hazardous chemicals
2- Confined spaces
3- Powered industrial vehicles
4- Noise
5- Work in laboratories
6- Work at elevation
7- Hazardous waste
8- Ergonomic hazards
9- Blood borne pathogens
10- Other, please specify: __________

51. Are workers given sufficient and appropriate information on the risks related to their work?

1- Yes
2- No

52. Do workers working in the noise area undergo regular hearing exams?

1- Yes
2- No
53. When it turns out that the continuous work of a worker exposes the latter to air pollution, din and vibrations that are not medically accepted, do you try to move the worker to another appropriate job, without any change in his/her salary, grade, and professional rank?
   1- Yes
   2- No

54. Is it forbidden at your enterprise to allow any worker to manually move any load that might, due to its weight, expose his/her health or safety to danger, in all circumstances in which he/she may be working?
   1- Yes
   2- No

55. Are drinking and eating prohibited in unauthorized places?
   1- Yes
   2- No

56. Do you comply with the general precautions related to the storing of hazardous substances?
   1- Yes
   2- No

57. Does your enterprise prevent keeping any substances that are liable to decomposition inside the workplace by gradually placing them in securely locked metallic reservoirs that are evacuated and cleaned on a daily basis?
   1- Always
   2- Sometimes
   3- Rarely
   4- Never

58. Are identification tags put on all containers of hazardous chemicals?
   1- Yes
   2- No

59. Are the words on the tags written in a language that all workers can understand?
   1- Yes
   2- No
60. Do the tags indicate the risks of using the substance as well as safety precautions?
   1- Yes
   2- No

61. Do you continuously train workers on the procedures and methods of chemicals' safe and sound use?
   1- Yes
   2- No

62. Do you display warnings to indicate the locations of hazardous and cancerous chemicals?
   1- Yes
   2- No

63. Are hazardous chemicals replaced by harmless or less hazardous chemicals?
   1- Always
   2- Sometimes
   3- Rarely
   4- Never

64. Have you installed in conspicuous locations of the workplace detailed instructions - in Arabic and any other language understood by the workers- related to workers' protection from the risks they may be exposed to while performing their work?
   1- Yes
   2- No
VIII- Practices relating to safety and health: Use of personal protective devices

65. If the nature of the work asks for personal protection devices, do you provide them for workers?
   1- Always
   2- Sometimes
   3- Rarely
   4- Never → skip to question n° 68
   5- Not applicable

66. Do you maintain these personal protection devices in good condition?
   1- Always
   2- Sometimes
   3- Rarely
   4- Never

67. Do you require workers to use the personal protection devices put at their disposal?
   1- Always
   2- Sometimes
   3- Rarely
   4- Never
68. Do you check that the machines and tools used by workers do not entail any risks to the health and safety of those who use them properly?
   1- Yes
   2- No

69. Do you check that the substances used by workers do not entail any risks to the health and safety of those who use them properly?
   1- Yes
   2- No

70. Are instructions of use displayed next to every machine in the workplace to guide the workers on the correct use and the precautions they are required to take?
   1- Yes
   2- No

71. Is the use of new mechanically-powered machines liable to prior licensing by the Ministry of Labour?
   1- Yes
   2- No
   3- Not applicable
X- Practices relating to safety and health: Accidents

72. If your enterprise incurs an accident or fire, do you notify the Ministry of Labour in writing, within a maximum period of 24 hours?
   1- Yes
   2- No

73. If your enterprise incurs an accident or fire, do you send a report of occupational accidents to the Ministry of Labour once every 6 months?
   1- Yes
   2- No

74. Do you provide the necessary equipment for fire extinguishing equipment in the enterprise?
   1- Yes
   2- No

75. Do you post guiding signs to prevent fire and causes in inflammable areas of the workplace?
   1- Yes
   2- No

76. Do you provide accesses, exits, and stairs in the workplace to facilitate workers' evacuation process in the event of fire and install appropriate signals and signs indicating emergency exits?
   1- Yes
   2- No

77. Do you prepare an emergency and rescue plan in case of fire?
   1- Yes
   2- No → skip to question n° 79

78. Do you train a special team among the enterprise workers on the execution of the said plan?
   1- Yes
   2- No
79. Is there a sign indicating the maximum load allowed displayed on every elevator?
   1- Yes
   2- No

80. Do the elevators undergo regular maintenance by a specialized company?
   1- Yes
   2- No

81. Are all stairs and sets of steps equipped with securely installed handrails?
   1- Yes
   2- No

82. Is the floor solid, even, and free of pits, holes and other obstacles that might cause the workers to stumble, fall or collide?
   1- Yes
   2- No

83. Are sufficient and appropriate sanitary utilities provided for workers working in the enterprise?
   1- Yes
   2- No

84. Is one water closet including a toilet seat and a lavatory provided for every 15 workers?
   1- Yes
   2- No

85. Is drinking water provided in the enterprise?
   1- Yes → skip to question n° 91
   2- No

86. Is drinking water provided from sources placed in appropriate locations and easily accessible by all?
   1- Yes
   2- No
87. Is there appropriate and sufficient space equipped with ventilation systems, good lighting and lockers provided for workers to keep or change their uniforms during working hours?
   1- Yes
   2- No

88. Are there necessary and sufficient seating facilities provided for workers who work while standing, as well as during the breaks allotted between working hours?
   1- Yes
   2- No

89. Does the employer take the general measures of health protection in the workplace for the following? (Please circle one or more as applicable).
   1- Physical safety
   2- Lighting
   3- Ventilation
   4- Drinking water
   5- Lavatories
   6- Evacuation of dust and smoke
   7- Accommodation of workers and hygiene
   8- Measures to protect workers from pollution by pathological biological factors
   9. Noise

90. Do workers strictly abide by all guidelines and instructions related to the rules of occupational safety?
   1- Always
   2- Sometimes
   3- Rarely
   4- Never

91. Do you think taking safety and health measures at the workplace is a priority?
   1- Yes
   2- No
<table>
<thead>
<tr>
<th>References</th>
<th>Questions</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lebanese Government. (2004). Lebanese Decree no 11802: Regulating Occupational Prevention, Safety and Health in all Enterprises subject to the Code of Labour. Article 34.</td>
<td>13</td>
<td>II- Employer’s knowledge and awareness of OSH legislations</td>
</tr>
<tr>
<td>Lebanese Government. (2004). Lebanese Decree no 11802: Regulating Occupational Prevention, Safety and Health in all Enterprises subject to the Code of Labour. Article 35.</td>
<td>14-16</td>
<td>II- Employer’s knowledge and awareness of OSH legislations</td>
</tr>
<tr>
<td>Lebanese Government. (2004). Lebanese Decree no 11802: Regulating Occupational Prevention, Safety and Health in all Enterprises subject to the Code of Labour. Article 35.</td>
<td>20-31</td>
<td>IV- Practices relating to safety and health: Communication of OSH policies within the workplace</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Brosseau, et al., 2005.</td>
<td>46-47</td>
<td>VI- Practices relating to safety and health: Psychosocial health</td>
</tr>
<tr>
<td>49-51</td>
<td>VI- Practices relating to safety and health: Psychosocial health</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>VII- Practices relating to safety and health: Exposure to occupational hazards</td>
<td></td>
</tr>
<tr>
<td>Lebanese Government. (2004). Lebanese Decree no 11802: Regulating Occupational Prevention, Safety and Health in all Enterprises subject to the</td>
<td>54</td>
<td>VII- Practices relating to safety and health: Exposure to occupational hazards</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Occupational Prevention, Safety and Health in all Enterprises subject to the Code of Labour. Article 7.</td>
<td>70-73</td>
<td>VIII - Practices relating to safety and health: Use of personal protective devices</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Health in all Enterprises subject to the Code of Labour. Article 27.</td>
<td>90-91</td>
<td>XI- Practices relating to safety and health: Maintenance of the facility</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>الأسئلة</td>
<td>التحديد</td>
<td>الأقسام الرئيسية</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>------------------</td>
</tr>
<tr>
<td>1-9</td>
<td>تحديد خصائص المحبب الاجتماعي-الدемوغرافية</td>
<td>1. الديمقراطية-الاجتماعية</td>
</tr>
<tr>
<td>10-16</td>
<td>تقييم معرفة المحبب حول تشريعات السلامة والصحة المهنية</td>
<td>II. معرفة صاحب العمل وإدراجه بتشريعات السلامة والصحة المهنية</td>
</tr>
<tr>
<td>17-19</td>
<td>قياس موقف المحبب تجاه السلامة والصحة المهنية في مكان العمل</td>
<td>III. موقف صاحب العمل من إتفاقية السلامة والصحة المهنية</td>
</tr>
<tr>
<td>20-31</td>
<td>معايير الممارسات المتعلقة بالسياسات المنصوصة وكيفية مناقشتها مع الموظف</td>
<td>IV. الممارسات المتعلقة بالصحة والسلامة المهنية: تبادل المعلومات حول سياسات السلامة والصحة المهنية في مكان العمل</td>
</tr>
<tr>
<td>32-43</td>
<td>معايير الممارسات المعتادة لحماية صحة العمال الجسديّة في مكان العمل</td>
<td>V. الممارسات المتعلقة بالسلامة والصحة: الصحة الجسديّة</td>
</tr>
<tr>
<td>44-49</td>
<td>معايير الممارسات المعتادة للحفاظ على صحة العمال النفسيّة والاجتماعيّة في مكان العمل</td>
<td>VI. الممارسات المتعلقة بالسلامة والصحة: الصحة النفسيّة والاجتماعيّة</td>
</tr>
<tr>
<td>50-64</td>
<td>معايير الممارسات المعتادة للتعامل مع أخطار التعرض للأذى في مكان العمل</td>
<td>VII. الممارسات المتعلقة بالسلامة والصحة: التعرض للمخاطر المهنيّة</td>
</tr>
<tr>
<td>65-68</td>
<td>معايير الممارسات المعتادة لتوفير أجهزة الحماية الشخصية واستخدامها في مكان العمل</td>
<td>VIII. الممارسات المتعلقة بالسلامة والصحة: استخدام أجهزة الحماية الشخصية</td>
</tr>
<tr>
<td>69-72</td>
<td>معايير الممارسات المتعلقة بإعطاء التعليمات حول كيفية استخدام الأجهزة المتعددة في مكان العمل</td>
<td>IX. الممارسات المتعلقة بالسلامة والصحة: التدريب وإعطاء التعليمات حول كيفية استخدام الأجهزة والحادث</td>
</tr>
<tr>
<td>73-79</td>
<td>معايير الممارسات المعتادة في حال وقوع حادث في مكان العمل</td>
<td>X. الممارسات المتعلقة بالسلامة والصحة: الحوادث</td>
</tr>
<tr>
<td>80-92</td>
<td>معايير الممارسات المتعلقة بصيانة العامل في مكان العمل</td>
<td>XI. الممارسات المتعلقة بالسلامة والصحة: صيانة العامل</td>
</tr>
</tbody>
</table>

260
تحديد الاستبيان

رقم المؤسسة:

رقم هوية المشترك:

نوع الصناعة:
1- مكولات غذائية
2- ورق وكرتون
3- مواد كيميائية
4- معدن
5- مواد غير عضوية

إسم المؤسسة:

عنوان المؤسسة:

تاريخ إجراء المقابلة:

بدء المقابلة (الوقت):

إنتهاء المقابلة (الوقت):

مجموع الموظفين في المؤسسة:

إلى أي فئة صناعية تنتمي المؤسسة:

عدد الموظفين من حيث الجنس: ذكر

أنثى

عدد الموظفين من حيث الجنسية: لبنان

غيره:

عدد المواقع المختلفة في مكان العمل:

و ما هي؟

عدد العمال في كل موقع:

موقع عدد العمال موقع عدد العمال

261
موقع العمال:
موقع العمال:
مجري المقابلة:
المشرف:
وضع المقابلة:
1- مقابلة كاملة
2- رفض مもちろ
3- مقابلة جزئيّة
4- رفض قاطع
تعليقات:
1. الديموغرافية الاجتماعية

1. الجنس:
   1. ذكر
   2. أنثى

2. العمر:

3. الوضع العائلي:
   1. عزب/عازبة
   2. متزوجة
   3. مطلقة
   4. منفصلة
   5.أرملة

4. عدد الأفراد المعتمدين عليه/عليها:

5. المستوى الدراسي الأعلى:
   1. لم يدخل المدرسة
   2. مدرسة إبتدائية
   3. مدرسة متوسطة
   4. مدرسة ثانوية
   5. مدرسة مهنية
   6. جامعة

6. ما هو معدل راتبك الشهري؟
   1. أقل من 500 ألف ليرة لبنانية
   2. بين 500 ألف و مليون ليرة لبنانية
   3. بين مليون و مليوني ليرة لبنانية
   4. بين مليوني و 3 ملايين ليرة لبنانية
   5. أكثر من 3 ملايين ليرة لبنانية

7. ما هي طبيعة عملك؟

8. منذ متى تمارس عملك الحالي؟
   1. منذ أقل من 6 أشهر
   2. بين 6 و 12 شهرًا
   3. منذ أكثر من سنة (الرجاء التحديد)

9. منذ متى تأسس المصنع؟
10. هل تعلم باتفاقية منظمة العمل الدولية حول السلامة والصحة المهنية؟
1 - نعم
2 - كلا

11. هل تعلم بمرسوم اتفاقية السلامة والصحة المهنية الوطني رقم 11802 التي أقرته الحكومة في العام 2005؟
1 - نعم
2 - كلا

12. هل تلتزم بأي تشريع آخر متعلق بالسلامة والصحة المهنية في أماكن العمل في لبنان؟
1 - نعم
2 - كلا

13. هل تملك مؤسستك سياسة منصوصة عن السلامة والصحة المهنية؟
1. نعم
2. كلا ← إنقل إلى سؤال رقم 17

14. ما هو النهج الذي اتبعته في تطبيق سياسة السلامة والصحة المهنية؟ (الرجاء رسم دائرة حول الخيار/ الخيارات المناسب(ة)).
1. اتفاقيات منظمة العمل الدولية المتعلقة بالسلامة والصحة المهنية
2. المرسوم اللبناني رقم 11802
3. عينية عن السياسات التي تطبقها المؤسسات الصناعية المماثلة في العالم
4. غيرها، الرجاء التحديد:
5. لا شيء

15. متى يتم إعادة تقييم و/أو إعادة تحديد النهج المتبوع في مؤسستك؟
1. مرة كلٍ 3 أشهر
2. مرة كلٍ 6 أشهر
3. مرة في السنة
4. مرة كل 3 سنوات
5. لا مرة
6. غيرها، الرجاء التحديد:

16. هل تطبق مؤسستك أحكام اتفاقية السلامة والصحة المهنية؟
1. دائمًا
2. أحيانًا
3. نادرًا
4. أبداً
17. ما رأيك بتوفر الصحة المهنية؟
1. إنها قليلة الأهمية
2. مهمة
3. تشكل أولويّة

18. إن كانت مؤسستك تطبّق إجراءات حول السلامة والصحة المهنية، ما كان الدافع وراء
أخذ هذه الإجراءات؟ (الرجاء رسم دائرة حول الخيار/الخيارات المناسبة، على جدول أعمال المؤسّسة)。
1. تعكس سلامة العمّال مستوى أعلى من الإنتاجيّة
2. تشكّل السلامة والصحة أولاً على جدول أعمال المؤسّسة
3. إنها تحسن صورة المؤسّسة
4. تساعد على تخفيض كلفة التعويضات للعمّال
5. إن تتوفر السلامة والصحة المهنيّة غير مكلّفة
6. يطلب العمّال بتطبيق إتفاقية السلامة والصحة المهنيّة في المؤسّسة
7. الإضراب العمّال
8. للالتزام بتنظيمات السلامة والصحة المهنيّة الوطنيّة
9. لاحترام معايير السلامة الدولية
10. غيرها، الرجاء التحديد:
11. لا تطبق

19. إن كانت المؤسّسة لا تطبّق إجراءات حول السلامة والصحة المهنيّة في مكان العمل،
فما هو العوامل التي تتعترض سبيل توفر السلامة والصحة المهنيّة (الرجاء رسم دائرة
حوالي الخيار/الخيارات المناسبة، على جدول أعمال المؤسّسة)؟
1. نقص على مستوى المراقبة
2. نقص على مستوى المعلومات المتعلقة بكيّة تطبّق التنظيمات
3. خشية تغيير شروط العمل التقليديّة
4. خشية ذلّ مزيد من الوقت والمال والفشل في الآخر
5. خشية تخفيض الإنتاجيّة
6. كثرة العمل التي تحوّل دون القدرة على التركيز على
   مسألة تحسين
   شروط العمل
7. إنّ مهمة تحسين شروط العمل تفوق قدرتنا
8. غيرها، الرجاء التحديد:
9. لا تطبق
المارسات المتعلقة بالصحة والسلامة المهنية: تبادل المعلومات حول سياسات السلامة المهنية

في حال عدم وجود سياسة في مكان العمل، إنتقل إلى سؤال رقم 22

20. هل يعلم الموظفون بالمناهج أو النصوص القانونية المتعلقة بقواعد السلامة والصحة المهنية؟

   1. نعم
   2. كلا ← إنتقل إلى سؤال رقم 22

21. إن كان جوابك "نعم"، فهل يستطيع الموظفون لديك الوصول إليها؟

   1. نعم
   2. كلا

22. هل تتنظيم برنامج عمل تعريفي رسمي للموظفين الجدد؟

   1. نعم
   2. كلا ← إنتقل إلى سؤال رقم 24

23. إن كان جوابك "نعم"، هل يتناول برنامج العمل التعريفي هذا مسائل الصحة والسلامة؟

   1. نعم
   2. كلا

24. هل تستخدم المؤسسة فرداً/لجنة مسؤولية عن الصحة والسلامة؟

   1. نعم
   2. كلا ← إنتقل إلى سؤال رقم 30

25. إن كان جوابك "نعم"، الرجاء تحديد تمثيل اللجنة:

   1. إدارة فقط
   2. عمال فقط
   3. إدارة / عمال

26. هل تملك المؤسسة بيانات مكتوبة محددة تصف موجبات الفرد/اللجنة المسؤول(ة) عن السلامة والصحة؟

   1. نعم
   2. كلا

27. ما هو عدد المرات يجتمع هذا الفرد/هذه اللجنة بالإدارة العليا؟

   1. وفق جدول زمني منتظم
   2. على فترات غير منتظمة
   3. في حالات الصحة والسلامة الطارئة
28. هل يتم توزيع مقررات الفرد/اللجنة المسؤول(ة) عن تدابير الصحة والسلامة على كافة الموظفين؟
   1. نعم
   2. كلاً — إنقل إلى سؤال رقم 30

29. إن كان جوابك "نعم"، كيف يتم تداول هذه المقررات (الرجاء رقم دائرة حول الخيارات/الخيارات المناسبة(ة))؟
   1. عبر البريد الإلكتروني
   2. شفهيًا خلال الاجتماع
   3. ضمن مجلة الشركة
   4. وفقًا لمذكرة داخليّة
   5. غيرها، الرجاء التحديد:

30. هل تخصص المؤسّسة ميزانية سنويّة لمراقبة إجراءات السلامة والصحة؟
   1. نعم
   2. كلاً — إنقل إلى سؤال رقم 32

31. إن كان جوابك "نعم"، ما هي النسبة المئوية المخصّصة لتدابير السلامة والأنشطة المتصلة بالمواجهة؟
   1. أقلّ من 5%
   2. بين 5 و10%
   3. بين 10 و15%
   4. بين 15 و25%
   5. أكثر من 25%
الممارسات المتعلقة بالسلامة والصحة: الصحة الجسدية

32. هل يتم الفحوصات الطبية قبل التوظيف بصرف النظر عن عدد العاملين في المؤسسة؟
1. نعم
2. كلا

33. إن كان عدد موظفيك يفوق الـ15، هل قمت بتعيين طبيب للإشراف على ظروف العمال الطبية؟
1. نعم — إنتقل إلى سؤال رقم 35
2. كلا

34. إن كان جوابك "كلا"، هل تتخذ الوقاية اللازمة والإجراءات الطبية للحد من خطر تعرّض العمال للإصابة بالأمراض الشائعة أو للأمراض المهنية أو للحوادث المهنية في مكان العمل؟
1. نعم
2. كلا

35. هل يخضع كافة العمال في المؤسسة لفحص طبي منظم خلال فترة توظيفهم؟
1. نعم
2. كلا

36. هل تحتفظ بسجل نتائج هذه الفحوصات؟
1. نعم
2. كلا — إنتقل إلى سؤال رقم 38

37. إن أجبت ب"نعم"، هل تضع هذه السجلات بمتناول المفتشين التابعين لوزارة العمل عند الحاجة؟
1. نعم
2. كلا

38. هل تجمع المعطيات حول غياب الموظف بدلاً من المرض؟
1. نعم
2. كلا

39. هل تسجل الحوادث المتعلقة بالعمل والتي تحصل في مكان العمل؟
1. نعم
2. كلا

40. هل تُقيد وزارة العمل بالحوادث المهنية في غضون الساعات الـ24 من وقوعها؟
1. نعم
2. كلا
41. هل تُفيد وزارة العمل بالأمراض المهنية في غضون الساعات الثلاثين من إصابة العامل به؟
   1. نعم
   2. كلا

42. هل تضع الإجراءات الرسمية بمتناول الموظفين ليتمكنوا من رفع تقرير حول أخطار الصحة والسلامة والمشاكل والمشكلات التي تثير قلقهم؟
   1. نعم
   2. كلا

43. هل يتوفر في مكان العمل طاقم طبيًا يضم معدات الإسعاف الأولية اللازمة؟
   1. نعم
   2. كلا
المارسات المتعلقة بالسلامة والصحة: الصحة النفسية والإجتماعية

44. هل تتناول مع الموظفين موضوع السرامة والصحة المهنية؟

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>عن غير المرجع</td>
<td>على الأرجح</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

45. هل تكافئ العمال لإلتزامهم بقواعد السلامة في العمل؟

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>عن غير المرجع</td>
<td>على الأرجح</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

46. هل تتعاقب العمال لانتهاكهم قواعد السلامة في العمل؟

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>عن غير المرجع</td>
<td>على الأرجح</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

47. هل يحق لكل موظف تنظيم النشاطات المتعلقة بالصحة والسلامة (كالتدريب والاجتماعات...) خلال ساعات العمل؟

1. نعم
2. كلا

48. هل تتوفر مسألة تعليم نماذج الحياة الصحيحة للموظفين وفقا للمواضيع التالية؟ (الرجاء رسم دائرة حول الخيار/الخيارات المناسبة(ة)).

1. التدخين
2. تعاطي المخدرات وشرب الكحول
3. التغذية
4. فيروس نقص المناعة البشرية
5. السيطرة على الضغوطات النفسية
6. الرياضة والتمارين
7. لا أحد من الخيارات
49. هل تطبق المؤسسة سياسة محددة في مكان العمل متعلقة بالمسائل التالية؟ (الرجاء رقم دائرة حول الخيارات المناسبة)۔
1. التدخين
2. تعاطي المخدرات وشرب الكحول
3. التغذية
4. فيروس نقص المناعة البشرية
5. السيطرة على الضغوطات النفسية
6. الرياضة والتمارين
7. لا أحد من الخيارات
المارسات المتعلقة بالسلامة والصحة: التعرّض للمخاطر المهنيّة

50. هل تعرّض الموظّفون للمخاطر الناجمة عن السؤال التالي؟ (الرجاء رسم دائرة حول الخيار/الخيارات المناسبة).

1. المواد الكيميائيّة الخطرة
2. الأماكن الضيّقة
3. المركبات الصناعيّة (Powered industrial vehicles)
4. الضيّقة
5. العمل في المختبرات
6. العمل في الأماكن المرتفعة
7. النفايات الخطرة
8. أخطار إرگونوميّة (Ergonomics)
9. مسببات الأمراض في الدم
10. غيرها، الرجاء التحديد:

هل يتمّ تزويد الموظّفين بالمعلومات الكافية حول الأخطار في مكان العمل؟

1. نعم
2. لا

هل يخضع الموظّفون العاملين في مناطق الضجيج لفحوصات سمع منتظمة؟

1. نعم
2. لا

إذا تبّين أنّ العمل المستمرّ للموظّف يعترضه لخلط الهواء والضجيج والذيبانات غير المقبولة طبيّاً، هل تحاول نقل هذا الموظّف إلى مجال عمل مختلف؟ من دون تعديل أجره أو مركزه أو مستوى المهني؟

1. نعم
2. لا

هل تمّ قبول الموظّف من النقل اليدويّ للحمولات التي، نظرًا لأنها قد تعرّض صحته أو سلامته للخطر، مهما كانت ظروف عمله؟

1. نعم
2. لا

هل الأكل والشرب ممنوعان في الأماكن غير المخصصّة للعمل؟

1. نعم
2. لا
هل تستجيب للإحتجات العامة المتعلقة بتخزين المواد الخطرة؟
1. نعم
2. كلا

هل تمد مؤسستك على منع الاحتفاظ بالمواد القابلة للتحلل في مكان العمل من خلال وضعها في خزائن معدنية مقفلة يتم تغليفها وتنظيفها يوميًا؟
1. دائمًا
2. أحيانًا
3. نادرا
4. أبدا

هل يتم وضع علامات تحذير على الخزائن المحتوية على مواد كيميائية خطرة؟
1. نعم
2. كلا

هل تتم كتابة الكلمات بلغة يفهمها كل العمال؟
1. نعم
2. كلا

هل تشير هذه العلامات إلى أخطار استخدام المواد، وإلى التدابير الوقائية للمحافظة على سلامة العمل؟
1. نعم
2. كلا

هل تخضع العمال بشكل مستمرّ لتدريب حول إجراءات ووسائل توفير السلامة لإزاء المواد الكيميائية واستخدام الصوت؟
1. نعم
2. كلا

هل تستخدم التحذيرات لتشير إلى الأماكن الخطرة والمواد الكيميائية المسببة للأمراض السرطانية؟
1. نعم
2. كلا

هل يتم استبدال المواد الكيميائية الخطرة بمواد أقلّ ضرراً أو خطرًا؟
1. دائمًا
2. أحيانًا
3. نادرا
4. أبدا

هل قمت بوضع تعليمات مفصلة، باللغة العربية أو بأيّة لغة يفهمها العمال، في أماكن العمل الخطرة تتعلق بحمايةهم من الأخطار التي يمكن التعرّض لها خلال تأدية العمل؟
1. نعم
2. كلا
الممارسات المتعلقة بالسلامة والصحة: استخدام أجهزة الحماية الشخصية

65. إذا كانت طبيعة العمل تتطلب استخدام أجهزة الحماية الشخصية هل تزود العمال بها؟

1. دائمًا
2. أحيانًا
3. نادرًا
4. أبداً إنتقل إلى سؤال رقم 68
Not Applicable 5

66. هل تحافظ على أجهزة الحماية هذه بوضع جيد؟

1. دائمًا
2. أحيانًا
3. نادرًا
4. أبداً

67. هل تطلب من العمال استخدام أجهزة الحماية الشخصية؟

1. دائمًا
2. أحيانًا
3. نادرًا
4. أبداً
الممارسات المتعلقة بالسلامة والصحة: التدريب وإعطاء التعليمات حول كيفية استخدام الأجهزة

68. هل تتأكد من أن الآلات والمعدات التي تستخدمها العمال لا تعرض صحتهم وسلامتهم للخطر إذا تم استخدامها بشكل الصحيح؟
   1. نعم
   2. لا

69. هل تتأكد من أن المواد التي تستخدمها العمال لا تعرض صحتهم وسلامتهم للخطر إذا تم استخدامها بشكل الصحيح؟
   1. نعم
   2. لا

70. هل يتم عرض معلومات الاستخدام بالقرب من كل آلة في مكان العمل لإرشاد العمال إلى طرق الاستخدام الصحيحة وتعريفهم بالإجراءات الوقائية المتطلبة أخذها؟
   1. نعم
   2. لا

71. هل تحصل الآلات الجديدة العاملة بالطاقة الميكانيكية على ترخيص من وزارة العمل؟
   1. نعم
   2. لا
   N/A 3
العمليات المتعلقة بالسلامة والصحة: الحوادث

.72  إن تعرضت مؤسستك لوقوع حادث أو نشوب حريق، هل تعلم وزارة العمل خطأ في مهلة لا تخطئ 24 ساعة؟
1. نعم
2. كلا

.73  إن تعرضت مؤسستك لوقوع حادث أو نشوب حريق، هل ترسل تقريرا عن الحوادث المهنية إلى وزارة العمل مرة كل 6 أشهر؟
1. نعم
2. كلا

.74  هل مؤسستك مزودة بالأجهزة اللازمة لإطفاء الحريق؟
1. نعم
2. كلا

.75  هل تستخدم علامات الدليل لمنع الحريق وأسبابه في أماكن قابلة للإشعال داخل مركز العمل؟
1. نعم
2. كلا

.76  هل إن مؤسستك مزودة بالمخرج أو بدرج يسهل عملية إخلاء العمالة في حال نشوب حريق؟ وهل قمت بتركيب الإشارات اللازمة وعلامات المخرج الطوارئ؟
1. نعم
2. كلا

.77  هل حضرت خطة طوارئ وإنقاذ في حال نشوب حريق في مكان العمل؟
1. نعم
2. كلا

.78  هل تقوم بتدريب فريق مخصص من عمال المؤسسة لتنفيذ الخطة الموضوعة؟
1. نعم
2. كلا
الممارسات المتعلقة بالسلامة والصحة: الصيانة في المعمل

هل من علامة موضوعة في المصعد تشير إلى الحمولة القصوى المسموحة؟
1. نعم
2. كلاً

هل تخضع المصاعد باستمرار لعمليّة صيانة من قبل الشركة المختصة؟
1. نعم
2. كلاً

هل الدرج مجهّز بسياج مثبت بشكل آمن؟
1. نعم
2. كلاً

هل الأرض صلبة وخلالية من الحفر وسائر العقبات التي قد تسبب وقوع العمال؟
1. نعم
2. كلاً

هل المؤسسة مزوّدة بالمرافق الصحيّة اللازمة؟
1. نعم
2. كلاً

هل يتمّ تخصيص مرحاض واحد ودوارة مياة لكلّ 15 عامل؟
1. نعم
2. كلاً

هل توفر مياه الشرب في المؤسسة؟
1. نعم
2. كلاً

إنتقل إلى سؤال رقم 1

هل تركز مصادر مياة الشرب في الأماكن الصحيّة بحيث يمكن للكافة العمال استخدامها؟
1. نعم
2. كلاً

هل تضمّ المؤسسة فضحة مزوّدة بأجهزة مراوح وإضاءة وخزانات يمكن للعمال وضع ثياب أو الإحتفاظ بها خلال ساعات العمل؟
1. نعم
2. كلاً

هل تتوفر في المؤسسة تسهيلات الجلوس الضروريّة من أجل العمال الذين يعملون واقفين، بحيث يستطيعون الاستراحة في وقت الفراغ؟
1. نعم
2. كلاً
89. هل يقوم صاحب العمل بتطبيق إجراءات عامة لحماية صحة العمال من المشاكل التالية في مكان العمل؟ (الرجاء رسم دائرة حول الخيار/الخيارات المناسبة (واحدة من:)

1. الصحة الجسدية
2. الإضاءة
3. التهوية
4. مياه الشرب
5. المغاسل
6. إزالة الغبار والدخان
7. راحة ونظافة العامل
8. تدابير حماية العمال من التلوث والعوامل البيولوجيّة المسببة للأمراض
9. الضيجة

90. هل يتقيّد العمال بالتوجيهات والتعليمات المتعلقة بقواعد السلامة المهنيّة؟

1. دائمًا
2. أحيانًا
3. نادراً
4. أبدًا

91. هل تعتبر أن اتخاذ تدابير حماية السلامة والصحة في مكان العمل أولويّة؟

1. نعم
2. كلاً
المرجع

<table>
<thead>
<tr>
<th>الأسند</th>
<th>المراجع</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. الاجتماعي-الديمغرافي</td>
<td></td>
</tr>
<tr>
<td>II. معرفة صاحب العمل وإدراكه بتشريعات السلامة والصحة المهنية</td>
<td>منظمة العمل الدولية (1981). الإتفاقيّة رقم 155 المتعلقة بالسلامة والصحة المهنيّين. المادة الخامسة.</td>
</tr>
<tr>
<td>II. معرفة صاحب العمل وإدراكه بتشريعات السلامة والصحة المهنية</td>
<td>منظمة العمل الدولية (1981). الإتفاقيّة رقم 155 المتعلقة بالسلامة والصحة المهنيّين. المادة الخامسة.</td>
</tr>
<tr>
<td>II. معرفة صاحب العمل وإدراكه بتشريعات السلامة والصحة المهنية</td>
<td></td>
</tr>
<tr>
<td>III. موقف صاحب العمل من اتفاقيّة السلامة والصحة المهنيّة</td>
<td>الممارسات المتعلقة بالصحة والسلامة المهنيّة: تبادل المعلومات حول سياسات السلامة والصحة المهنيّة في مكان العمل.</td>
</tr>
</tbody>
</table>

المراجع
<table>
<thead>
<tr>
<th>الجملة</th>
<th>الممارسة المتعلقة بالسلامة والصحة: الصحة والصحة المهنية</th>
</tr>
</thead>
<tbody>
<tr>
<td>VI</td>
<td>الفقرة 23. المادة 42.</td>
</tr>
<tr>
<td>VI</td>
<td>الفقرة 22. المادة 43.</td>
</tr>
<tr>
<td>VI</td>
<td>الفقرة 155. المادة 44.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 3. المادة 45.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 4. المادة 46.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 5. المادة 47.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 7. المادة 49.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 8. المادة 50.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 9. المادة 51.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 10. المادة 52.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 11. المادة 53.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 12. المادة 54.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 13. المادة 55.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 14. المادة 56.</td>
</tr>
<tr>
<td>VII</td>
<td>الفقرة 15. المادة 57.</td>
</tr>
</tbody>
</table>

بروتو، 2005.

<p>| الممارسات المتعلقة بالسلامة والصحة: التعرض | VII | الحكومة اللبنانية (2004). المرسوم اللبناني رقم 11802: تنظيم الحماية والسلامة والصحة المهنية في كافة الشركات الخاضعة لقانون العمل. المادة 46. | 68 |</p>
<table>
<thead>
<tr>
<th>الممارسات المتعلقة بالسلامة والصحة: صيانة</th>
<th>ري</th>
</tr>
</thead>
<tbody>
<tr>
<td>XI</td>
<td>التسهيلات</td>
</tr>
</tbody>
</table>
Appendix 7

List of Quantitative Result Tables
Table 14: Employer’s knowledge and awareness of OSH legislations

<table>
<thead>
<tr>
<th>Question</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you aware that the ILO has conventions on Occupational Safety and Health (OSH)?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>8.6%</td>
</tr>
<tr>
<td>No</td>
<td>64</td>
<td>91.4%</td>
</tr>
<tr>
<td>Are you aware of the national OSH Decree No 11802 endorsed by the government in 2005?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>12.9%</td>
</tr>
<tr>
<td>No</td>
<td>61</td>
<td>87.1%</td>
</tr>
<tr>
<td>Does your establishment have a written occupational safety and health policy?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>13</td>
<td>18.8%</td>
</tr>
<tr>
<td>No</td>
<td>56</td>
<td>81.2%</td>
</tr>
<tr>
<td>What did you refer to as guidelines in setting your OSH workplace policy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILO OSH convention</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Lebanese decree No 11802</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Sample policies from other similar industries world wide</td>
<td>6</td>
<td>46.2%</td>
</tr>
<tr>
<td>International standards</td>
<td>5</td>
<td>38.5%</td>
</tr>
<tr>
<td>Long term expertise of employees.managers in the sector</td>
<td>6</td>
<td>46.2%</td>
</tr>
<tr>
<td>Our companies overseas</td>
<td>5</td>
<td>38.5%</td>
</tr>
<tr>
<td>How often are the guidelines re-evaluated and/or updated in your enterprise?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once per year</td>
<td>1</td>
<td>7.7%</td>
</tr>
<tr>
<td>Once per 6 months</td>
<td>5</td>
<td>38.5%</td>
</tr>
<tr>
<td>Upon accident or introduction of new regulation</td>
<td>6</td>
<td>46.2%</td>
</tr>
<tr>
<td>Never</td>
<td>1</td>
<td>7.7%</td>
</tr>
<tr>
<td>Are the provisions of the OSH policy at your enterprise implemented?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>4</td>
<td>30.8%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>6</td>
<td>46.2%</td>
</tr>
<tr>
<td>Rarely</td>
<td>3</td>
<td>23.1%</td>
</tr>
</tbody>
</table>
Table 15: Employer's attitude towards occupational safety and health

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How do you perceive occupational health provision?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of minor importance</td>
<td>5</td>
<td>7.2%</td>
</tr>
<tr>
<td>Important</td>
<td>22</td>
<td>31.9%</td>
</tr>
<tr>
<td>Priority</td>
<td>42</td>
<td>60.9%</td>
</tr>
<tr>
<td><strong>What was the motivation behind providing OSH at the workplace?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety of employees means higher productivity</td>
<td>48</td>
<td>69.6%</td>
</tr>
<tr>
<td>Safety and health is a priority for the enterprise agenda</td>
<td>32</td>
<td>46.4%</td>
</tr>
<tr>
<td>Improves image of the company</td>
<td>36</td>
<td>52.2%</td>
</tr>
<tr>
<td>Lower workers' compensation cost</td>
<td>22</td>
<td>31.9%</td>
</tr>
<tr>
<td>Providing OSH does not cost much at all</td>
<td>17</td>
<td>24.6%</td>
</tr>
<tr>
<td>Employees requested that the company gets involved in OSH</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>To please the workers</td>
<td>6</td>
<td>8.7%</td>
</tr>
<tr>
<td>To abide by national OSH regulations</td>
<td>6</td>
<td>8.8%</td>
</tr>
<tr>
<td>To respect international safety standards</td>
<td>20</td>
<td>29.0%</td>
</tr>
<tr>
<td>Policy obligations not risk awareness</td>
<td>8</td>
<td>11.6%</td>
</tr>
<tr>
<td>Safety consciousness</td>
<td>7</td>
<td>10.1%</td>
</tr>
<tr>
<td>Ethics-care for workers</td>
<td>38</td>
<td>55.1%</td>
</tr>
<tr>
<td>Fear of losing experienced workers hard to replace</td>
<td>2</td>
<td>2.9%</td>
</tr>
<tr>
<td><strong>If your enterprise does not provide OSH completely at the workplace, what are the factors that impede you from providing occupational safety and health?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of budget</td>
<td>11</td>
<td>15.9%</td>
</tr>
<tr>
<td>Lack of information on safety measures</td>
<td>30</td>
<td>49.3%</td>
</tr>
<tr>
<td>Fear of changing traditional working conditions</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>Fear of spending time and money and then failing</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Fear of decreasing productivity</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Too much work which does not allow concentration on OSH issues</td>
<td>15</td>
<td>21.7%</td>
</tr>
<tr>
<td>OSH is above our capabilities</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>Lack of awareness of OSH importance</td>
<td>12</td>
<td>17.4%</td>
</tr>
<tr>
<td>Workers' non compliance</td>
<td>17</td>
<td>24.6%</td>
</tr>
<tr>
<td>More interest in expanding business</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>Economic and political instability</td>
<td>8</td>
<td>11.6%</td>
</tr>
<tr>
<td>Practice</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td>Ignorance and no risk perception-assessment</td>
<td>4</td>
<td>5.8%</td>
</tr>
<tr>
<td>Lack of inspection and enforcement from government</td>
<td>3</td>
<td>4.3%</td>
</tr>
<tr>
<td>Lack of OSH management system</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>Non-availability of equipment</td>
<td>3</td>
<td>4.3%</td>
</tr>
<tr>
<td>Lack of management follow up</td>
<td>5</td>
<td>7.2%</td>
</tr>
</tbody>
</table>

Table 16: Practices relating to safety and health: Communication of OSH policies within the workplace

<table>
<thead>
<tr>
<th>Question</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are employees informed of any legal texts or guidelines pertinent to the rules of occupational safety and health?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>62.5%</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>37.5%</td>
</tr>
<tr>
<td>If yes, do your employees have access to it?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>100.0%</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Do you organize a formal induction program for all new employees?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>57</td>
<td>82.6%</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>17.4%</td>
</tr>
<tr>
<td>If yes, does this induction program address health and safety issues?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>31</td>
<td>54.4%</td>
</tr>
<tr>
<td>No</td>
<td>26</td>
<td>45.6%</td>
</tr>
<tr>
<td>Does the company have a responsible Health and Safety person/committee?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>7.6%</td>
</tr>
<tr>
<td>No</td>
<td>61</td>
<td>92.4%</td>
</tr>
<tr>
<td>If yes, specify representation on the committee:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management only</td>
<td>4</td>
<td>80.0%</td>
</tr>
<tr>
<td>Management/employee</td>
<td>1</td>
<td>20.0%</td>
</tr>
<tr>
<td>Are there specific written statements describing duties of the health and safety person/committee(s)?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>100.0%</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>How often does the person/committee meet the senior management?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 17: Practices relating to safety and health: Physical health

<table>
<thead>
<tr>
<th>Are pre-employment medical examinations mandatory irrespective of the number of workers in the enterprise?</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>33</td>
<td>47.8%</td>
</tr>
<tr>
<td>No</td>
<td>36</td>
<td>52.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>if you have more than 15 workers, have you appointed a physician to supervise the medical condition of workers?</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>48</td>
<td>69.6%</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>30.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>if no, do you take all prevention and health measures in the workplace and mitigate the risk of exposure to common diseases,</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Do all workers in the enterprise undergo regular medical examination during employment?</td>
<td>17</td>
<td>52</td>
</tr>
<tr>
<td>Do you keep a record of the examination results?</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>if yes, are these records put at the disposal of the labour inspector, when need be?</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Do you collect health-related absence data?</td>
<td>52</td>
<td>17</td>
</tr>
<tr>
<td>Do you record work-related accidents that occur in the workplace?</td>
<td>15</td>
<td>54</td>
</tr>
<tr>
<td>Do you notify the Ministry of Labour of occupational accidents within 24 hours after their occurrence?</td>
<td>0</td>
<td>69</td>
</tr>
<tr>
<td>Do you notify the Ministry of Labour of occupational diseases within 24 hours after their occurrence?</td>
<td>2</td>
<td>67</td>
</tr>
<tr>
<td>Are there formal procedures for employees to report health and safety hazards, problems, issues or concerns?</td>
<td>18</td>
<td>51</td>
</tr>
<tr>
<td>Is there a kit provided comprising all necessary first aid products?</td>
<td>58</td>
<td>11</td>
</tr>
</tbody>
</table>
Table 18: Practices relating to safety and health: Psychosocial health

<table>
<thead>
<tr>
<th>Question</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do you communicate with employees about occupational safety and health?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1= very likely</td>
<td>16</td>
<td>23.2%</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>20.3%</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>13.0%</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>8.7%</td>
</tr>
<tr>
<td>5= very unlikely</td>
<td>24</td>
<td>34.8%</td>
</tr>
<tr>
<td><strong>Do you reward the workers for following safe work rules?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1= very likely</td>
<td>12</td>
<td>17.4%</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>2.9%</td>
</tr>
<tr>
<td>5= very unlikely</td>
<td>54</td>
<td>78.3%</td>
</tr>
<tr>
<td><strong>Do you penalize the workers for violation of safe work rules?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1= very likely</td>
<td>31</td>
<td>44.9%</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2.9%</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>7.2%</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>4.3%</td>
</tr>
<tr>
<td>5= very unlikely</td>
<td>28</td>
<td>40.6%</td>
</tr>
<tr>
<td><strong>Are employees allowed to conduct health and safety activities on work time?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>42</td>
<td>60.9%</td>
</tr>
<tr>
<td>No</td>
<td>27</td>
<td>39.1%</td>
</tr>
<tr>
<td><strong>Is education on healthy lifestyles available to workers?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>9</td>
<td>13.0%</td>
</tr>
<tr>
<td>Alcohol and drug use</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>Nutrition</td>
<td>2</td>
<td>2.9%</td>
</tr>
<tr>
<td>HIV</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>Stress management</td>
<td>2</td>
<td>2.9%</td>
</tr>
<tr>
<td>Fitness and exercise</td>
<td>3</td>
<td>4.3%</td>
</tr>
<tr>
<td>None of the above</td>
<td>60</td>
<td>87.0%</td>
</tr>
<tr>
<td>Is there a workplace policy on:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Smoking</td>
<td>27</td>
<td>39.1%</td>
</tr>
<tr>
<td>Alcohol and drug use</td>
<td>9</td>
<td>13.0%</td>
</tr>
<tr>
<td>Nutrition</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>HIV</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Stress management</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Fitness and exercise</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>None of the above</td>
<td>42</td>
<td>60.9%</td>
</tr>
</tbody>
</table>

Table 19: Practices relating to safety and health: Exposure to occupational hazards

<table>
<thead>
<tr>
<th>Are employees potentially exposed to:</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous chemicals</td>
<td>19</td>
<td>27.5%</td>
</tr>
<tr>
<td>Confined spaces</td>
<td>16</td>
<td>23.2%</td>
</tr>
<tr>
<td>Powered industrial vehicles</td>
<td>36</td>
<td>52.2%</td>
</tr>
<tr>
<td>Noise</td>
<td>50</td>
<td>72.5%</td>
</tr>
<tr>
<td>Work in Laboratories</td>
<td>26</td>
<td>37.7%</td>
</tr>
<tr>
<td>Work at elevation</td>
<td>12</td>
<td>17.4%</td>
</tr>
<tr>
<td>Hazardous waste</td>
<td>5</td>
<td>7.2%</td>
</tr>
<tr>
<td>Ergonomic hazards</td>
<td>41</td>
<td>59.4%</td>
</tr>
<tr>
<td>Blood born pathogens</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Dust</td>
<td>9</td>
<td>13.0%</td>
</tr>
<tr>
<td>Highly flammable material</td>
<td>2</td>
<td>2.9%</td>
</tr>
<tr>
<td>Physical hazards from machinery</td>
<td>47</td>
<td>68.1%</td>
</tr>
<tr>
<td>Fumes</td>
<td>1</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

Are workers given sufficient and appropriate information on the risks related to their work?

| Yes                                  | 46| 66.7% |
| No                                   | 23| 33.3% |

Do workers working in the noise area undergo regular hearing exams?

| Yes                                  | 6 | 11.5% |
| No                                   | 46| 88.5% |

When the worker is exposed to hazards that are not medically accepted, do you try to move the worker to another appropriate job, without any changing his status?

<p>| Yes                                  | 32| 51.6% |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is it forbidden at your enterprise to allow any worker to manually move any load that might, due to its weight, expose his/her health or safety to danger, in all circumstances in which he/she may be working?</td>
<td>34</td>
<td>24</td>
<td>58.6%</td>
</tr>
<tr>
<td>Are drinking and eating prohibited in unauthorized places?</td>
<td>53</td>
<td>16</td>
<td>76.8%</td>
</tr>
<tr>
<td>Do you comply with the general precautions related to the storing of hazardous substances?</td>
<td>17</td>
<td>7</td>
<td>70.8%</td>
</tr>
<tr>
<td>Does your enterprise prevent keeping any substances that are liable to decomposition inside the workplace by gradually placing them in securely locked metallic reservoirs that are evacuated and cleaned on a daily basis?</td>
<td>10</td>
<td>4</td>
<td>71.4%</td>
</tr>
<tr>
<td>Are identification tags put on all containers of hazardous chemicals?</td>
<td>15</td>
<td>9</td>
<td>62.5%</td>
</tr>
<tr>
<td>Have you installed in conspicuous locations of the workplace detailed instructions - in Arabic</td>
<td>9</td>
<td>15</td>
<td>37.5%</td>
</tr>
<tr>
<td>Do the tags indicate the risks of using the substance as well as safety precautions?</td>
<td>7</td>
<td>17</td>
<td>29.2%</td>
</tr>
<tr>
<td>Do you continuously train workers on the procedures and methods of chemicals' safe and sound use?</td>
<td>9</td>
<td>13</td>
<td>40.9%</td>
</tr>
<tr>
<td>Do you display warnings to indicate the locations of hazardous and cancerous chemicals?</td>
<td>9</td>
<td>13</td>
<td>59.1%</td>
</tr>
</tbody>
</table>
### Table 20: Practices relating to safety and health: Use of personal protective devices

<table>
<thead>
<tr>
<th>Question</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you provide appropriate personal protection devices for workers?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>42</td>
<td>66.7%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>15</td>
<td>23.8%</td>
</tr>
<tr>
<td>Rarely</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Never</td>
<td>6</td>
<td>9.5%</td>
</tr>
<tr>
<td>Do you maintain these personal protection devices in good condition?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>36</td>
<td>57.1%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>20</td>
<td>31.7%</td>
</tr>
<tr>
<td>Rarely</td>
<td>1</td>
<td>1.6%</td>
</tr>
<tr>
<td>Never</td>
<td>6</td>
<td>9.5%</td>
</tr>
<tr>
<td>Do you require workers to use the personal protection devices put at</td>
<td></td>
<td></td>
</tr>
<tr>
<td>their disposal?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>46</td>
<td>73.0%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>8</td>
<td>12.7%</td>
</tr>
<tr>
<td>Rarely</td>
<td>3</td>
<td>4.8%</td>
</tr>
<tr>
<td>Never</td>
<td>6</td>
<td>9.5%</td>
</tr>
</tbody>
</table>

### Table 21: Practices relating to safety and health: Training and instruction on use of equipments

<table>
<thead>
<tr>
<th>Question</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you check that the machines and tools used by workers do not entail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>any risks to the health and safety of those who use them properly?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>55</td>
<td>91.7%</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>8.3%</td>
</tr>
</tbody>
</table>
Do you check that the substances used by workers do not entail any risks to the health and safety of those who use them properly?

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>24</td>
<td>82.8%</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>17.2%</td>
</tr>
</tbody>
</table>

Are instructions of use displayed next to every machine in the workplace to guide the workers on the correct use and the precautions they are required to take?

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>31</td>
<td>51.7%</td>
</tr>
<tr>
<td>No</td>
<td>29</td>
<td>48.3%</td>
</tr>
</tbody>
</table>

Is the use of new mechanically-powered machines liable to prior licensing by the Ministry of Labour?

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>6</td>
<td>11.3%</td>
</tr>
<tr>
<td>No</td>
<td>47</td>
<td>88.7%</td>
</tr>
</tbody>
</table>

Table 22: Practices relating to safety and health: Accidents

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>If your enterprise incurs an accident or fire, do you notify the Ministry of Labour in writing, within a maximum period of 24 hours?</td>
<td>68</td>
<td>98.6%</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>No</td>
<td>68</td>
<td>98.6%</td>
</tr>
</tbody>
</table>

If your enterprise incurs an accident or fire, do you send a report of occupational accidents to the Ministry of Labour once every 6 months?

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>No</td>
<td>69</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Do you provide the necessary equipment for fire extinguishing equipment in the enterprise?

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>69</td>
<td>100.0%</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Do you post guiding signs to prevent fire and causes in inflammable areas of the workplace?

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>30</td>
<td>50.8%</td>
</tr>
<tr>
<td>No</td>
<td>29</td>
<td>49.2%</td>
</tr>
</tbody>
</table>

Do you provide accesses, exits, and stairs in the workplace to facilitate workers' evacuation process in the event of fire and install appropriate signals and signs indicating emergency exits?

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>33</td>
<td>51.6%</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td>Do you prepare an emergency and rescue plan in case of fire?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>33.3%</td>
</tr>
<tr>
<td>No</td>
<td>46</td>
<td>66.7%</td>
</tr>
<tr>
<td>Do you train a special team among the enterprise workers on the execution of the said plan?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>33.3%</td>
</tr>
<tr>
<td>No</td>
<td>46</td>
<td>66.7%</td>
</tr>
</tbody>
</table>

Table 23: Practices relating to safety and health: Maintenance of the facility

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a sign indicating the maximum load allowed displayed on every elevator?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>19</td>
<td>51.4%</td>
</tr>
<tr>
<td>No</td>
<td>18</td>
<td>48.6%</td>
</tr>
<tr>
<td>Do the elevators undergo regular maintenance by a specialized company?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>33</td>
<td>89.2%</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>10.8%</td>
</tr>
<tr>
<td>Are all stairs and sets of steps equipped with securely installed handrails?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>56</td>
<td>88.9%</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>11.1%</td>
</tr>
<tr>
<td>Is the floor solid, even, and free of pits, holes and other obstacles that might cause the workers to stumble, fall or collide?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>65</td>
<td>94.2%</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>5.8%</td>
</tr>
<tr>
<td>Are sufficient and appropriate sanitary utilities provided for workers working in the enterprise?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>69</td>
<td>100.0%</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Is one water closet including a toilet seat and a lavatory provided for every 15 workers?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>56</td>
<td>81.2%</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>18.8%</td>
</tr>
<tr>
<td>Is drinking water provided in the enterprise?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Is drinking water provided from sources placed in appropriate locations and easily accessible by all?</td>
<td>56</td>
<td>5</td>
</tr>
<tr>
<td>Is there appropriate and sufficient space equipped with ventilation systems, good lighting and lockers provided for workers to keep or change their uniforms during working hours?</td>
<td>45</td>
<td>16</td>
</tr>
<tr>
<td>Are there necessary and sufficient seating facilities provided for workers who work while standing, as well as during the breaks allotted between working hours?</td>
<td>45</td>
<td>24</td>
</tr>
<tr>
<td>Does the employer take the general measures of health protection in the workplace for:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical safety</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Lighting</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Ventilation</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Drinking water</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Lavatories</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Evacuation of dust and smoke</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Accommodation of workers and hygiene</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Protecting workers from pollution by pathological biological factors</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Noise</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do workers strictly abide by all guidelines and instructions related to the rules of occupational safety?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
</tr>
<tr>
<td>Sometimes</td>
</tr>
<tr>
<td>Rarely</td>
</tr>
<tr>
<td>Never</td>
</tr>
</tbody>
</table>
Appendix 8

Vroom's Expectancy Theory Table of Variables
### Vroom's Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Force</td>
<td>The motivational force / effort with which the individual will pursue a particular course of action.</td>
</tr>
</tbody>
</table>
| Valence | The attractiveness, or unattractiveness, to the individual of the outcome of that course of action. This is often given a grade of between +1 & -1.  

+1 indicating an outcome which is highly attractive to the individual  

-1 indicating an outcome which is highly unattractive to the individual  

0 indicating an outcome, which is of no concern / interest to the individual and is therefore neither attractive nor unattractive. |
| Expectancy | The individual's expectation, the perceived probability, that such an outcome will be achieved. This is also often expressed as a value between 1 & 0  

1 indicating complete confidence that the outcome will be achieved.  

0 indicating the perception that the outcome is impossible to achieve. |
Appendix 9

Example of a Transcript Thematic Analysis
Example of a transcript used to identify themes
Enterprise/Manager ID #: 7

The manager interviewed is the Human Resources Manager; it is her dad's business which has expanded a lot from making nuts to coffee. Her uncle who was old school was heading the company with her dad. Now that he died we are entering ISO we are in the process of getting it. The company grew especially during the last 2 to 3 yrs, they've had more structural changes, as they are expanding and have taken on a new building, they are late in getting ISO due to this growth and expansion. They have a problem with confined spaces as their company is vertical as opposed to being horizontal. Accidents happen by mistakes due to the stupidity of workers. We just recently got a foreign production manager since end 2007 and she is starting to implement the ISO 22,000 requirements and she suggested the gloves. The ISO consultant came earlier for 6 months and now we have a manual which we should start implementing.

I don't read newspapers, the company lawyer didn't tell me anything about decree 11802. I've never heard of it and maybe he didn't consider it too important. The Ministry of Labour is probably not doing its job in communicating it to us.

What motivated me to take some safety measures is just so that the worker doesn't get injured. I have packing machines which are risky, I'm scared they will get permanently disabled from a humanitarian point of view. I have a lot of accidents; I have workers coming to me with small injuries practically every day.

Safety measures are not fully implemented because employees fear changing old habits especially in employees who have been working with us for a long time they hesitate to change the way things were done before, its difficult to convince them.

If accidents happen, the workers go to the General Manager's secretary who sorts out their insurance stuff etc. There is no proper mechanism for complaints.
We have a lot of burns from the Roaster which grinds coffee and nuts and I have packing machines which are risky.

We lack space, they work in confined spaces.

The only chemical exposure is for cleaning ladies who use very strong detergents.

There is a lot of noise, and I don’t give them ear plugs, I don’t allow them, if I come in and I want to talk to them, I want them to hear me!

I am now planning to get gloves for them because they work with a lot of water and salt and it ruins their hands completely. So mostly they are exposed to salt and dust. They work at heights for deep cleaning.

We have a lot of machines where they can cut their fingers if they're stupid and they don't pay attention in addition to the flammable paper and cardboard. They also inhale a lot of salt but they're used to it. We have a problem with ventilation.

The only major risk I see, is the workers direct contact with “Mahamasan”, (Roasting machine for nuts and coffee). The incidents we have are mostly burns and fingers stuck in machines, which is usually the fault of the worker and he usually knows it is his fault or that he didn’t pay attention. For example a bulldozer drove back on a worker’s feet once, all his fault he didn’t pay attention. But I don’t see necessity to get safety boots.

We gather info on reason for their sick leave, but our workers lie a lot, they are illiterate sometimes they would have a gynaecological problem and they get report from a dentist. They are lousy even at lying, so we investigate to see if they are telling the truth and not to investigate if sickness is work related.

We try to accommodate workers to a different job if we get proof from their medical reports, if it is really serious we shift them to another job. I have a lot of accidents; I have workers coming to me with small injuries practically every day.

No we don’t forbid them from carrying heavy weights! They have to, it is an obligation, even the girls carry sometimes up to 25 KG poor things, but it's their job.
I never consider substituting any hazardous chemical substance, because I don’t consider them too dangerous. As long as detergents are separated from food, that is more important, we don’t want our production contaminated with anything.

We don’t have any PPEs but now that we are talking about all these issues, it seems we should have.

There are no awareness signs on the machines, but due to ISO evaluation we will now have to put procedural signs next to the machines. But awareness signs on hazards and prevention methods? What for? The workers should just know. It’s not communication, it’s training.

Workers are never sent to training on safety and health, because we have no idea about this. But fire protection is the most important thing as Coffee machines work under high heat to grind coffee; we are now planning a fire fighting contingency plan with our new Turkish production manager due to ISO.

Safety and health is not a priority for us, because I don’t see the big risk in our production, our work is not that risky. We are overloaded with work, so never thought the safety of the workers is a priority. When this rush slows down, I’ll get more time on my hands to think of this issue.
Appendix 10

The English Translation of the Lebanese National Decree 11802/2005 on Occupational Safety and Health and the Original Arabic Version
DECREE NO 11802
REGULATING OCCUPATIONAL PREVENTION, SAFETY AND HEALTH
IN ALL ENTERPRISES SUBJECT TO THE CODE OF LABOUR

The President of the Republic,

Pursuant to the Constitution,

Pursuant to the Code of Labour, particularly articles 8, 61, 62, 64, 65 and 113 thereof,

Pursuant to the ILO Conventions entered into by virtue of law decree no 70 dated June 25, 1977 and Conventions 115 (Radiation Protection Convention), 120 (Hygiene (Commerce and Offices) Convention), 127 (Maximum Weight Convention), 77 (Medical Examination of Young Persons (Industry) Convention), 78 (Medical Examination of Young Persons (Non Industrial Occupations) Convention), as well as Conventions 136 (Benzene Convention), 139 (Occupational Cancer Convention), 176 (Safety and Health in Mines Convention) signed by the Lebanese government by virtue of Act no 116 dated October 25, 1999,

Pursuant to Decree no 6341 dated October 24, 1951 regulating health protection in all enterprises subject to the Code of Labour.

Pursuant to the motion made by the Minister of Labour,

Subsequent to the consultation of the Council of State (Opinion 27/2003 dated October 28, 2003),

And upon the consent of the Cabinet on December 22, 2003,

Decrees the following:

Article 1:
Decree number 6341 dated October 24, 1951 regulating health protection and prevention in all enterprises subject to the Code of Labour shall be repealed and replaced by the following texts:

Article 2:
The provisions of the present Decree shall be applicable to all employers and all enterprises mentioned in article 8 of the Code of Labour, as well as all family and craft enterprises.
CHAPTER I: PREVENTION AND SAFETY

Article 3:
The employer shall mount a strong fence in the following locations:
1- Around each pendulous wheel directly linked to the main engine and around each moving part in the engine, whether the pendulous wheel or the main engine is installed inside the machine box or not.
2- Around the head and by the edge of each water wheel and every rotating water machine.
3- Around all electrical generators, rotating engines and connected pendulous wheels, unless they are placed or installed in a manner that does not cause any danger, as if a strong fence surrounded them.
4- Around each part of a transport machine that may cause danger.
5- Around each dangerous part of any machine other than the main engines and transport machines, unless placed or installed with no possible danger.
The above mentioned safety barriers shall:
- Fully prevent the danger for which they were installed.
- Prevent the workers from approaching the danger area during operation.
Not hinder the workers from carrying out their work or hamper the production.
It shall be strictly forbidden to remove or destroy security devices or safety barriers from the machines. However, if the said equipment was removed for maintenance purposes, the electric power shall be cut off before embarking on such works and before restarting the machines. All mobile mechanical equipment used on public roads shall be equipped with brakes, powerful clutch systems and means of firm stabilization while working on roads. They shall also be equipped with front and back vocal or luminous alarms.
Every winch driver shall be physically fit and holder of a special license for driving winches. He shall abide by safety rules while driving and shall unplug the battery cables from the winch after every use.
Instructions of use shall be displayed next to every machine in the workplace to guide the workers on the correct use thereof and the precautions they are required to take.
Employers shall take the following measures:

1- Check, on a regular basis, either personally or through specialists, that the machines, tools and substances used by workers do not entail any risks to the health and safety of those who use them properly.

2- Provide the necessary and sufficient information on the proper installation and use of machines and equipment, as well as on the sound use of substances. They shall also provide information on the risks related to machines and equipment, the hazardous characteristics of chemicals, biological and physical factors and products, in addition to instructions to avoid such dangers.

3- Conduct studies and scientific and technical research to meet the prevention and safety requirements stipulated in this Decree.

Article 4:

The use of new mechanically-powered machines shall be liable to prior licensing by the Ministry of Labour, pursuant to a report submitted by the engineer labour inspector.

Article 5:

Anyone using a mechanically-powered new machine without prior licensing shall be sanctioned pursuant to articles /107/ and /108/ of the Code of Labour.

Article 6:

Every enterprise having incurred an accident or fire shall notify the Ministry of Labour thereof in writing, within a maximum period of 24 hours, and shall send a report of occupational accidents to the Ministry once every 6 months.

The engineer labour inspector shall check all the machines that incurred an accident or fire. Based on the inspection findings, the General Director of the Ministry shall take the appropriate decision regarding the license to use the engines.

The employer shall provide the necessary equipment for fire prevention, as well as the appropriate fire extinguishing equipment for the substances used in the enterprise and those used in the industries. The employer shall particularly comply with the following:
1- Provide accesses, exits and stairs in the workplace, to facilitate and speed up workers' evacuation process in the event of fire and install appropriate signals and signs indicating emergency exits.

2- Provide firefighting equipment and gears that shall be always ready to use, easily accessed and easily found through signs indicating their location.

3- Provide a fire detection alarm.

4- Post guiding signs to prevent fire and causes thereof in inflammable areas of the workplace.

5- Prepare an emergency and rescue plan, appoint a person responsible thereof and train a special team among the enterprise workers on the execution of the said plan.

Article 7:
Without prejudice to the applicable provisions related to the regulatory conditions on public safety and fire prevention in buildings, the Ministry of Labour shall determine the measures that shall be taken in the enterprises subject to the Code of Labour, in order to provide fire escape and implement the required fire prevention measures. The employer is supposed to install in conspicuous locations of the workplace detailed instructions - in Arabic and any other language understood by the workers- related to fire prevention means and workers' protection from the risks they may be exposed to while performing their work.

Article 8:
A strong fence of no less than 90 cm shall cover every fixed container or hole of one meter higher than the adjacent floor or walkway. However, in case the fence installation is impossible given the nature of the works, preventive measures shall be taken with the knowledge of the specialized labour inspector to avoid any danger.

Article 9:
Without prejudice to the applicable provisions related to the specification of technical and preventive requirements for public safety in elevators' equipment, every lift or elevator shall be, mechanically speaking, securely installed. The elevators' doors and locks shall be subject to maintenance in order not to open before the booth is stopped at the level where the door opens. Moreover, the elevator shall not move before the door is locked.
A sign indicating the maximum load allowed in the booth and prohibiting overload shall be displayed on every elevator. The elevators shall not contain any inflammable substance and shall be equipped with a ventilator, sufficient lighting and an emergency alarm in the event of breakdown. Elevators shall undergo regular maintenance by a specialized company.

**Article 10:**
All stairs and sets of steps shall be equipped with securely installed handrails. Furthermore, all stairs, walkways and alleys shall be equipped with secure barriers and every hole in the enterprise floor shall be secured.

**Article 11:**
Every construction exceeding three meters of height shall be protected, delimited with barriers and equipped with the necessary tools that enable workers working in it to secure a foothold or hand support when need be.

**Article 12:**
If work is to be done inside a room, tank, hole, smokestack or any other place where the emanating vapours are dangerous to an extent that threatens the workers' safety, necessary measures to be determined by a decision of the Minister of Labour shall be taken. The employer shall provide and maintain appropriate personal protection devices and require workers to use and preserve the personal protection devices put at their disposal.

**Article 13:**
A special device (vacuum) shall be placed around machines used for grinding and bolting substances that emit inflammable and explosive dust. Another special device shall be placed to prevent dust dissemination into the enterprise or avoid its accumulation therein.
Article 14:
Without prejudice to the applicable rules and regulations, every steam boiler, be it separate or part of a set of similar boilers, shall meet the following conditions:
1- An appropriate block valve to prevent overload of the boiler.
2- An appropriate block valve to link the boiler to the steam pipe.
3- An accurate steam gauge linked to the steam vacuity and easily seen by the worker.
4- At least one water gauge made from a transparent substance to indicate the water level in the boiler.
5- A pressure gauge inside the boiler.
6- Each part of the steam boiler shall be securely installed.
7- All parts and accessories of the boiler shall be duly maintained.
8- Every steam boiler shall be examined at least once a year. The steam boiler owner is issued a certificate of the examination results to be later submitted to the expert labour inspector upon request.
9- No used steam boiler shall be utilized in a new location before undergoing check up and obtaining the approval of competent authorities.

Article 15:
Every steam reservoir that had not been mounted and installed to take in the maximum pressure allowed to operate the boilers, or the maximum pressure in the pipe linking the tank to any other source of steam input, shall be equipped with:
1- A bare valve or an appropriate automatic system that prevents exceeding the maximum pressure allowed to operate the boiler.
2- An appropriate valve that allows the steam to exit, or an appropriate system that stops the steam flow automatically.
3- An accurate gauge to control the steam pressure.
4- An appropriate block valve.
5- A sign displaying the identification number, to be placed on the steam reservoir for visibility.

The reservoir shall be examined at least once every two years and the examination certificate shall be kept to be later submitted to the labour inspector when need be.

Article 16:
The following conditions shall be met in every air reservoir:
1- A visible display of the maximum pressure allowed in the reservoir.
2- If the air reservoir is connected to an air pumping mechanism, it should take the maximum pressure that could possibly build up in the air pump. Otherwise, a special system that prevents exceeding the maximum allowed shall be installed with a secure valve that allows air
to exit the reservoir in case of overpressure. Moreover, the reservoir shall be equipped with an accurate pressure gauge that indicates pressure build-up inside the reservoir, in addition to an appropriate evacuation system with an opening to clean the inside. The reservoir shall be examined at least once every two years.

Article 17:
The employer shall keep a record of the examination results to be submitted to the competent authorities when need be.

Article 18:
Without prejudice to the applicable provisions related to special specifications and rates for limiting air, water and soil pollution, every enterprise or firm that involves an emanation of dust, smoke, noise or any other harmful or polluting substance prejudicial to the workers shall install one or more systems, especially on the source of damage, to prevent dissemination into the workplace and to the surrounding environment.

No fixed incinerator may be used unless a special device is installed to extract the gazes emanating from the engine into the air after treatment, and unless the machine is isolated from the work area.

Article 19:
The exposure of workers to din, noise and vibrations shall be limited to a period that does not exceed the allowed amount of time specified in Table 1 annexed to this Decree. Workers shall undergo a hearing medical exam before their recruitment and workers working in the noise area shall undergo regular hearing exams, to be compared to the first one. The employer shall display signs at the entrance of the enterprise and all over the work places that are most exposed to noise, indicating that the use of personal protection gear is imperative. When it turns out that the continuous work of a worker exposes the latter to air pollution, din and vibrations that are not medically accepted, no effort shall be spared in compliance with the applicable rules and regulations to move the worker to another appropriate job, without any change in his/her salary, grade and professional rank...
The employer shall resort to possible scientific means for eliminating or reducing noise, pursuant to the following set of steps:

a- Eliminating the noise at source, either by removing the source or oiling, lubricating or insulating the same using the appropriate and known insulators.
b- Keeping the source away from the workers.
c- Using soundproof or sound insulation systems.
d- Performing regular examination of the health condition of workers who are exposed or potentially exposed to occupational risks caused by air pollution, din and vibrations in the work environment.

The workers concerned shall not bear any ensuing costs. They shall conform to safety measures that prevent occupational risks resulting from air pollution, din and vibrations in the work environment.

Such preventive and protective measures shall not entail effects that might prejudice the legal rights of workers. Moreover, the worker who withdraws from a work site he/she considers to constitute an imminent and serious threat to his/her life and health shall be protected from any resulting consequences, pursuant to the applicable rules and regulations.

**Article 20:**

No drinking and eating shall take place in unauthorized places.

Necessary precautions shall be ensured to protect the workers from the risks of exposure to chemicals that are used and that may infiltrate into the workplace atmosphere, within the internationally adopted limits.

There should be full compliance with the general precautions related to the storing of hazardous substances, such as: separating the storehouse from the production room and other utilities, building storehouses in conformity with fire-fighting and temperature insulation standards, together with proper ventilation for the stored substances, sufficient walkways facilitating access to all parts, and appropriate fire extinguishers.

The enterprise is bound to display warnings in the workplace in Arabic and any other language that the workers understand, for those among them who are exposed to the danger of toxic and cancerous chemicals. Moreover, it is bound to design educational and advisory programs to raise awareness about occupational cancer, implement the appropriate procedures and provide all available information related to the risks
that such exposure might involve and the measures that are to be taken.

**Article 21:**

Every enterprise that contains, involves or uses a source of ionizing radiations shall obtain a license from the Ministry of Labour and shall take all necessary precautions to guarantee an efficient protection of workers' safety and health from ionizing radiations to the minimum practically possible, in accordance with Table 2 annexed to the present Decree.

The Minister of Labour shall issue a decision determining the measures to be taken to:

- Reduce and limit the amount of exposure to radiations.
- Set the maximum allowed doses and amounts of ionizing radiations, and review them on a regular basis.
- Set the appropriate levels of exposure to the radiation for workers who directly work in jobs involving radiation exposure and who are 18 and above.
- Set the appropriate levels of exposure to radiations, for workers who might temporarily be exposed to radiation.
- Warn about the tasks that may involve exposure to radiations.
- Train and inform workers exposed to radiations.
- Undertake appropriate measurement to ensure compliance with radiation exposure levels.
- Specify cases in which immediate necessary measure must be taken due to radiation exposure and degree.

The enterprise shall promptly notify the Ministry of Labour and competent authorities, in any means available, of the occurrence of any accident that led or might lead to pollution of the environment, the exposure of any person to an overdose of radiation, or when a source of radiation is lost, damaged or gone out of control, along with the details and causes thereof.

The enterprise shall keep special records on the sources of radiation and the occupational medical examination of workers exposed to radiation, in addition to the accidents that may occur to individuals or equipment and tools...

These records shall be confidential and shall be put at the disposal of the competent technical labour inspection team.
**Article 22:**

It shall be forbidden to assign or allow any worker to manually move any load that might, due to its weight, expose his/her health or safety to danger, in all circumstances in which he/she may be working according to Table 3.

The enterprise shall, to the extent possible, use the appropriate technical equipment in order to limit or facilitate the manual movement of loads. It shall equally take the appropriate measures to make sure that every worker assigned to manually transport any heavy loads, is capable of doing so and that he had sufficient prior training and guidance in all technical methods of work, in order to protect his health and prevent accidents.

It shall be forbidden to assign women and young persons to manually carry loads, except for light loads. The maximum weights allowed for them to carry, push or drag are determined in Table 3 annexed to this Decree.

**Article 23:**

The Ministry of Labour shall specify the necessary measures needed to protect the workers' eyes from particles and fragments that may emanate while working, the necessary measures to protect their hands and hearing when using machines that cause distressing noises, and the necessary measures to protect workers from moist in the underground locations of the workplace. The following measures for prevention and safety at work shall be determined by decisions of the Minister of Labour:

1. Determine the methods of work, substances and factors of exposure that should be prohibited, restrained, authorized by the Ministry or controlled. The health risks that result from simultaneous exposure to different substances and factors shall be also considered.

2. Elaborate and implement procedures related to the notification made by the employers of the occupational accidents and diseases and prepare the relevant statistics.

3. Undertake investigations when it is discovered that occupational accidents and diseases or other health damages that are occurring during work or are related thereto, imply the presence of dangerous conditions.

4. Introduce or expand a system for testing the danger of chemical, physical, mechanical and biological factors on the health of workers.

**Article 24:**

The employer shall provide the workers with the appropriate personal prevention and protection uniforms and gears, ensure their maintenance and preserve them in good conditions for later use, without the workers being liable to pay any costs. Wearing the uniforms outside the workplace shall be prohibited.
Chapter II: Health

Article 25:
Every enterprise shall endeavour to keep the workplace clean and free of harmful smells emanating from any sewage or sanitary utility, and prevent keeping any substances that are liable to decomposition inside the workplace by gradually disposing of them or placing them in securely locked metallic reservoirs that are evacuated and cleaned on a daily basis.

Harmless solid waste and solid waste involving harmful substances shall be separated in the workplace.

Harmless solid waste shall be put in special bags and containers and disposed of on a daily basis. On the other hand, solid wastes that contain harmful substances shall be separated and put in special containers to be later transported to special places determined by the competent authorities.

Article 26:
No work shall be executed in wells, gas canals, waste water tanks or any other place that contains harmful gases before the work environment is treated and the necessary preventive measures are taken to protect the workers from any dangers resulting from any gas, dust, smoke or waste that might develop during work.

Article 27:
If the nature of work causes floor moistening and water accumulation thereon, the floor shall be equipped with sufficient drainage systems and these systems shall remain in good condition. The floor shall be solid, even and free of pits, holes and other obstacles that might cause the workers to stumble, fall or collide. Floor holes that are necessary for work requirements shall be firmly covered or fenced to prevent the workers and objects from falling therein.

Article 28:
Sufficient and appropriate sanitary utilities shall be provided for workers working in the enterprise; they shall be kept clean and equipped with
lighting. Their floors shall be solid and their doors shall be full length and locked from the inside.

One water closet including a toilet seat and a lavatory shall be provided for every 15 workers. The water closet shall be close and easily accessible; however they shall not be directly open to the work areas but accessed through well ventilated main pathways.

Separate sanitary utilities shall be dedicated for women.

It is imperative to provide one shower for every 15 workers or less in industries that cause pollution to the workers' bodies by reason of harmful, toxic or dirtying substances.

The sanitary utilities and showers shall be equipped with soap and one towel for every worker, to be kept clean, or any other appropriate drying devices.

**Article 29:**

Drinking water shall be provided from sources placed in appropriate locations and easily accessible by all. The water shall be provided from a public source or any other source approved by the state physician or the enterprise physician. However, the water that workers drink from dispensers shall be changed once at least once a day and the dispensers shall clearly display the sign 'Drinking Water'.

**Article 30:**

Appropriate and sufficient space equipped with ventilation systems, good lighting and lockers shall be provided for workers to keep or change their uniforms during working hours. The uniforms shall be kept clean and in good condition.

Women and men's changing-rooms shall be separate.

**Article 31:**

The General Director of the Ministry of Labour may issue alternatives to all or part of the measures mentioned in the previous articles, for lack of space or given special circumstances that shall be mentioned in his/her decision.

**Article 32:**

Necessary and sufficient seating facilities shall be provided for workers who work while standing, as well as during the breaks allotted between working hours.

**Article 33:**

A kit or locker shall be provided comprising all necessary first aid products. In case the number of workers exceeded 50 persons, other kits shall be provided – i.e. one kit at least for every 50 workers. The kit or locker shall contain:

1- One unexpired antiseptic or sterilizer.
2- Unexpired sterilized gauze of different sizes.
3- An unexpired burn balm.
4- Medical bandages of different sizes and one elastic tourniquet to stop bleeding.
5- Various splints (metal or wooden pieces) to stabilize fractures and torsions.

The kit or locker shall not contain any items other than first aid materials.

The kit or locker shall be installed in a conspicuous location and its use shall be restricted to a person in charge of first aid administration.
Article 34:
All enterprises subject to the Code of Labour and having more than 15 workers shall appoint a physician who shall act as the "work physician", in case the latter does not exist, to supervise the medical condition of workers, take all prevention and health measures in the workplace and mitigate the risk of exposure to common diseases, occupational diseases and occupational accidents. Such enterprises shall notify the Ministry of Labour of their work physician/s' name. Pre-employment medical examinations are mandatory irrespective of the number of workers in the enterprise.

Article 35:
The physician's working hours shall be proportionate to the number of workers, i.e. at least one hour per month for every 15 workers.

Article 36:
Many enterprises may agree among each other to establish one medical dispensary. The said enterprises shall notify the Ministry of Labour of the existence and functioning of such dispensary.

Article 37:
Employers shall pay the fees of the physician of their enterprise. The worker shall not be liable to pay any costs related to clinical examinations and radiological and laboratory tests.

Article 38:
All workers in the enterprise shall undergo the following medical examinations:

- Pre-employment medical examination.
- Regular medical examination during employment as determined by the applicable rules and regulations, particularly for pregnant women and mothers of children under two years of age.
- Laboratory tests to follow the development of the worker's medical condition. The said medical and laboratory tests and examinations shall be carried out during working hours.
- The enterprise's physician shall administer the necessary basic health care before directing the worker to a specialized physician, and contribute to the improvement of work conditions in accordance with human physical capacity.
- Based on the medical, laboratory and radiological tests, the physician in the enterprise shall decide either to reinstate in their jobs the workers injured due occupational accidents or suffering from occupational diseases, or change their work if need be.
- The employer is required to notify the Ministry of Labour of occupational accidents within 24 hours after their occurrence, and report any occupational diseases promptly.

Awaiting the enforcement of the Occupational Emergency and Disease Security Unit within the National Fund for Social Security, the General Director of the Ministry of Labour shall set a list of occupational diseases.
and all the cases that should be reported. The said list shall be complemented or amended as the need may be.
The physician in the enterprise shall specify the number, mode and timing of the said examinations. He/she shall keep a medical record for every worker comprising the medical examination results and the health condition, the nature of the disease, the modes of treatment and the absenteeism period required due to sickness. The said files shall be put at the disposal of the physician who shall assume the task of labour inspector, when need be.
The employer shall take the general measures of health protection in the workplace, especially in relation to safety, lighting, ventilation, aeration, drinking water, lavatories, evacuation of dust and smoke, accommodation of workers and hygiene measures to protect workers from pollution by pathological biological factors. Moreover, the employer shall take the necessary precautions to store hazardous substances in special storehouses that are totally separate from other substances.

Article 39:
The employer shall be entitled to assign the physician of the enterprise to verify the accuracy of sick-leave reports submitted by workers pursuant to the Code of Labour.

Article 40:
Based on the General Director's suggestion and after consultation with the employer and workers in the enterprise, the Minister of Labour may issue a decision determining the necessary measures to be taken for the wellbeing of workers (eating place, rest area, library, etc...).
CHAPTER III

Safe use of chemicals at work

Article 41:
Identification tags shall be put on all containers of hazardous chemicals. The words on the tags shall be written in a language that all workers can understand. The tags shall indicate the risks of using the substance as well as safety precautions.

Article 42:
Employers shall be committed to:

a- Ensure that identification tags or signs are put on all containers of chemicals that are used at work, stored in the storehouses or used for commercial purposes.

b- Provide chemical safety information and allow workers (or their representatives) to take cognisance of the said information.

c- Abstain from using chemicals before obtaining sufficient information regarding the nature, characteristics and use-related risks of the substance.

d- Keep a record of the hazardous chemicals used in the workplace and facilitate the access of workers (or their representatives) involved in the use, movement or production of these substances to the said record.

Article 43:
The employers shall be committed to the following when transporting chemicals in containers or any other equipment:

a- Ensure that the containers are identified in a way that allows workers to recognize the nature of the substances and the risks they entail.

b- Ensure that safety precautions to be followed and applied are clear.

Article 44:
In the workplace, the employers shall be committed to:

a- Ensure that the workers are not exposed to chemicals to an extent that exceeds the allowed limits of exposure in the workplace, as specified by the competent authorities or acknowledged by the competent authority pursuant to national or international standards.

b- Ensure that records on workplace environment control and exposure of workers working with hazardous chemicals are kept.

c- Ensure that workers and their representatives have access to the said records.

d- Ensure that the said records are made available to the Safety, Prevention and Labour Inspection Unit at the Ministry of Labour.

Article 45:
Employers shall be committed to:
a- Adopt preventive measures related to occupational safety and health and use means of engineering control to protect workers from the risks of exposure to chemicals.

b- Provide personal safety gears and uniforms for the workers, maintain them and preserve them in a good condition for use without burdening the workers with any additional costs. Wearing the said uniforms outside the workplace shall be forbidden and the employer shall be responsible for washing, cleaning or sterilizing the same when need be.

c- Provide enough water for workers to wash or take a shower after their work hours, and before leaving work, and provide hygiene items such as soap and towels...

d- Provide sufficient quantities of fresh milk for workers.

e- Continuously train workers on the procedures and methods of chemicals' safe and sound use.

f- Display warnings to indicate the locations of hazardous and cancerous chemicals.

**Article 46:**

Hazardous chemicals shall be replaced by harmless or less hazardous chemicals.

**Article 47:**

Hazardous chemicals and their empty containers shall be disposed of in a manner that does not cause any damage neither to the environment nor to the safety and health of the residents, in accordance with the applicable laws.

**Article 48:**

In addition to the provisions of article 38 of the present Decree on medical and laboratory examinations of workers, all workers involved in the use of chemicals shall undergo regular laboratory tests to evaluate the degree of their exposure to such substances and follow any development in their health condition.

**Article 49:**

The workers shall be committed to:

a- Cooperate with their employers in the observance of prevention and safety measures related to the use of chemicals at work.

b- Refrain from taking work uniforms outside the workplace or to their houses.

c- Refrain from eating and smoking in the work areas.

d- Take a shower before leaving work.
Article 50:

1- The employer shall provide all protection gears and sufficient firefighting devices including alarms, and regularly ensure their maintenance to keep them in good condition for use.

2- Chemicals shall be stored in rooms and buildings isolated by fireproof and thermal insulation walls.

3- A low temperature shall be ensured in chemicals’ storehouses, depending on the nature of such chemicals, through an efficient cooling system.

4- The width of walkways in chemicals’ storehouses shall be at least 60 cm.

5- Emergency and rescue exits shall be provided in the workplace, to be used in case of fire.

6- Electrical cables, wires and joints shall be coated with insulating substances, within a secure system, and regularly maintained by a specialist.

7- An emergency and rescue plan shall be set by a team specially trained for this purpose.

Article 51:

The Safety, Prevention, and Labour Inspection Unit at the Ministry of Labour may take cognizance of the scientific and commercial names of chemicals used in all enterprises subject to the Code of Labour, in order to determine the security levels of hazardous and harmful chemicals.

Article 52:

In case the use of hazardous substances, technologies or processes is prohibited in a country exporting such substances, the employer shall get all information related to their danger and use.
CHAPTER IV
Prevention from the dangers of working with benzene

Article 53:
1- Measures that prevent the leaking of aromatic benzene vapours (C6H6) in work areas and storehouses, and from containers of aromatic benzene (C6H6) and its derivatives, shall be taken.
2- Operations that involve the use of aromatic benzene and its derivatives shall be carried out in closed equipment isolated from the work environment.
3- Alternative harmless or less harmful substances shall be used instead of benzene or products that contain benzene.
4- The employer shall guarantee that the concentration of benzene in the workplace atmosphere where workers are exposed to benzene or products containing benzene shall not exceed a maximum of 80 mg/m³.
5- Workers who are allowed to touch benzene or products containing benzene shall be equipped with sufficient devices for personal protection from the risks of absorbing benzene through the skin.
6- Workers who may, for special reasons, be exposed in the workplace atmosphere to degrees of benzene concentration that exceed the above mentioned maximum, shall be equipped with gear for personal protection from the risks of inhaling benzene vapour, and the amount of exposure shall be limited to the extent possible.

Article 54:
Workers who are to carry out processes that involve exposure to benzene or products containing benzene shall undergo a comprehensive medical examination before recruitment, to ensure they are fit for the job, including a blood test and regular medical check ups every 6 months during work, together with biological examinations that include a blood test.
The said medical examinations shall be performed to the responsibility of a qualified physician whose name shall be notified to the Ministry of Labour.
The examinations shall be officially and duly authenticated.
The workers shall not be liable to pay any ensuing costs.

Article 55:
Women who are medically proven to be pregnant, breastfeeding mothers and juveniles shall not be employed in a work that involves exposure to benzene or products containing benzene.
Article 56:
The word ‘Benzene’ and ‘Danger’ signs shall be visibly marked on any container containing benzene or products containing benzene.

Article 57:
The Ministry of Labour shall issue, in coordination with other concerned ministries, two lists, one for hazardous chemicals and one for cancerous chemicals. Each of the lists shall identify the substances which use shall be absolutely prohibited and substances which use shall be allowed after obtaining a prior consent from the Ministry of Labour.

CHAPTER V
General Provisions

Article 58:
Workers shall be given sufficient and appropriate information on the risks related to their work. They shall further be entitled to stay away from any location at work, in case circumstances arise and make them reasonably think that a danger is threatening their safety or health. They are required in such circumstances to inform their supervisor. The workers shall also be informed of any legal texts or guidelines pertinent to the rules of occupational safety and health.

Article 59:
Workers shall strictly abide by all guidelines and instructions related to the rules of occupational safety.

Article 60:
Starting the issuance of the present Decree, no license shall be issued for the establishment of any industrial enterprise without the consent of the Ministry of Labour and other competent ministries.

Article 61:
Courts looking into actions resulting from the violation of any of the provisions herein shall be entitled to stop the use of machines, interrupt the works that cause the damage and determine the measures that shall be taken to prevent danger, over and above the sanction stipulated in the applicable laws.
Article 62:
Confidential information transmitted to the competent authority and which disclosure may prejudice the employer's project shall be protected, provided always that the confidential nature of this information does not expose the workers, the public or the environment to great risks.

Article 63:
This Decree shall become applicable three months after its publication in the Official Gazette.

Article 64:
The Minister of Labour shall be entitled to expand the period preceding the application of the present Decree for a maximum of three months, if difficulties were faced in carrying out the necessary reforms.

Article 65:
All previous texts that are inconsistent with or contradictory to the provisions of the present Decree shall be considered null and void.

Article 66:
This Decree shall be published and notified when need be.


Issued by the President of the Republic
Emile LAHOUD (signature)

Prime Minister
Rafiq HARIRI (Signature)

Minister of Labour
Assaad HARDANE (Signature)
مرسوم رقم 11802

 يتعلق بتنظيم الوقاية والسلامة والصحة المهنية في كافة المؤسسات الخاضعة لقانون العمل

إن رئيس الجمهورية
بناء على الدستور،
بناء على أحكام قانون العمل لا سيما المواد 8 و 61 و 62 و 64 و 65 و 113،
بناء على اتفاقية العمل الدولية المبرمة بموجب المرسوم التشريعي رقم 70 تاريخ 1977/6/25 و رقم 115 (الحماية من الإشعاعات) و رقم 120 (القواعد الصحية في التجارة والمكاتب) و رقم 127 (الحد الأقصى للوزن) و رقم 77 (الفحص الطبي للأحداث في الصناعة) و رقم 78 (الفحص الطبي للأحداث في المهن غير الصناعية)، والاتفاقيات رقم 136 (بشأن النزاعات) و 139 (بشأن السرطان المهني)، و 176 (بشأن السلامة والصحة في المناجم التي انضمت إليها الحكومة اللبنانية) بموجب القانون رقم 116 تاريخ 25/10/1999.
بناء على المرسوم رقم 6341 تاريخ 24/10/1951 المتعلق بتنظيم الحماية الصحية في كافة المؤسسات الخاضعة لقانون العمل.
بناء على اقتراح وزير العمل،
وبعد استشارة مجلس شؤون الدولة (الرأي رقم 27 تاريخ 28/10/2003)
وبعد موافقة مجلس الوزراء بتاريخ 22/12/2003،

يرسما ما يأتي:

المادة 1: يلغى المرسوم رقم 6341 تاريخ 24/10/1951 المتعلق بتنظيم الحماية و الوقاية الصحية في كافة المؤسسات الخاضعة لقانون العمل، ويستبدل بالنصوص التالية:

المادة 2: تمديد أحكام هذا المرسوم على جميع أصحاب العمل وعلي كافة المؤسسات الخاضعة لها في المادة الثالثة من قانون العمل، وكذلك على مهن الحرفية والأسرية.
الفصل الأول: الوقاية والسلامة

المادة 3: على صاحب العمل وضع سياج محكم في ألة ماكنة التالية:
1- حول كل دوارة رأساً بمحرك الدوارة والدوارة المتحرك في محرك الدوارة والدوارة الرقابية في الألة أولاً.
2- حول رأس وطرف كل دوارة ماني وكل دوارة دائرة.
3- حول جميع المواد الكهربائية والمحميات الدوارة الدواي والوقاية المتعلقة به إلا إذا كانت بوضع أو تركيب لا يشكل خطراً كما لو كانت محاطة بسياج محكم.
4- حول كل جزء من أجزاء الالة الدائرة الذي يمكن أن يشكل خطراً.
5- حول كل جزء خطر من أي ماكنة كانت خلاف المحولات الرقابية والديل للانقاذ.

ابتدأ ذلك الجرة في وضع أو تركيب لا يشكل خطراً.

يجب أن تتوفر في حوادث الوقاية المشار إليها اعلاه ما يلي:
- ان تحقق انتظام الالة الكاملة من الخطر الذي وضعت لجاته.
- ان تتحمل دون ملاحظة اجزاء من منطقة الخطر طوال فترة التشغيل.

أن لا تعيق الإجراء في اي مكانهم أو اشكال الوقاية من الالات أو اشغالها. أما إذا نزعت من مكانها بغض القيم بأعمال الصيانة، فيجب قطع التيار الكهربائي عنها قبل القيام بهذه الأعمال. وقبل إعادة تشغيلها مرة ثانية.

يجب تزويد جميع معدات العمل الميكانيكية المتصلة والتي تستخدم في الطرق العامة بالفرامل والوقاية القوية فضلاً عن وسائل تثبيتها بقوة أثناء العمل على الطرق، كما يجب تزويدها باستراحات تجريبية صورية أو ضوهية إماحية وخلفية.

على كل سائق رافعة أن يكون لائق طبياً وحائزاً على خصائص صالحة لقيادة الرافعة، ويجب عليه إتباع قواعد السلامة في القيادة وعليه أيضاً ان يفصل كابليات البطارية عنها عند الانتهاء من العمل.

يجب تعليق لوحات ارشادية بجوار الالات في مكان العمل لارشاد الإجراء على طريق العمل الصحيح واحتياطات الوقاية لواجب عليهم اتباعها.

وعلى أصحاب العمل اتخاذ التدابير التالية:

1- التحقق دورياً بانفسهم أو بواسطة اخصائيين من أن الالات أو المواد أو المواد التي يستعملها الإجراء لاترتيب إخطاراً على صحة وسلامة أولئك الذين يستعملونها.

2- توفير المعلومات الكافية واللازمة بشأن الطريقة الصحيحة لتركيب واستعمال الالات والمعدات والاستخدام السليم للمعدات. وتوفير معلومات عن إخطار الالات والمواد، وعن الخصائص الخطيرة للمعدات الكهربائية والمواد أو المواد أو المنتجات الفيزيائية والبيولوجية، وكذلك تعلميات بشأن كيفية تجنب الاخطار.
المادة 4: أن استعمال الماكينات الجديدة بواسطة القوة الميكانيكية تخضع لترخيص مسبق من وزارة العمل بناء على تقرير يرفعه مفتش العمل المهندس.

المادة 5: كل من يستعمل ماكينة جديدة بواسطة القوة الميكانيكية دون ترخيص مسبق يعاقب وفقاً للمادتين /107/و/108/ من قانون العمل.

المادة 6: على كل مؤسسة تعرضت لحادث أو حريق أن تبلغ وزارة العمل خطيًا بالامر خلال مدة أقصاها 24 ساعة وعلى أربعة رسائل بحوادث العمل إلى الوزارة مرة كل ستة أشهر.

يقوم مفتش العمل المهندس بإجراء كشف على الآلات التي تعرضت للحادث أو الحريق ويتخذ مدير عام وزارة العمل، نتيجة للتحقيق، القرار المناسب بشأن رخصة استعمال المحركات.

على صاحب العمل أن يوفر الوسائل الضرورية لمنع الحريق وأن يؤمن آجزة الاطفاء المناسبة للمواد الموجودة في المؤسسة والمواد المستعملة في الصناعات، وعليه التقيد بوجه خاص بما يأتي:

1- توفير المداخل والمخارج والسلامة بما يمكن العمل بحيث يسهل معها للأجرة سرعة الخروج عند تراحم ونشوب حريق ووضع الأشارات واللافتات المناسبة للمخارج الناجحة.

2- تأمين وسائل مكافحة الحريق بحيث تكون صالحة دائماً لتأدية الغرض منها وحرة من كل عائق، وفي أماكن تسهل الوصول إليها ووضع لافتات تشير إلى موقعها.

3- تأمين وسيلة للانذار في حال نشوب الحريق.

4- تعليل لافتات ارشادية لتجنب الحريق أو مسبباته في الاماكن القابلة للأشتعال بمواصفات العمل.

5- إعداد خطة للطوارئ والانقاذ وتعيين مسؤول عنها وتدريب جهاز خاص من اجراء المؤسسة لتنفيذ اجراءات هذه الخطة.

المادة 7: مع مراقبة الأحكام القانونية المرعية الإجراءات المتعلقة بالشروط التنظيمية الخاصة بالسلامة العامة والوقاية من الحريق في الأبنية، تحدد وزارة العمل التدابير الواجب اتخاذها في المؤسسات الخاصة لأحكام قانون العمل وذلك لتлимين الهرب على آثار حريق والتدابير الواجب اتخاذها لتجنب وقوعه. وعلى صاحب العمل أن يخلق في مكان ظاهر من امكانيات العمل تعليمات مفصلة بشأن وسائل منع الحريق وحماية الاجراء من الاختبار التي قد يتعرضون لها أثناء تأدية عملهم وذلك باللغة العربية وبلغة أخرى يفهمها الأجراء.
المادة 8: كل وعاء مثبت أو حفرة تعلو عن المتر الواحد من الأرض المجاورة أو الرصيف المجاور يجب أن يغطى بسياج محكم لا يقل علوه عن 90 سنتيمترا، وإذا تعذر ذلك بالنظر لطبيعة العمل يجب اتخاذ التدابير الواقية لدرء الخطر بمعرفة وموافقة مختص.

المادة 9: مع مراعاة الأحكام القانونية المرعية الإجراء المتعلقة بتحديد الشروط الفنية والوقاية الخاصة بمتطلبات السلامة العامة في تجهيزات المصاعد، يجب أن يكون كل مرفوع أو مصعد مثبت التركيب من الوجهة الميكانيكية وإن تنصاب أبوابه والاقفال المتصلة به بحيث لا تفتح إلا عند وقوف الكابين عند فتحات الأبواب، كما يجب أن لا يتحرك المصعد إلا بعد قفل الباب.

يجب أن يوضع على كل مصصع بيان بقوة حمولته ويظهر تحميله أكثر من المقرر له، كما يجب أن لا يدخل في تصنيعيه مواد قابلة للاشتعال، وأن يزود بوسيلة تهوية إضاءة كافية ووسيلة للاستفادة في حال توقف المصعد.

يجب أن تكون هناك صيانة دورية للمصعد من قبل شركة متخصصة في المصاعد.

المادة 10: يوضع على كل سلم أو درج درايين يدوي متين التركيب. ويجب أن تسند جميع الإدراج والمرات والمراعاب حواجز متينة. كما يجب أن تساند كل فوهة موجودة في أرض المؤسسة.

المادة 11: كل بناء يراد انشاؤه يزيد علوه عن الثلاثة أمتار يجب أن يساند ويوضع حوله حاجز كما يجب تجهيزه بالأدوات التي تمكن الأشخاص الموجودين فيه من تثبيت أقدامهم واديهم عند الحاجة.

المادة 12: إذا أجري العمل داخل حفرة أو حوض خزان أو حفرة أو بئر مدخنة أو أي محل آخر يتصاعد منه ابخرة خطرة إلى حد يتعرض فيه الإجراء لخطر، يجب اتخاذ التدابير اللازمة التي تحدد بقرار من وزير العمل. يوفر صاحب العمل معدات مناسبة للحماية الشخصية ويجب على صيانتها ويلزم الإجبار باستعمال معدات الوقاية الشخصية الموضوعة بتصرفها و المحافظة عليها.

المادة 13: يوضع جهاز خاص (شفاطة) حول الآلات التي تستعمل لتحريك أو نقل المواد التي ينبعث منها غبار قابل للتلوث أو الانفجار كما يوضع جهاز لمنع الغبار من التسرب إلى داخل المؤسسة أو الحيالية دون تجميع فيهما.

المادة 14: مع مراعاة القوانين والأنظمة المرعية الإجراء تطبق على كل مرجل بخاري سواء كان مفردا أو واحدا من عدة مراجل في صفف واحد الشروط التالية:
المادة 15: كل خزان للبخار لم يكن منشأ ومصانع على وجه يتحمل معه الحد الأقصى للضغط المسحوب به تشغيل المراجل أو الحد الأقصى للضغط الذي قد يكون في الماسورة الموصلة بين الخزان وأي مصدر آخر من مصادر البخار يجب أن يجهز بما يلي:

1. صمام مسحوب أو جهاز اوتوماتيكي ملانام يحول دون تجاوز الحد الأقصى للضغط
2. صمام ملانام يمكن البخار من الخروج أو جهاز ملانام يقطع البخار بصورة اوتوماتيكية
3. مقياس دقيق لضغط البخار.
4. صمام مسحوب وملام.
5. لوحة مكتوب عليها الرقم المميز ترتكب على خزان البخار ليمكن رؤيتها بسهولة.

يجب فحص الخزان مرة واحدة على الأقل كل سنتين وتحافظ شهادة الفحص ليطلع عليها مقتش العمل عند اللزم.

المادة 16: يجب أن توفر في كل خزان للهواء الشروط التالية:

1. بيان الحد الأقصى للضغط المسحوب تشغيله فيه بطريقة يمكن رؤيتها.
2. إذا كان خزان الهواء متصل بالكامل لضغط الهواء يجب أن يكون مشاهداً بحيث يستطيع أن يحمل الحد الأقصى للضغط الذي يمكن أن يكون في آلية الضغط أو يركب عليه جهاز يحول دون تجاوز هذا الحد الأقصى ويجهزه بثمن ملانام يسمح بخروج الهواء في حالة تجاوز الحد الأقصى، كما يجب أن يجهز مقياس ضغط دقيق للدلالة على مدى الضغط الموجود في الخزان ويجهاز ملانام لتفريغ الخزان ويجب أن تتد فيه فوهة لتنظيفه من الداخل ويجب أن يفحص مرة على الأقل كل سنتين.
المادة 17: يتوجب على صاحب العمل أن يمسك سجلاً بدون فيه نتيجة هذه الفحوصات، وعليه إبرازها للأجهزة المختصة عند الإقامة.

المادة 18: مع مراعاة الأحكام القانونية المرعية الإجراء الخاصпе للمواصفات والنسب الخاصة للحد من تلوث الهواء والمياه والترقب، يجب على كل مؤسسة أو كل معمل يتصادم به مضار أو الدخان أو الضجيج أو أي مادة مضهرة أو ملوثة أخرى تسبب ضراً للإُدّراج أن يضع جهاز أو أكثر خاصة على مصدر الضد، يحل دون تسربها إلى إمكانية العمل وإلى البيئة المجاورة.

لا يجوز إستعمال آلية إحترق ثابتة إلا إذا أعد جهاز لسحب الغازات الخارجة من المحرك في الهواء الطالق بعد المعالجة، وما لم تكن الألاة معزلة عن غرف العمل.

المادة 19: يجب الحد من تعرض الأجزاء للضوضاء والضجيج والإهتزات بحيث لا تزيد مدة التعرض عن المقدر المحدد في الجدول رقم (1) الملحق بهذا المرسوم، يجب أن يجري فحص طبي للسمع قبل التعيين وفحوص أدمية للإجارة في منطقة الضجيج ومقرات الفحوص الأولي، وعلي صاحب المؤسسة أن يضع لائحة على مدخل المؤسسة وفي جميع أنحاء مراكز العمل الأكثر عرضة للضجيج تتب الأجزاء إلى إزامية إستعمال الأجهزة الواقية الشخصية ضد الضجيج. عندما يكشف أن عمل الأجزاء المستمر يتزوي على تعرض لثوان الهواء والضوضاء أو الإهتزازات غير مستضيوب طبياً، يحال كل جهد وضم النوافذ والأنظمة المرعية الإجراء، لنقل الأجزاء إلى عمل يديل مناسب مع الحفظ على راخته وربته ومستواه المهني، مما يجب على صاحب العمل استعمال الطرق العلمية الممكنة لمنع أو تقليل الضجيج والتهتزات.

ب. لا يتحمل الأديب المعني أي تكلفة نتيجة ذلك، وعليه الإلتزام بالإجراءات السلمية المتعلقة بالوقاية من الأفكار المهنية الناجمة عن تلوث الهواء والضوضاء والاهتزازات في بيئة العمل.

لا يجب أن تؤدي تدابير الوقاية والحماية هذه إلى آثار تضر بحقوق الأجزاء القانونية.

كما يجب أن تكفل حماية الأجهز الذي ينسحب من موقع عمل يعتقد أنه يسبب تهذيداً وشيكة وخطيراً لحياته أو صحته، مما قد يربته إنسحابه من عواقب وذل وفقاً للأحكام وأنظمة المسرعات الإجراء.
المادة 22:
يجب أن يكفلك أي أمير أو أن يسمح له بالإقراض على أن ينقل يدوي أي عمل قد يؤدي بسبب وزنه إلى تعرض صحته أو سلامته للخطر، وذلك مع مراعاة جميع الظروف التي تؤدي فيها العمل وفق الجدول رقم (3).

يجب على المؤسسة أن تستخدم بقدر المستطاع الأجهزة التقنية المناسبة بقصد الحد من النقل اليدوي للأحمال أو تسهيله. ويجب عليها أيضا أن تتخذ الخطوات المناسبة لضمان أن يكون كل أمير يكلف بنقل يدوي للأحمال غير خفيفة الوزن موها للقيام بذلك وقد تلقى قبل التكليف التدريب أو الإرشاد الكافيين في مجال الأساليب الفنية للعمل بهدف حماية الصحة ومنع الحوادث.

يجب في تلك اللجان والأحداث بالنقل اليدوي للأحمال بخلاف الأحمال الخفيفة اما أقصى أوزان الأحمال التي يسمح لهؤلاء بحملها أو بدفعها أو بجرها فهي محددة في الجدول رقم (3) المرفق في هذا المرسوم.

المادة 23:
تحدد وزارة العمل التدابير اللازمة لوقاية عيون الأجزاء من الذرات أو الشظايا التي تتطاير أثناء القيام بالعمل، والتدابير الخاصة بوقاية الأيدي و السمع عند استعمال آلات بصر عنها أصوات مزعجة، والتدابير اللازمة لوقاية الأجزاء من الوطوبة في أماكن العمل الموجودة تحت سطح الأرض. كما تحدد بقرارات من وزير العمل التدابير التالية لتنظيم الوقاية والسلاسة:

1- طرق العمل والمواد وعوامل التعرض التي يجب معناها أو تقبيها أو إخضاعها لتصرييح من الوزارة أو لمراكبتها، و تؤخذ في الإعتبار الأخطار الصحية التي تنجم عن التعرض لعدة مواد أو لعدة عوامل في آن واحد.
2- وضع وتطبيق إجراءات بشأن قيام أصحاب العمل بالإبلاغ عن الحوادث والأمراض المهنية، وإعداد الإحصاءات الخاصة بها.
3- إجراء التحقيقات عندما يتبنى حالات الحوادث المهنية أو الأمراض المهنية أو أضرار صحية أخرى تحت أثناء العمل أو تكون لها صلة به، تعكس وجود أوضاع خطيرة.
4- إدخال أو توسيع نظم فحص العوامل الكيميائية والفيزيائية والبيئية و البيولوجية من حيث خطورتها على صحة الأفراد.

المادة 24:
يجب على صاحب العمل توفير معدات وملابس الوقاية والحماية الفردية للإجراة، وصيانتها والحفاظ عليها في حالة صلاحية للاستعمال دون تحميل الإجراء أي تكالفة على أن يحظر استعمال الملابس خارج امكانيات العمل 0
الفصل الثاني: الصحة

المادة 25: على كل مؤسسة أن تحافظ على إبقائها أمانة العمل ونظافة خالية من الرائحة المضررة بالصحة والمنبعثة من أي مجرى أو مرفق صحي، وأن توقف دون إبقاء المواد القابلة للفونة داخل أماكن العمل بتصرفات تدريجة أو وضعها في خزانات معدنية محكمة الاقفال. يجري تفتيشها وتنظيمها يوميًا.

يجب أن تفصل في مكان العمل، الفضلات الصلغة غير الضارة عن الفضلات السلبية والحالوية على مواد ضارة.

تم تصريف الفضلات الصليبة غير الضارة بواسطة أكياس وحاويات خاصة بها حيث يتم التخلص منها يوميًا. أما الفضلات السلبية والحالوية على مواد ضارة فيتم تفصولها ووضعها في حاويات خاصة لتنقل في ما بعد إلى أماكن خاصة تحد من قبل الجهات المختصة.

المادة 26: لا يوجد القيام بالعمل في الأبار ومجاري الغاز وآبار المياه القنطرة أو في أي مكان يحتوي على غازات مضرة إلا بعد مقابلة بيئة العمل واتخاذ الاحتياطات اللازمة لوقاية الأجزاء من الاضرار الناتجة عن أي غاز أو غير أو دخان أو نفايات قد تؤثر أثناء العمل.

المادة 27: إذا كان نوع العمل يؤدي إلى ترشيب الأرض لدرجة تجمع فيها المياه، يجب أن تجهز الأرض بوسائل كافية لتصريف المياه وأن تبقى هذه الوسائل في حالة جيدة.

كما يجب أن تكون الأرض صليبة ومستوية وغطية من الحفر والقوقب وغيرها من العوائق التي قد تسبب التعثر أو السقوط أو الاصطدام 0 وان تغطي الفتحات الأرضية اللازمة للبدء بالعمل بأعطية مثبتة أو وضع سياج حولها لمنع سقوط الأجزاء والأشياء في هذه الفتحات.

المادة 28: يجب انشاء مراقب صحية كافية وملاحقة للأجزاء الذين يعملون في المؤسسة والمحافظة على نظافتها و tànيرتها، وصنع أرضا من مادة صليبة ووضع أواباب كاملاً لها تقلل من الداخل.

تخصيص دورة مياه مكونة من محراث ووحوض بتحفية بمعدل نورة لكل 15 اجيرا، ويجب ان تكون دورة المياه قريبة وفي أماكن يمكن الوصول إليها بسرعة، ولا تتخفى على أماكن العمل مباشرة بل يجب ان يكون الدخول إليها بواسطة ممر رئيسى تهوته جيدة.

تخصيص مراقب صحية مستقلة للثلاث.

تكون المرشبات (الدوش) الابراجية بسماة واحدة لكل 15 اجيرا أو أقل في الصناعات التي ينتج عنها تلوث جسم الأجزاء بماء ضارة بالصحة أو سامة أو تؤثر على نظافتها. تزود المراقب الصحية والمرشبات بالصابون ومتشمدة خاصة لكل اجيرا تجيز بحالة نظيفة أو بوسائل التنقية المناسبة.
المادة 29: ينبغي تأمين مياه صالحة للشرب بواسطة موارد توضع في مراكز ملائمة بطريقة يسهل على جميع الأفراد الوصول إليها، وأن تكون هذه المياه من موردين موثوقين. أما المياه التي تتوفرها الجهات المختصة من الأوعية فيجب أن تمتزج ماء الشرب في وسائل يمكن اعتبارها بديلاً للمياه محتوية على غازات وفعلت عن غرغرة الرجال.

المادة 30: يجب اتباع إماكنا ملائمة وموزعة وسائط تهوية وإنارة كافية وخزانات لوضع ملابس الأفراد أو تدفقتها خلال ساعات العمل. يجب أن تكون الملابس بحالة جيدة ونظيفة.

المادة 31: يمكن لمدير عام وزارة العمل تقرير بدائل عن التدابير المذكورة في المادة السابقة أو من بعضها أما لضيق المكان أو لوجود ظروف خاصة تذكر بقراره.

المادة 32: يجب تأمين الوسائط اللازمة والكافية لجلسات الإجراءات والأعمال الذين يقومون باعمالهم، وهم وافقون، وكذلك أثناء الفرص التي تتاح لهم للاستراحة أثناء أوقات العمل.

المادة 33: يجب وضع صندوق أو خزانة تحتوي على المواد اللازمة للإسعاف الأولي. وإذا زاد عدد الأفراد عن خمسين شخصاً يجب وضع صناديق أخرى بمعدل صندوق واحد لكل خمسين شخص.

ويمكن استخدام الاصابات التالية:
1- دواء مطهر أو مكمل غير منتظمية مدة صلاحيتها.
2- شام مكمل من مختلف القيادات غير منتظمية مدة صلاحيتها.
3- دواء للحروق غير منتظمية مدة صلاحيتها.
4- إبرية طبية من مختلف القيادات بما فيها ربط ضاغط من الهيكل لقطع النزيف.
5- جوهر مختلفة (شرائح معدنية أو خشبية) لتشتيت الكسور والاختلال.

لا يجوز أن تحتوي الصناديق أو الخزانة على أدوات خلاف أدوات لوازم الإسعاف الأولي يوضع الصناديق أو الخزانة في مكان ظاهر، ويعهد باستعماله إلى مسؤول في تقديم الإسعافات الطبية.

المادة 34: على جميع المؤسسات التي تخضع لقانون العمل، والتي يزيد عدد الأفراد فيها عن خمسة عشر إبراراً، أن تكون لديها طبيب يقوم بمقد "الطبيب العمل" في حال عدم وجوده، وذلك لمراقبة حالة الأفراد الصحية والقيام بالوسائل الوقائية والصحية في أماكن العمل، وتخفيف خطر تعرض الأفراد للإصابات العادية والمهنية وحالات العمل.

وعلى هذه المؤسسات إبلاغ وزارة العمل عن اسم الطبيب أو اطلاع العمل فيها.

إن الفحص الطبي للاجراء قبل استخدامه هو ملزم بصرف النظر عن عدد الأفراد في المؤسسة.
المادة 35: تحدد ساعات عمل الطبيب بنسبة عدد الأجراء، وذلك ب معدل ساعة على الأقل في الشهر لكل خمسة عشر اجرا.

المادة 36: يحتوي لعدة مؤسسات الاتفاق فيما بينها لإيجاد مستوصف طبي واحد، وعلى هذه المؤسسات إبلاغ وزارة العمل عن وجود هذا المستوصف وتنظيم عمله.

المادة 37: يقوم أصحاب العمل بدفع أجرة الابطاء لديهم، ولا يترتب اية تكالف على الأجر بسباب المعايير السريرية والفحوصات المخبرية والشعاعية.

المادة 38: يتم اختزال جميع العاملين في المؤسسة للفحوصات الطبية التالية:

أ- الفحص الطبي قبل البدء بالعمل.
ب- الفحص الطبي الدوري خلال فترة العمل وفقا لما تحدده القوانين والأنظمة المعرفية للإجراءات، وخاصة للنساء الحوامل وأمهات الأولاد دون السنة الثانية من العمر.
ج- الفحوصات المخبرية لدراسة تطور الحالة الصحية للأجرا.
د- تتم هذه الفحوصات الطبية والمخبرية والمعايير خاصة خلال ساعات العمل.
ه- يقرر الطبيب في المؤسسة استنادا إلى الفحوصات الطبية والمخبرية والشعاعية إما إعادة الذين اصروا من الأجراء بحواض عمل أو مرض مهني إلى عملهم بعد الشفاء أو تغيير عملهم عند الاقتضاء.
و- يجب على صاحب العمل إبلاغ وزارة العمل عن حوادث العمل خلال 24 ساعة من وقوعها، كما يتوجب عليه، الإبلاغ عن الإضراب المهنية بالسرعة الممكنة.

إن اكتشاف عدم الالتزام بقانون التعامل الإداري أو عدم الالتزام بقانون الأمن والصحة المهنية، أو عدم الالتباس أو عدم الالتزام بالمادة 37، يتعين على مدرب عام وزارة العمل لائحة بالإضراب المهني وجميع الحالات التي يجب الإبلاغ عنها 0 تستعمل او تتعلق هذه اللائحة حسبما تقتضيه الظروف.

يحدد الطبيب في المؤسسة عدد وكيفية زمن هذه الفحوصات، وينظم ملف لكل أجر.

يوضح فيه نتيجة الكشفات الطبية وحالات المرض وانواعها وأطوار علاجه ومدة الإقفال عن العمل بسبب المرض 0 وضع هذا الملف تحت تصرف مختص العمل الطبيب عند الموظف.

يتخذ صاحب العمل التدابير العامة للوقاية الصحية في امكانته وحصوصا فيما يتعلق بتدبير السلامة والإشارة والتهيئة وتجديد الهواء والمياه الصالحة للشرب والمغازل واخراج الغبار والدخان ومناصفة الإجراءات، وتدوير النظافة لحماية الأجراء من التلوث بالعمرات الحية المسببة للأمراض، كما يتخذ الاحتياطات الوقائية اللازمة لخزن المواد الخطرة في مستودعات خاصة منفصلة نهائيا عن المواد الأخرى.
المادة 39: يحق لصاحب العمل أن يركب إلى الطبيب في المؤسسة التدقيق في صحة تقارير الأجازات المرتبطة التي يقدمها الآجر وفق احكام قانون العمل.

المادة 40: يجوز أن يصدر وزير العمل بناء على اقتراح المدير العام، و بعد التشاور مع صاحب العمل والأجراء في المؤسسة قراراً بتحديد فيه التدابير اللازمة لرفاهية الأجراء ( أمكنا تناول الطعام - غرفة استراحة - مكتبة الخ ...).

الفصل الثالث

السلامة في إستعمال المواد الكيميائية في العمل

المادة 41: توضع بطاقات تعريف على جميع المستوعبات التي تحتوي على مواد كيميائية خطرة، وتكون هذه البطاقات مكتوبة بلغة يسهل فهمها على الأجراء، وتبين هذه البطاقات مخاطر استعمال هذه المواد وإحتياطات السلامة.

المادة 42: يلتزم أصحاب العمل بما يأتي:
- ضمان وضع بطاقات تعريف أو علامات على جميع حاويات ومستوعبات المواد الكيميائية المستعملة في العمل أو الموجودة في المستودعات أو المستعملة لأغراض تجارية.
- توفير بيانات أوراق السلامة الكيميائية وتمكين الأجراء (أو ممثليهم) من الإطلاع على هذه البيانات.

المادة 43: يلتزم أصحاب العمل أثناء نقلهم للمواد الكيميائية في حاويات أو أية معدات أخرى بما يأتي:
- ضمان توضيح هوية الحاويات بطريقة يسهل على الأجراء معرفة هوية المواد ومخاطرها.
- ضمان توضيح إحتياطات السلامة المفترض إتباعها والتقيد بها.
المادة 44:
يتلزم أصحاب العمل في بيئة العمل:
أ. ضمان عدم تعرض الأفراد للمواد الكيميائية بما يتجاوز حدود التعرض المسموح بها في بيئة العمل، والتي تحددتها السلطات المختصة، أو التي تعترف بها السلطة المختصة وفقاً للمعايير الوطنية أو الدولية.
ب. ضمان الإحتفاظ بسجلات رصد بيئة العمل و تعرض الأفراد الذين يستعملون مواد كيميائية خطرة.
ج. ضمان توفير وصول الأفراد و ممثليهم إلى هذه السجلات.
د. الإلتزام بتوفير هذه السجلات إلى جهاز تقييم العمل و الوقاية و السلامة في وزارة العمل.

المادة 45:
يتلزم أصحاب العمل:
أ. إعتماد تدابير وسائل الوقاية و السلامة المهنية و الصحية و استعمال وسائل التحكم الهندسي لحماية الأفراد من أخطار التعرض للمواد الكيميائية.
ب. توفير معدات و ملابس الوقاية و الحماية الفردية للأفراد و صيانتها و الحفاظ عليها في حالة صلاحية للإستعمال دون تحمل الأفراد أي تكلفة إضافية. يجب أرداء هذه الملابس خارج مكان العمل و يكون مسؤولية العمل مسؤولة عن غسلها و تنظيفها أو تعديلها عند الضرورة.
ج. توفير المياه الكافية للإغسال أو لإنقاذ الأفراد بعد إنهاء عملهم و قبول مغادرة المؤسسة و توفير معدات النظافة مثل: الصابون و المناشف و....
د. تأمين كميات كافية لشرب الحليب الطازج للأفراد.
ه. تدريب الأفراد بصورة متواصلة على إجراءات و أساليب استعمال المواد الكيميائية بطريقة سليمة و آمنة.
و. وضع علامات تحذيرية للدلالة على أماكن تواجد المواد الكيميائية الخطرة أو المسرطنة.

المادة 46:
يتم استبدال المواد الكيميائية الخطرة بمواد غير خطرة أو مواد أقل خطرًا.

المادة 47:
يتم التخلص من المواد الكيميائية الخطرة و من حاوياتها و مستودعاتها الفارغة بطريقة غير ضارة بالبيئة بسلامة السكان و صحتهم و ذلك بما يتفق مع القوانين المرعية الإجراء.
المادة 48:
يخضع جميع العاملين بالمواد الكيميائية بالإضافة إلى ما ورد في المادة 38 من هذا المرسوم حول الفحوصات الطبية والخبرية للأجراء، لفحوصات مخبرية دورية لتقييم درجة التعرض لهذه المواد ومراقبتة تطور حالة الأجراء الصحية.

المادة 49:
يلزم الأفراد بما يأتي:
ا. التعاون مع أصحاب عملهم في الإستماع لإجراءات الوقاية وسلامة في العمل.
ب. الاشتراك في أخذ ملابس العمل إلى آخرة أمكنة العمل والى أماكن سكنهم.
ج. الإستماع عن تناول الأكل والتدخين في أماكن العمل.
د. الاستماع في دوامات قبل مغادرتهم عملهم.

المادة 50:
- يوفر صاحب العمل جميع الوسائل الوقائية والمعدات الكافية لمكافحة الحريق بما فيها أجهزة الإنذار، وعلى عليه فحصها دوريا لتفاقم صلاحية الاستعمال.
- يتم تخزين المواد الكيميائية في مكان وغرف معزولة بجدران تتمتع بخصائص مقاومة الحريق وعزل الحراري.
- يجب الحفاظ على حرارة مثالية في مستودعات المواد الكيميائية، وذلك وفقا لطبيعة هذا المواد، عبر نظام تشغيل آلي.
- ينبغي أن تكون عربات الاتصال في مستودعات تخزين المواد الكيميائية 60 سم على الأقل.
- يجب أن تتوقف في أماكن العمل مخارج احتذارية للهروب و النجاة في حال حصول حريق.
- يتم حفظ الكابلات والأشرطة التوصيلات الكهربائية بواسطة مواد عازلة وضمن نظام آمن وتغطية صلبية بواسطة شخص مختص.
- يجب أن تتوقف خطة للطوارئ، وإلقاؤها مع فريق مدرب لذلك خصيصا.

المادة 51:
يحق لجهة تفتيش العمل و الوقاية وسلامة في وزارة العمل الإطلاع على الأسماء التجارية والعلمية للمواد الكيميائية المستخدمة في سائر المؤسسات الخاضعة لقانون العمل وذلك لتحديد مستويات الأمان للمواد الكيميائية الخطرة والضارة بالصحة.

المادة 52:
إذا كان استخدام المواد أو التكنولوجيات أو العمليات الخطرة محظورة في دولة
المادة 53:

1. يجب أن تتخذ الإجراءات الكافِية بعدم تسبب أبخرة البنزين الأروماتيكي (C6H6) في مواقع العمل في مستودعاته و من حاويات و مستودعات البنزين الأروماتيكي (C6H6) و سائر مشتقاته.

2. يجب أن تتم العمليات التي تتطلب استعمال البنزين الأروماتيكي ومشتقاته في أجهزة مغلقة وموزولة عن بيئة العمل ومستودعاته.

3. تستعمل منتجات بديلة غير ضارة أو أقل ضرراً للاست무اسة عن البنزين أو المنتجات التي تحتوي على البنزين.

4. يضمن صاحب العمل ألا يتجاوز تركيز البنزين في جو أماكن العمل التي يتعوض فيها الإجراء للبنزين أو منتجات تحتوي على البنزين حداً أعلى لا يتجاوز قيمة القصوى (80 مجم/م³).

5. يزود الأفراد الذين يمكن أن يلامسوا بنزين أو منتجات تحتوي على البنزين بوسائل كافية للوقاية الشخصية من خطر امتصاص البنزين من خلال الجلد.

6. يزود الأفراد الذين يمكن أن يتعرضوا لأسباب خاصة لدرجات من تركيز البنزين في جو أماكن العمل. تتجاوز الحدود القصوى المشار إليها أعلاه، بوسائل الوقاية الشخصية من خطر استنشاق بخار البنزين و تكون مدة التعرض محدودة بقدر الامكان.

المادة 54:

يضخض الأفراد الذين يقرر استخدامهم في عمليات عمل تنظيماً على التعرض للبنزين أو منتجات تحتوي على بنزين للكشف طبي شامل قبل التعيين لأثاث صالحتهم لهذا العمل يتضمن فحصاً للدم و لكشف طبياً دورية، كل ستة أشهر، أثناء العمل، تتضمن فحوصاً بيولوجية تشمل فحصاً للدم تجري هذه الفحوصات الطبية تحت مسؤولية طبيب مؤهل، يبلغ عن إسمه إلى وزارة العمل.

وتصدق الفحوصات رسمياً وفقاً للأصول.

لا يتزوج من جراء ذلك أي نفقات بالنسبة للأفراد.

المادة 55:

لا تستخدم النساء اللواتي بثبت طبياً أنهن حوامل أو الأمهات المرضعات و
الأحداث، في عمل ينطوي على التعرض للبنزين أو لمنتجات تحتوي على بنزين.

المادة 56:
توضع كلمة "بنزين" ورموز " الخطر " الضرورية بحيث تقرأ بوضوح على أي وعاء يحتوي على بنزين أو على منتجات تحتوي على بنزين.

المادة 57:
يصدر عن وزارة العمل بالتنسيق مع الوزارات المعنية الأخرى، لانحاثان واحدة للمواضيق الكيميائية الخطرة وأخرى للمواضيق الكيميائية المسرطنة، يتحدث في كل لائحة المواد التي يجوز الاستعمالها بصورة مطلقة ومصادقة للمواضيق التي يسمح بإستعمالها بعد الإحصان على مواقعة مسبقة من وزارة العمل.

الفصل الخامس
أحكام عامة:

المادة 58:
يتم تعريف الأجراء تعريفاً كافياً و مناسباً بالمخاطر التي قد ترتبط بأعمالهم، كما يمكنهم الإنداد عن أي موقع في العمل إذا ظهرت ظروف تبدو مثيراً محتملاً للإعتقاد وجود خطر شديد على سلامةهم أو صحتهم، و عليهم إبلاغ المشرف على أعمالهم بذلك، كما يبلغ الأجراء بأي نصوص قانونية أو إرشادات تتعلق بقواعد السلامة والصحة المهنية.

المادة 59:
يتوجب على الأجراء التقيد التام بجميع التعليمات التي تتعلق بقواعد السلامة في العمل.

المادة 60:
لا يجوز الترشيح بإنشاء أية مؤسسة صناعية بعد صدور هذا المرسوم إلا بعد موافقة وزارة العمل والوزارات الأخرى المختصة.

المادة 61:
تعطي المحاكم الناظرة في الدعاوى الناتجة عن مخالفة أحكام هذا المرسوم حق وقف استعمال الآلات ووقف الأعمال الناتجة عنها الضرر وتعيين التدابير الواجب اتخاذها لتلافي الخطر وذلك علاوة على العقوبة المنصوص عنها في القوانين المرجعة الإجراء.

المادة 62:
يقضي حرابة المعلومات السلبية التي ترسل للسلطة المختصة و التي يمكن لكشفها أن
يسيء إلى مشروع صاحب العمل و بحيث لا تؤدي هذه السرية إلى مخاطر كبيرة على الأجراء أو الجمهور أو البيئة.

المادة 63:
تطبيق أحكام هذا المرسوم بعد إنقضاء ثلاثة أشهر على نشره في الجريدة الرسمية.

المادة 64:
يحق لوزير العمل منح مدة إضافية لا تتجاوز الثلاثة أشهر لتطبيق أحكام هذا المرسوم إذا واجدت صعوبات خاصة لإجراء الإصلاحات المطلوبة.

المادة 65:
تلغى جميع النصوص السابقة التي تختلف أحكام هذا المرسوم أو تتعارض مع أحكامه.

المادة 66:
ينشر هذا المرسوم و يبلغ حيث تدعا الحاجة.

صدر عن رئيس الجمهورية
الإمضاء: إميل لحود

رئيس مجلس الوزراء
الإمضاء: رفيق الحريري

وزير العمل

الإمضاء: أسعد حردان

بعداً في 30 كانون الثاني سنة 2004
<table>
<thead>
<tr>
<th>مدة التعرض المسموح بها (الساعات)</th>
<th>مستوى شدة الضوضاء (ديسيبل)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>4</td>
<td>88</td>
</tr>
<tr>
<td>2</td>
<td>91</td>
</tr>
<tr>
<td>1</td>
<td>94</td>
</tr>
<tr>
<td>1/2</td>
<td>97</td>
</tr>
<tr>
<td>1/4</td>
<td>100</td>
</tr>
</tbody>
</table>

1) برازي الأ يزيد مستوى شدة الضوضاء يقلل العمل عن (20) ديسيبل لتعرض مدته 3 مساعي بومسا ولا
2) برازي الأ يزيد مستوى شدة الضوضاء يقلل العمل عن (20) ديسيبل لتعرض مدته 3 مساعي بومسا ولا
3) برازي الأ يزيد مستوى شدة الضوضاء يقلل العمل عن (20) ديسيبل لتعرض مدته 3 مساعي بومسا ولا

تحدد مدة تعرض العمل لمستوى الضوضاء أعلا من (85) ديسيبل حتى (100) ديسيبل طبقاً للجدول.
4) في حالة التعرض لمستويات مختلفة من الضوضاء يزيد مستوى شدتها عن (90) ديسيبل لتعرض متقطعة خلال

ساعات العمل اليومي تستخدم تقريباً خريطة التعرض - المعادلة الأكثرة:

\[ I_1 + I_2 + \ldots + I_n \]
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
الحالة رقم (3)

الأساس المتعلق بالانتقال الذي يجوز للأحداث من الجنسين حملها أو دفعها أو جرها.

<table>
<thead>
<tr>
<th>الجنس/الجنس</th>
<th>الانتقال الذي يقع على عربة ذات عجلة واحدة</th>
<th>الانتقال الذي يقع على عربة ذات عجلتين</th>
<th>القاضي</th>
<th>الأحداث</th>
</tr>
</thead>
<tbody>
<tr>
<td>ذكور/إناث</td>
<td>لا يجوز تشغيل</td>
<td>لا يجوز تشغيل</td>
<td>0 كغم/0.5 كغم</td>
<td>200 كغم/100 كغم</td>
</tr>
<tr>
<td>من 12 سنة</td>
<td>150 كغم/0.75 كغم</td>
<td>150 كغم/0.75 كغم</td>
<td>من 15 سنة</td>
<td>200 كغم/100 كغم</td>
</tr>
<tr>
<td>لعمرة 15 سنة</td>
<td>150 كغم/0.75 كغم</td>
<td>150 كغم/0.75 كغم</td>
<td>لعمرة 17 سنة</td>
<td>200 كغم/100 كغم</td>
</tr>
</tbody>
</table>

الأساس المتعلق بالانتقال الذي يجوز للنساء حملها أو دفعها أو جرها.

<table>
<thead>
<tr>
<th>الجنس</th>
<th>الانتقال الذي يقع على عربة ذات عجلة واحدة</th>
<th>الانتقال الذي يقع على عربة ذات عجلتين</th>
<th>القاضي</th>
<th>الأحداث</th>
</tr>
</thead>
<tbody>
<tr>
<td>إناث</td>
<td>50 كغم/0.5 كغم</td>
<td>50 كغم/0.5 كغم</td>
<td>0 كغم/10 كغم</td>
<td>120 كغم</td>
</tr>
<tr>
<td>18 سنة فائقة</td>
<td>15 كغم/10 كغم</td>
<td>15 كغم/10 كغم</td>
<td>18 سنة فائقة</td>
<td>15 كغم</td>
</tr>
</tbody>
</table>

342
### جدول رقم (1)

<table>
<thead>
<tr>
<th>الحالة</th>
<th>العدد (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>صحيحة</td>
<td>50</td>
</tr>
<tr>
<td>مصابة</td>
<td>30</td>
</tr>
<tr>
<td>غير محددة</td>
<td>20</td>
</tr>
</tbody>
</table>

### جدول رقم (2)

<table>
<thead>
<tr>
<th>المستوى</th>
<th>عدد السكان</th>
</tr>
</thead>
<tbody>
<tr>
<td>المستوى الأول</td>
<td>1000</td>
</tr>
<tr>
<td>المستوى الثاني</td>
<td>2000</td>
</tr>
<tr>
<td>المستوى الثالث</td>
<td>3000</td>
</tr>
</tbody>
</table>

### جدول رقم (3)

<table>
<thead>
<tr>
<th>النوع</th>
<th>كمية (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>أشبال</td>
<td>45</td>
</tr>
<tr>
<td>نساء</td>
<td>35</td>
</tr>
<tr>
<td>أطفال</td>
<td>20</td>
</tr>
</tbody>
</table>

*نلاحظ أن الجدولين تعرضان بيانات مفصلة عن عدد السكان حسب المستوى والعنوان، حيث يمكن استخراج النتائج المطلوبة من خلال تحليل هذه البيانات.*
Appendix 11

ILO Convention 155 (1981) and its Recommendation 164
The General Conference of the International Labour Organisation,

Having been convened at Geneva by the Governing Body of the International Labour Office, and having met in its Sixty-seventh Session on 3 June 1981, and

Having decided upon the adoption of certain proposals with regard to safety and health and the working environment, which is the sixth item on the agenda of the session, and

Having determined that these proposals shall take the form of an international Convention,

adopts this twenty-second day of June of the year one thousand nine hundred and eighty-one the following Convention, which may be cited as the Occupational Safety and Health Convention, 1981:

PART I. SCOPE AND DEFINITIONS

Article 1

1. This Convention applies to all branches of economic activity.

2. A Member ratifying this Convention may, after consultation at the earliest possible stage with the representative organisations of employers and workers concerned, exclude from its application, in part or in whole, particular branches of economic activity, such as maritime shipping or fishing, in respect of which special problems of a substantial nature arise.

3. Each Member which ratifies this Convention shall list, in the first report on the application of the Convention submitted under Article 22 of the Constitution of the International Labour Organisation, any branches which may have been excluded in pursuance of paragraph 2 of this Article, giving the reasons for such exclusion and describing the measures taken to give adequate protection to workers in excluded branches, and shall indicate in subsequent reports any progress towards wider application.

Article 2

1. This Convention applies to all workers in the branches of economic activity covered.

2. A Member ratifying this Convention may, after consultation at the earliest possible stage with the representative organisations of employers and workers concerned, exclude from its application, in part or in whole, limited categories of workers in respect of which there are particular difficulties.
3. Each Member which ratifies this Convention shall list, in the first report on 
the application of the Convention submitted under Article 22 of the 
Constitution of the International Labour Organisation, any limited categories of 
workers which may have been excluded in pursuance of paragraph 2 of this 
Article, giving the reasons for such exclusion, and shall indicate in subsequent 
reports any progress towards wider application.

Article 3

For the purpose of this Convention—

(a) the term *branches of economic activity* covers all branches in which 
workers are employed, including the public service;

(b) the term *workers* covers all employed persons, including public 
employees;

(c) the term *workplace* covers all places where workers need to be or to go 
by reason of their work and which are under the direct or indirect control of the 
employer;

(d) the term *regulations* covers all provisions given force of law by the 
competent authority or authorities;

(e) the term *health*, in relation to work, indicates not merely the absence of 
disease or infirmity; it also includes the physical and mental elements 
affecting health which are directly related to safety and hygiene at work.

PART II. PRINCIPLES OF NATIONAL POLICY

Article 4

1. Each Member shall, in the light of national conditions and practice, and in 
consultation with the most representative organisations of employers and 
workers, formulate, implement and periodically review a coherent national 
policy on occupational safety, occupational health and the working 
environment.

2. The aim of the policy shall be to prevent accidents and injury to health 
arising out of, linked with or occurring in the course of work, by minimising, so 
far as is reasonably practicable, the causes of hazards inherent in the working 
environment.

Article 5

The policy referred to in Article 4 of this Convention shall take account of the 
following main spheres of action in so far as they affect occupational safety 
and health and the working environment:
(a) design, testing, choice, substitution, installation, arrangement, use and maintenance of the material elements of work (workplaces, working environment, tools, machinery and equipment, chemical, physical and biological substances and agents, work processes);

(b) relationships between the material elements of work and the persons who carry out or supervise the work, and adaptation of machinery, equipment, working time, organisation of work and work processes to the physical and mental capacities of the workers;

(c) training, including necessary further training, qualifications and motivations of persons involved, in one capacity or another, in the achievement of adequate levels of safety and health;

(d) communication and co-operation at the levels of the working group and the undertaking and at all other appropriate levels up to and including the national level;

(e) the protection of workers and their representatives from disciplinary measures as a result of actions properly taken by them in conformity with the policy referred to in Article 4 of this Convention.

Article 6

The formulation of the policy referred to in Article 4 of this Convention shall indicate the respective functions and responsibilities in respect of occupational safety and health and the working environment of public authorities, employers, workers and others, taking account both of the complementary character of such responsibilities and of national conditions and practice.

Article 7

The situation regarding occupational safety and health and the working environment shall be reviewed at appropriate intervals, either over-all or in respect of particular areas, with a view to identifying major problems, evolving effective methods for dealing with them and priorities of action, and evaluating results.

PART III. ACTION AT THE NATIONAL LEVEL

Article 8

Each Member shall, by laws or regulations or any other method consistent with national conditions and practice and in consultation with the representative organisations of employers and workers concerned, take such steps as may be necessary to give effect to Article 4 of this Convention.
Article 9

1. The enforcement of laws and regulations concerning occupational safety and health and the working environment shall be secured by an adequate and appropriate system of inspection.

2. The enforcement system shall provide for adequate penalties for violations of the laws and regulations.

Article 10

Measures shall be taken to provide guidance to employers and workers so as to help them to comply with legal obligations.

Article 11

To give effect to the policy referred to in Article 4 of this Convention, the competent authority or authorities shall ensure that the following functions are progressively carried out:

(a) the determination, where the nature and degree of hazards so require, of conditions governing the design, construction and layout of undertakings, the commencement of their operations, major alterations affecting them and changes in their purposes, the safety of technical equipment used at work, as well as the application of procedures defined by the competent authorities;

(b) the determination of work processes and of substances and agents the exposure to which is to be prohibited, limited or made subject to authorisation or control by the competent authority or authorities; health hazards due to the simultaneous exposure to several substances or agents shall be taken into consideration;

(c) the establishment and application of procedures for the notification of occupational accidents and diseases, by employers and, when appropriate, insurance institutions and others directly concerned, and the production of annual statistics on occupational accidents and diseases;

(d) the holding of inquiries, where cases of occupational accidents, occupational diseases or any other injuries to health which arise in the course of or in connection with work appear to reflect situations which are serious;

(e) the publication, annually, of information on measures taken in pursuance of the policy referred to in Article 4 of this Convention and on occupational accidents, occupational diseases and other injuries to health which arise in the course of or in connection with work;

(f) the introduction or extension of systems, taking into account national conditions and possibilities, to examine chemical, physical and biological agents in respect of the risk to the health of workers.
Article 12

Measures shall be taken, in accordance with national law and practice, with a view to ensuring that those who design, manufacture, import, provide or transfer machinery, equipment or substances for occupational use—

(a) satisfy themselves that, so far as is reasonably practicable, the machinery, equipment or substance does not entail dangers for the safety and health of those using it correctly;

(b) make available information concerning the correct installation and use of machinery and equipment and the correct use of substances, and information on hazards of machinery and equipment and dangerous properties of chemical substances and physical and biological agents or products, as well as instructions on how known hazards are to be avoided;

(c) undertake studies and research or otherwise keep abreast of the scientific and technical knowledge necessary to comply with subparagraphs (a) and (b) of this Article.

Article 13

A worker who has removed himself from a work situation which he has reasonable justification to believe presents an imminent and serious danger to his life or health shall be protected from undue consequences in accordance with national conditions and practice.

Article 14

Measures shall be taken with a view to promoting in a manner appropriate to national conditions and practice, the inclusion of questions of occupational safety and health and the working environment at all levels of education and training, including higher technical, medical and professional education, in a manner meeting the training needs of all workers.

Article 15

1. With a view to ensuring the coherence of the policy referred to in Article 4 of this Convention and of measures for its application, each Member shall, after consultation at the earliest possible stage with the most representative organisations of employers and workers, and with other bodies as appropriate, make arrangements appropriate to national conditions and practice to ensure the necessary co-ordination between various authorities and bodies called upon to give effect to Parts II and III of this Convention.

2. Whenever circumstances so require and national conditions and practice permit, these arrangements shall include the establishment of a central body.
PART IV. ACTION AT THE LEVEL OF THE UNDERTAKING

Article 16

1. Employers shall be required to ensure that, so far as is reasonably practicable, the workplaces, machinery, equipment and processes under their control are safe and without risk to health.

2. Employers shall be required to ensure that, so far as is reasonably practicable, the chemical, physical and biological substances and agents under their control are without risk to health when the appropriate measures of protection are taken.

3. Employers shall be required to provide, where necessary, adequate protective clothing and protective equipment to prevent, so far is reasonably practicable, risk of accidents or of adverse effects on health.

Article 17

Whenever two or more undertakings engage in activities simultaneously at one workplace, they shall collaborate in applying the requirements of this Convention.

Article 18

Employers shall be required to provide, where necessary, for measures to deal with emergencies and accidents, including adequate first-aid arrangements.

Article 19

There shall be arrangements at the level of the undertaking under which—

(a) workers, in the course of performing their work, co-operate in the fulfilment by their employer of the obligations placed upon him;

(b) representatives of workers in the undertaking co-operate with the employer in the field of occupational safety and health;

(c) representatives of workers in an undertaking are given adequate information on measures taken by the employer to secure occupational safety and health and may consult their representative organisations about such information provided they do not disclose commercial secrets;

(d) workers and their representatives in the undertaking are given appropriate training in occupational safety and health;

(e) workers or their representatives and, as the case may be, their representative organisations in an undertaking, in accordance with national law and practice, are enabled to enquire into, and are consulted by the
employer on, all aspects of occupational safety and health associated with their work; for this purpose technical advisers may, by mutual agreement, be brought in from outside the undertaking;

(f) a worker reports forthwith to his immediate supervisor any situation which he has reasonable justification to believe presents an imminent and serious danger to his life or health; until the employer has taken remedial action, if necessary, the employer cannot require workers to return to a work situation where there is continuing imminent and serious danger to life or health.

Article 20

Co-operation between management and workers and/or their representatives within the undertaking shall be an essential element of organisational and other measures taken in pursuance of Articles 16 to 19 of this Convention.

Article 21

Occupational safety and health measures shall not involve any expenditure for the workers.

PART V. FINAL PROVISIONS

Article 22

This Convention does not revise any international labour Conventions or Recommendations.

Article 23

The formal ratifications of this Convention shall be communicated to the Director-General of the International Labour Office for registration.

Article 24

1. This Convention shall be binding only upon those Members of the International Labour Organisation whose ratifications have been registered with the Director-General.

2. It shall come into force twelve months after the date on which the ratifications of two Members have been registered with the Director-General.

3. Thereafter, this Convention shall come into force for any Member twelve months after the date on which its ratification has been registered.

Article 25

1. A Member which has ratified this Convention may denounce it after the expiration of ten years from the date on which the Convention first comes into force, by an act communicated to the Director-General of the International
Labour Office for registration. Such denunciation shall not take effect until one year after the date on which it is registered.

2. Each Member which has ratified this Convention and which does not, within the year following the expiration of the period of ten years mentioned in the preceding paragraph, exercise the right of denunciation provided for in this Article, will be bound for another period of ten years and, thereafter, may denounce this Convention at the expiration of each period of ten years under the terms provided for in this Article.

Article 26

1. The Director-General of the International Labour Office shall notify all Members of the International Labour Organisation of the registration of all ratifications and denunciations communicated to him by the Members of the Organisation.

2. When notifying the Members of the Organisation of the registration of the second ratification communicated to him, the Director-General shall draw the attention of the Members of the Organisation to the date upon which the Convention will come into force.

Article 27

The Director-General of the International Labour Office shall communicate to the Secretary-General of the United Nations for registration in accordance with Article 102 of the Charter of the United Nations full particulars of all ratifications and acts of denunciation registered by him in accordance with the provisions of the preceding Articles.

Article 28

At such times as it may consider necessary the Governing Body of the International Labour Office shall present to the General Conference a report on the working of this Convention and shall examine the desirability of placing on the agenda of the Conference the question of its revision in whole or in part.

Article 29

1. Should the Conference adopt a new Convention revising this Convention in whole or in part, then, unless the new Convention otherwise provides:

   a) the ratification by a Member of the new revising Convention shall ipso jure involve the immediate denunciation of this Convention, notwithstanding the provisions of Article 25 above, if and when the new revising Convention shall have come into force;

   b) as from the date when the new revising Convention comes into force this Convention shall cease to be open to ratification by the Members.
2. This Convention shall in any case remain in force in its actual form and content for those Members which have ratified it but have not ratified the revising Convention.

Article 30

The English and French versions of the text of this Convention are equally authoritative.
R164 Occupational Safety and Health Recommendation, 1981

The General Conference of the International Labour Organisation,

Having been convened at Geneva by the Governing Body of the International Labour Office, and having met in its Sixty-seventh Session on 3 June 1981, and

Having decided upon the adoption of certain proposals with regard to safety and health and the working environment, which is the sixth item on the agenda of the session, and

Having determined that these proposals shall take the form of a Recommendation supplementing the Occupational Safety and Health Convention, 1981,

adopts this twenty-second day of June of the year one thousand nine hundred and eighty-one, the following Recommendation, which may be cited as the Occupational Safety and Health Recommendation, 1981:

I. Scope and Definitions

(1) To the greatest extent possible, the provisions of the Occupational Safety and Health Convention, 1981, hereinafter referred to as the Convention, and of this Recommendation should be applied to all branches of economic activity and to all categories of workers.

(2) Provision should be made for such measures as may be necessary and practicable to give self-employed persons protection analogous to that provided for in the Convention and in this Recommendation.

2. For the purpose of this Recommendation--

(a) the term branches of economic activity covers all branches in which workers are employed, including the public service;

(b) the term workers covers all employed persons, including public employees;

(c) the term workplace covers all places where workers need to be or to go by reason of their work and which are under the direct or indirect control of the employer;

(d) the term regulations covers all provisions given force of law by the competent authority or authorities;

(e) the term health, in relation to work, indicates not merely the absence of disease or infirmity; it also includes the physical and mental elements affecting health which are directly related to safety and hygiene at work.
II. Technical Fields of Action

3. As appropriate for different branches of economic activity and different types of work and taking into account the principle of giving priority to eliminating hazards at their source, measures should be taken in pursuance of the policy referred to in Article 4 of the Convention, in particular in the following fields:

(a) design, siting, structural features, installation, maintenance, repair and alteration of workplaces and means of access thereto and egress therefrom;
(b) lighting, ventilation, order and cleanliness of workplaces;

(c) temperature, humidity and movement of air in the workplace;

(d) design, construction, use, maintenance, testing and inspection of machinery and equipment liable to present hazards and, as appropriate, their approval and transfer;

(e) prevention of harmful physical or mental stress due to conditions of work;

(f) handling, stacking and storage of loads and materials, manually or mechanically;

(g) use of electricity;

(h) manufacture, packing, labelling, transport, storage and use of dangerous substances and agents, disposal of their wastes and residues, and, as appropriate, their replacement by other substances or agents which are not dangerous or which are less dangerous;

(i) radiation protection;

(j) prevention and control of, and protection against, occupational hazards due to noise and vibration;

(k) control of the atmosphere and other ambient factors of workplaces;

(l) prevention and control of hazards due to high and low barometric pressures;

(m) prevention of fires and explosions and measures to be taken in case of fire or explosion;

(n) design, manufacture, supply, use, maintenance and testing of personal protective equipment and protective clothing;

(o) sanitary installations, washing facilities, facilities for changing and storing clothes, supply of drinking water, and any other welfare facilities connected with occupational safety and health;
(p) first-aid treatment;

(q) establishment of emergency plans;

(r) supervision of the health of workers.

III. Action at the National Level

4. With a view to giving effect to the policy referred to in Article 4 of the Convention, and taking account of the technical fields of action listed in Paragraph 3 of this Recommendation, the competent authority or authorities in each country should--

(a) issue or approve regulations, codes of practice or other suitable provisions on occupational safety and health and the working environment, account being taken of the links existing between safety and health, on the one hand, and hours of work and rest breaks, on the other;

(b) from time to time review legislative enactments concerning occupational safety and health and the working environment, and provisions issued or approved in pursuance of clause (a) of this Paragraph, in the light of experience and advances in science and technology;

(c) undertake or promote studies and research to identify hazards and find means of overcoming them;

(d) provide information and advice, in an appropriate manner, to employers and workers and promote or facilitate co-operation between them and their organisations, with a view to eliminating hazards or reducing them as far as practicable; where appropriate, a special training programme for migrant workers in their mother tongue should be provided;

(e) provide specific measures to prevent catastrophes, and to co-ordinate and make coherent the actions to be taken at different levels, particularly in industrial zones where undertakings with high potential risks for workers and the surrounding population are situated;

(f) secure good liaison with the International Labour Occupational Safety and Health Hazard Alert System set up within the framework of the International Labour Organisation;

(g) provide appropriate measures for handicapped workers.

5. The system of inspection provided for in paragraph 1 of Article 9 of the Convention should be guided by the provisions of the Labour Inspection Convention, 1947, and the Labour Inspection (Agriculture) Convention, 1969, without prejudice to the obligations thereunder of Members which have ratified these instruments.
6. As appropriate, the competent authority or authorities should, in consultation with the representative organisations of employers and workers concerned, promote measures in the field of conditions of work consistent with the policy referred to in Article 4 of the Convention.

7. The main purposes of the arrangements referred to in Article 15 of the Convention should be to--

(a) implement the requirements of Articles 4 and 7 of the Convention;

(b) co-ordinate the exercise of the functions assigned to the competent authority or authorities in pursuance of Article 11 of the Convention and Paragraph 4 of this Recommendation;

(c) co-ordinate activities in the field of occupational safety and health and the working environment which are exercised nationally, regionally or locally, by public authorities, by employers and their organisations, by workers' organisations and representatives, and by other persons or bodies concerned;

(d) promote exchanges of views, information and experience at the national level, at the level of an industry or that of a branch of economic activity.

8. There should be close co-operation between public authorities and representative employers' and workers' organisations, as well as other bodies concerned in measures for the formulation and application of the policy referred to in Article 4 of the Convention.

9. The review referred to in Article 7 of the Convention should cover in particular the situation of the most vulnerable workers, for example, the handicapped.

IV. Action at the Level of the Undertaking

10. The obligations placed upon employers with a view to achieving the objective set forth in Article 16 of the Convention might include, as appropriate for different branches of economic activity and different types of work, the following:

(a) to provide and maintain workplaces, machinery and equipment, and use work methods, which are as safe and without risk to health as is reasonably practicable;

(b) to give necessary instructions and training, taking account of the functions and capacities of different categories of workers;

(c) to provide adequate supervision of work, of work practices and of application and use of occupational safety and health measures;
(d) to institute organisational arrangements regarding occupational safety and health and the working environment adapted to the size of the undertaking and the nature of its activities;

(e) to provide, without any cost to the worker, adequate personal protective clothing and equipment which are reasonably necessary when hazards cannot be otherwise prevented or controlled;

(f) to ensure that work organisation, particularly with respect to hours of work and rest breaks, does not adversely affect occupational safety and health;

(g) to take all reasonably practicable measures with a view to eliminating excessive physical and mental fatigue;

(h) to undertake studies and research or otherwise keep abreast of the scientific and technical knowledge necessary to comply with the foregoing clauses.

11. Whenever two or more undertakings engage in activities simultaneously at one workplace, they should collaborate in applying the provisions regarding occupational safety and health and the working environment, without prejudice to the responsibility of each undertaking for the health and safety of its employees. In appropriate cases, the competent authority or authorities should prescribe general procedures for this collaboration.

12.

(1) The measures taken to facilitate the co-operation referred to in Article 20 of the Convention should include, where appropriate and necessary, the appointment, in accordance with national practice, of workers' safety delegates, of workers' safety and health committees, and/or of joint safety and health committees; in joint safety and health committees workers should have at least equal representation with employers' representatives.

(2) Workers' safety delegates, workers' safety and health committees, and joint safety and health committees or, as appropriate, other workers' representatives should--

(a) be given adequate information on safety and health matters, enabled to examine factors affecting safety and health, and encouraged to propose measures on the subject;

(b) be consulted when major new safety and health measures are envisaged and before they are carried out, and seek to obtain the support of the workers for such measures;

(c) be consulted in planning alterations of work processes, work content or organisation of work, which may have safety or health implications for the workers;
(d) be given protection from dismissal and other measures prejudicial to them while exercising their functions in the field of occupational safety and health as workers' representatives or as members of safety and health committees;

(e) be able to contribute to the decision-making process at the level of the undertaking regarding matters of safety and health;

(f) have access to all parts of the workplace and be able to communicate with the workers on safety and health matters during working hours at the workplace;

(g) be free to contact labour inspectors;

(h) be able to contribute to negotiations in the undertaking on occupational safety and health matters;

(i) have reasonable time during paid working hours to exercise their safety and health functions and to receive training related to these functions;

(j) have recourse to specialists to advise on particular safety and health problems.

13. As necessary in regard to the activities of the undertaking and practicable in regard to size, provision should be made for--

(a) the availability of an occupational health service and a safety service, within the undertaking, jointly with other undertakings, or under arrangements with an outside body;

(b) recourse to specialists to advise on particular occupational safety or health problems or supervise the application of measures to meet them.

14. Employers should, where the nature of the operations in their undertakings warrants it, be required to set out in writing their policy and arrangements in the field of occupational safety and health, and the various responsibilities exercised under these arrangements, and to bring this information to the notice of every worker, in a language or medium the worker readily understands.

15.

(1) Employers should be required to verify the implementation of applicable standards on occupational safety and health regularly, for instance by environmental monitoring, and to undertake systematic safety audits from time to time.

(2) Employers should be required to keep such records relevant to occupational safety and health and the working environment as are considered necessary by the competent authority or authorities; these might include records of all notifiable occupational accidents and injuries to health
which arise in the course of or in connection with work, records of authorisation and exemptions under laws or regulations to supervision of the health of workers in the undertaking, and data concerning exposure to specified substances and agents.

16. The arrangements provided for in Article 19 of the Convention should aim at ensuring that workers--

(a) take reasonable care for their own safety and that of other persons who may be affected by their acts or omissions at work;

(b) comply with instructions given for their own safety and health and those of others and with safety and health procedures;

(c) use safety devices and protective equipment correctly and do not render them inoperative;

(d) report forthwith to their immediate supervisor any situation which they have reason to believe could present a hazard and which they cannot themselves correct;

(e) report any accident or injury to health which arises in the course of or in connection with work.

17. No measures prejudicial to a worker should be taken by reference to the fact that, in good faith, he complained of what he considered to be a breach of statutory requirements or a serious inadequacy in the measures taken by the employer in respect of occupational safety and health and the working environment.

V. Relations to Existing International Labour Conventions and Recommendations

18. This Recommendation does not revise any international labour Recommendation.

19.

(1) In the development and application of the policy referred to in Article 4 of the Convention and without prejudice to their obligations under Conventions they have ratified, Members should refer to the international labour Conventions and Recommendations listed in the Appendix.

(2) The Appendix may be modified by the International Labour Conference, by a two-thirds majority, in connection with the future adoption or revision of any Convention or Recommendation in the field of safety and health and the working environment.
Appendix 12

Power Point Presentation Given at Surrey University on 2 July 2009 During the Postgraduate Research Seminar
How much of a priority is occupational safety and health in Lebanon?

Gathering Data under the bombs

Mamd Azzi
PhD Student
Faculty of Health and Social Science

Supervisor: Dr. Jacqui Crammond & Ross Wykeham

Questions

- How effective is the law?
- How effective is a national policy on OSH? What do managers think of OSH?
- Is there a gap between policy and practice in Lebanon?
- What are the dynamics that drive a manager to ensure a safe and healthy workplace?

OUTLINE

- Background:
  - Occupational Safety and Health (OSH)
  - Lebanon
- Objectives
- Methods
- Sampling
- Tool design
- Data Collection
- Results

Background

- Occupational Safety and Health (OSH)
  - The Scope of the Problem
- Lebanon
  - Socioeconomic context
  - OSH in Lebanon
  - Stakeholders
  - Legislation
  - Knowledge Attitude and Practice

MATERIAL REDACTED AT REQUEST OF UNIVERSITY
Objectives

- To assess the dynamics affecting the implementation of safety measures at the workplace
  - role of knowledge, attitude and behavior of employees in this regard
- To identify shortcomings in translating the policies to implementation in the OSH domain in Lebanon
- To give recommendations that would assist policymakers and improve OSH in Lebanon.

Research Question

- What factors at the enterprise level can play a role in either facilitating or impeding adherence to safety measures?
  - How are employer knowledge and attitude driving occupational safety and health practice?
  - Why are managers motivated or unmotivated to implement health and safety legislation?
  - As part of the enterprise level OSH practice, to what extent are the articles pertaining to the national Decree 11802 and the ILO convention 195 being implemented at the level of enterprises?

Methods

- Owner and employer data was collected on the employees from 20
  workplace organizations
- Questionnaires filled out by a sample of 124 members included at the ADU, covering the top 50 largest industrial section in Lebanon, namely, metal, chemical products, paper, and cardboard, and food products.
- Mann test was for each
- Each employee was called once
  - asked to complete an interview using a close-ended questionnaire
- A semi-structured interview was used to probe into the questionnaire questions 12 employee data collector points.
- Experience in filling the survey and the ILO survey.
- The subjects of the study were to be manuals documentation and the final analysis allowed the generation of information

Questionnaire Design

- Structured questionnaire
  - self-administered interview, Lebanese National OSH Decree
  - 11802 and ILO OSH Convention 195
- Questionnaire covered data demographics, employer knowledge and awareness of OSH legislation, implementation, attention towards OSH, and employer's practices relating to general health and safety, improved health and safety, ownership of OSH, organization, and occupant in the workplace, awareness in respect to hazards, training, incident documentation, and documentation.
- The questionnaire included descriptive statistics using means and standard deviations for continuous variables and
  frequency distributions for categorical variables.
In-depth interview scope

| Employee perception of risk and safety practices. |
| Employee perception of safety. |
| Employee awareness of natural OOH hazards and responsibilities. |
| The role of the manager in driving workplace safety initiatives. |
| The implementation of effective communication of safety measures at the enterprise level. |
| The impact of safety OOH on productivity. |

A qualitative analysis of the in-depth interview was conducted resulting in the above themes.
MATERIAL REDACTED AT REQUEST OF UNIVERSITY
Quantitative Results

Motivation for providing OSH at the workplace

Factors impeding enterprises from providing OSH
Results & Discussion

- Few work organizations in the representative sample implemented OSH law in Lebanon.
- Major factors which impeded employers to adopt safety and health measures:
  - Employers lack of awareness on safety and health and its provisions;
  - Employer's low perception of worker's capacity to implement safety and health measures;
  - Low cultural value given to prevention processes in Lebanon.
Main Findings

- The provisions of ILO OSH Conventions and National OSH decrees do not reach the enterprises, which are ideally, the audience the law is meant to benefit.
  - The enterprises are not aware of a national OSH decree exists, it is not accessible to employers and not promoted.
  - In the rare cases that the decree reaches the enterprise, it is generally discarded because relevance is not understood.
  - There is no communication between government (Ministry of Labour and its inspection arms), employer associations and enterprises.

Motivators

- Enterprises’ OSH management systems that are recognized in the international market are more appealing to employers because they are handy on providing certificates and hence improve the company’s image and raise their competitive profile i.e. increasing productivity.
- This is also apparent in the fact that workplace OSH policies do exist, they are never based on the national decree. Instead, they are either based on similar companies’ policies worldwide or are the result of trial and error and institutional inertia.
- Employers in Lebanon and the region value the human being and family, this is an important drive to boost their workers.
- Workers who are safe and healthy will keep working, which will drive productivity.

Inhibitors

- Management lack awareness on occupational safety and health, its value, its relevance and significance in the workplace.
- There is no perception of risk or that assessment面条es those very low education are not worth training on OSH and will not understand it. With if they were to enforce safety and health measures, there is little worker self-compliance.
- A link between a safe and healthy environment and productivity is not clear, the benefits don’t seem to be tangible.
- Lower management贯彻奉行 the OSH management systems, some good initiatives that, but there is no follow-up.
- There is the real work to do which means money and pays attention to many other, rather than the conclusion of work. Funds are secondary.
- Economic and political instability bring the priorities down to the basic needs of survival, as a result of insecurity, OSH is considered as a luxury.
- Ignorance leads to the bar attitude management type towards occupational safety and health. This means result in poor safety and health practices.

Conclusion

- A proposed strategy
  - Build on the motivations of employers in Lebanon and the region whilst answering to the hesitations and misconceptions which impede implementation.
  - More future research needs to target workers’ safety and health KAP to find consistencies and inconsistencies with management beliefs.
MATERIAL REDACTED AT REQUEST OF UNIVERSITY
Appendix 13

Worker Questionnaire Developed but not Administered in the Course of this Study, in English and its Arabic Translation
# Worker - Survey Questionnaire

<table>
<thead>
<tr>
<th>Main sections</th>
<th>Definitions</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Socio-demographics</td>
<td>Notes the socio-demographic characteristics of the respondent</td>
<td>1-7</td>
</tr>
<tr>
<td>II. General Information</td>
<td>Assesses the information pertaining to the general workplace conditions</td>
<td>8-13</td>
</tr>
<tr>
<td>III. Knowledge of OSH Regulations</td>
<td>Measures the worker’s knowledge of OSH regulations</td>
<td>14-17</td>
</tr>
<tr>
<td>IV. Knowledge of workplace health and safety</td>
<td>Examines the respondent’s knowledge of health and safety risks related to his job</td>
<td>18-21</td>
</tr>
<tr>
<td>V. Perception of worker’s physical health status at work</td>
<td>Looks at the respondent’s perceptions of his own physical health status and how it is affecting his duties at the workplace</td>
<td>22-33</td>
</tr>
<tr>
<td>VI. Perception of worker’s psychosocial health status</td>
<td>Looks at the respondent’s perceptions of his own psychosocial health status. Effort reward is also measured in this section</td>
<td>34-39</td>
</tr>
<tr>
<td>VII. Worker’s perception of management’s attitude towards OSH</td>
<td>Assesses the respondent’s perception of how the management looks at and applies the OSH regulations</td>
<td>40-43</td>
</tr>
<tr>
<td>VIII. Worker’s safety and health practice at workplace</td>
<td>Examines the respondent’s safety measures taken at the workplace</td>
<td>44-60</td>
</tr>
</tbody>
</table>
Questionnaire Identification

Code Number of the Establishment: [___]|___|

ID Number of the Participant: [___]|

Name of the establishment: ________________________________

Date of interview: [__]_[__] [__] [__] 

Start of interview (time): [__]_[__] [__] [__] 

End of interview (time): [__]_[__] [__] [__] 

Interviewer: [___]|

Supervisor: [___]|

Interview status: 1- Interview completed 
2- Refusal converted 
3- Partly completed 
4- Refusal

Comments:

I. Socio-demographics

92. Gender: 1- Male 
2- Female

93. Age: [___]|

94. Marital status: 1- Single 
2- Married 
3- Divorced 
4- Separated 
5- Widowed
95. Number of dependents: [___]  

96. Highest level of education:  
1- Never attended school  
2- Primary school  
3- Intermediate school  
4- Secondary school  
5- Technical school  
6- University  

97. In your main job, are you:  
1- Paid a fixed monthly salary  
2- Paid by the hour  
3- Other (Specify) __________  

98. What is your monthly salary scale?  
1- < 300,000 L.L.  
2- 300,000-499,000 L.L.  
3- 500,000-999,000 L.L.  
4- 1-2 million L.L.  
5- >2 million L.L.  

II. General information  

99. Type of Worker:  
1- Production  
2- Non-Production (Office Work)  

100. How would you describe your work arrangement in your main job?  
1- I work as an independent contractor, independent consultant, and a freelance worker  
2- I am on-call, and work only when called to work  
3- I work for a contractor who provides workers and services to others under contract  
4- I am a regular, permanent employee (standard work arrangement)  

101. How long have you worked in your present job for your current employer?  
1- Less than 6 months  
2- 6-12 months  
3- More than a year (Specify) __________
102. Work Schedule:  
1- Full Time  
2- Part Time

103. Which of the following best describes your usual work schedule?  
1- Day shift  
2- Afternoon shift  
3- Night shift  
4- Split shift  
5- Irregular shift/on-call  
6- Rotating shifts

104. Please tell me, using the following scale, does your main paid job involve:

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.1</strong></td>
<td>Working at company / organisation premise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>3.2</strong></td>
<td>Working in places other than home or company / organisation premises, e.g. client’s premises, on the road, etc.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>3.3</strong></td>
<td>Dealing directly with people who are not employees at your workplace such as customers, passengers, pupils, patients, etc.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>3.4</strong></td>
<td>Working with computers: PCs, network, mainframe (using internet/email for professional purposes)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>3.5</strong></td>
<td>Wearing personal protective clothing or equipment</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
III. Knowledge of OSH Regulations

105. Are you aware that the ILO has conventions on Occupational Safety and Health (OSH)?
   1- Yes
   2- No

106. Are you aware of the national OSH Decree No 11802 endorsed by the government in 2005?
   1- Yes
   2- No

107. Does your establishment have a written occupational safety and health policy?
   1- Yes
   2- No → skip to question no 18
   3- Don’t know

108. Do you have access to this policy?
   1- Yes
   2- No
IV. Knowledge of workplace health and safety

109. Regarding the health and safety risks related to performance of your job, how well informed would you say you are?
   1- Very well informed
   2- Well informed
   3- Not very well informed
   4- Not at all well informed
   5- Don’t know

110. Do you think your work affects your health?
   1- Yes
   2- No —> skip to question nº 21
   3- Don’t know

111. How does your work affect your health? (Please circle one or more if applicable).
   20.1 Hearing problems
   20.2 Problems with your vision
   20.3 Skin problems
   20.4 Backache
   20.5 Headaches
   20.6 Stomach ache
   20.7 Muscular pains in shoulders, neck, upper/lower limbs
   20.8 Respiratory difficulties
   20.9 Heart disease
   20.10 Injury (ies)
   20.11 Stress
   20.12 Overall fatigue
   20.13 Sleeping problems
   20.14 Allergies
   20.15 Anxiety
   20.16 Irritability
   20.17 Others: ____________________

112. Do you report any accident or injury to health which arises in the course of or in connection with work?
   1-Always  2-Sometimes  3-Rarely  4-Never
V. Perception of worker's physical health status at work

113. Would you say in general your health is?
   1- Very good
   2- Good
   3- Fair
   4- Poor

114. Have you had any of the following health problems diagnosed or treated by a doctor in the last year?
   1- No
   2- Yes. If yes, please circle one or more as applicable:
      a- Lung disease (asthma, bronchitis, etc.)
      b- Heart diseases (heart attack, heart failure, etc.)
      c- Diabetes
      d- Stroke
      e- Cancer
      f- Low back pain
      g- Neck pain
      h- Upper limb pain
      i- Mental stress
      j- Other, please specify: _______________

115. Have you had lower back problems more than three times and lasting more than 1 week in the previous year?
   1. Yes
   2. No

116. Have you either had pain, burning, numbness, tingling, swelling or loss of color in your upper limbs (hands/wrists/elbows/forearms) more than three times lasting more than 1 week in the previous year?
   3. Yes
   4. No
117. Have you had neck/shoulder problems more than three times lasting more than 1 week in the previous year?
   5. Yes
   6. No

118. In the past 12 months, how many times have you been injured on the job if any?
   1- None
   2- Once
   3- Twice
   3- Thrice
   5- Four times or more

119. Over the past 12 months, how many days in total were you absent from work for reasons of health problems?
   1- Number of days: __________
   2- Don’t know

120. Do you consider yourself to be?
   1- Healthier than your colleagues
   2- At the same level of health as you colleagues
   3- Less healthy than your colleagues

121. The following questions pertain to your need for recovery, please answer each question by Yes or No.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.1 You find it hard to relax at the end of a working day.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.2 At the end of a working day you are really feeling worn-out.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.3 Your job causes you to feel rather exhausted at the end of a working day.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.4 Generally speaking, you’re still feeling energetic after dinner.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.5 Generally speaking, you’re able to relax only on a second day off.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.6 You have trouble concentrating in the hours off after your working day.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.7 You find it hard to show interest in other people when you just come home from work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>30.8 In general, it takes you over an hour to feel fully recovered after work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.9 When you get home, people should leave you alone for some time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.10 After a working day you are often too tired to start other activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.11 Sometimes, you cannot optimally perform your job because of fatigue during the last part of the working day.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

122. What, if anything, would you like to change in your working conditions to improve or maintain your health?

123. What, if anything, is stopping you from making this change? (Please circle one or more as applicable).

1- Problem is not serious; there is no rush
2- Not enough time
3- Not enough energy
4- Not enough money
5- Do not know how to get started
6- I am not sure I am capable of doing it
7- No encouragement from colleagues, family or friends
8- No encouragement or help from employer
9- Do not want to change my ways
10- Not sure I can really make a difference
11- Too much stress right now
12- I do not know what is stopping me
13- Others: __________________________

124. How do you assess the safety and health conditions at your workplace?

1- Very good
2- Good
3- Fair
4- Poor
VI. Perception of worker’s psychosocial health status

125. In general, how do you find your job?
   1- Not at all stressful
   2- Mildly stressful
   3- Moderately stressful
   4- Very stressful
   5- Extremely stressful

126. How do you feel about the working conditions in your job?
   1- Very satisfied
   2- Satisfied
   3- Not very satisfied
   4- Not at all satisfied
   5- Don’t know / no opinion

127. How often does your job expose you to verbal abuse and/or confrontations with clients or the general public?
   1- Very seldom or never
   2- Seldom
   3- Sometimes
   4- Often
   5- Very often or always

128. Please rate the following statements pertaining to the decision making related to your safety at the workplace:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.1 I am in control of my own health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37.2 I have an influence over the things that happen to me at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37.3 I am satisfied with the amount of involvement I have in decisions that affect my safety and health at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
129. For each of the following statements, please indicate first whether you agree or disagree with it by placing a tick in the box. Afterwards, please also indicate how much you are generally distressed by this situation.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Agree</th>
<th>Very distressed</th>
<th>Distressed</th>
<th>Not distressed</th>
<th>Not distressed at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.4</td>
<td>At work, I feel I often have to do things or make decisions that I know are bad for my mental or physical health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

38.1 I have constant time pressure due to a heavy workload.  
1 2 | a | b | c | D | 30

38.2 I have many interruptions and disturbances in my job.  
1 2 | a | b | c | d |

38.3 I have a lot of responsibility in my job.  
1 2 | a | b | c | d |

38.4 I am often pressured to work overtime.  
1 2 | a | b | c | d |

38.5 My job is physically demanding.  
1 2 | a | b | c | d |

38.6 Over the past few years, my job has become more and more demanding.  
1 2 | a | b | c | d |
<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Distressed</th>
<th>Very Distressed</th>
<th>Not</th>
<th>Not</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.7</td>
<td>I receive the respect I deserve from my superiors.</td>
<td>1</td>
<td>2</td>
<td>Skip to next question</td>
<td>a</td>
</tr>
<tr>
<td>38.8</td>
<td>I receive the respect I deserve from my colleagues.</td>
<td>1</td>
<td>2</td>
<td>Skip to next question</td>
<td>a</td>
</tr>
<tr>
<td>38.9</td>
<td>I experience adequate support in difficult situations.</td>
<td>1</td>
<td>2</td>
<td>Skip to next question</td>
<td>a</td>
</tr>
<tr>
<td>38.10</td>
<td>I am treated unfairly at work.</td>
<td>1</td>
<td>2</td>
<td>Skip to next question</td>
<td>a</td>
</tr>
<tr>
<td>38.11</td>
<td>My job promotion prospects are poor.</td>
<td>1</td>
<td>2</td>
<td>Skip to next question</td>
<td>a</td>
</tr>
<tr>
<td>38.12</td>
<td>I have experienced, or I expect to experience, an undesirable change in my work situation.</td>
<td>1</td>
<td>2</td>
<td>Skip to next question</td>
<td>a</td>
</tr>
<tr>
<td>38.13</td>
<td>My job security is poor.</td>
<td>1</td>
<td>2</td>
<td>Skip to next question</td>
<td>a</td>
</tr>
<tr>
<td>Question</td>
<td>Description</td>
<td>Response 1</td>
<td>Response 2</td>
<td>Response 3</td>
<td>Response 4</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>38.14</td>
<td>My current occupational position adequately reflects my education and training.</td>
<td>1</td>
<td>2</td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Skip to</td>
<td>next</td>
<td>question</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Response 1</th>
<th>Response 2</th>
<th>Response 3</th>
<th>Response 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.15</td>
<td>Considering all my efforts and achievements, I receive the respect and prestige I deserve at work.</td>
<td>1</td>
<td>2</td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Skip to</td>
<td>next</td>
<td>question</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Response 1</th>
<th>Response 2</th>
<th>Response 3</th>
<th>Response 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.16</td>
<td>Considering all my efforts and achievements, my work prospects are adequate</td>
<td>1</td>
<td>2</td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Skip to</td>
<td>next</td>
<td>question</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Response 1</th>
<th>Response 2</th>
<th>Response 3</th>
<th>Response 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>38.17</td>
<td>Considering all my efforts and achievements, my salary is adequate.</td>
<td>1</td>
<td>2</td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Skip to</td>
<td>next</td>
<td>question</td>
<td></td>
</tr>
</tbody>
</table>
130. Please indicate to what extent you personally agree or disagree with these statements.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.1 I get easily overwhelmed by time pressures at work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39.2 As soon as I get up in the morning I start thinking about work problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39.3 When I get home, I can easily relax and 'switch off' work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39.4 People close to me say I sacrifice too much for my job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39.5 Work rarely lets me go, it is still on my mind when I go to bed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39.6 If I postpone something that I was supposed to do today, I'll have trouble sleeping at night.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
VII. Worker's perception of management's attitude towards OSH

131. In general, how would you describe relations in your work place between management and employees?
   1- Very good
   2- Good
   3- Neutral
   4- Bad
   5- Very Bad

132. Do you feel that employees and management work together to ensure the safest possible working conditions?
   1- Strongly agree
   2- Agree
   3- Disagree
   4- Strongly Disagree

133. Do you think that you can rely on trade unions to protect your rights for a safe and health workplace?
   1- Strongly agree
   2- Agree
   3- Disagree
   4- Strongly Disagree
   5- Don’t know

134. Please rate the following statements pertaining to the your perception of management's attitude towards OSH:
<table>
<thead>
<tr>
<th></th>
<th>The management regards safety of workers as a high priority</th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>43.1</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>There are no significant compromises or shortcuts taken by management when safety is at stake</th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>43.2</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>My employer has a sincere interest in the well-being of its employees,</th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>43.3</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>My employer makes every effort to keep unnecessary hazards at work to a minimum</th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>43.4</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
VIII. Worker’s safety and health practice at workplace

135. Did you undergo pre-employment medical examinations?
   1- Yes
   2- No

136. Do you undergo regular medical examination during employment?
   1- Yes
   2- No

137. Did you receive a formal induction program as a new employee?
   1- Yes
   2- No→ skip to question n° 48

138. If yes, does this induction program address health and safety issues?
   1- Yes
   2- No

139. Please indicate how often you are exposed to the below safety hazards and unpleasant working conditions: (Please circle one or more if applicable)

<table>
<thead>
<tr>
<th>Hazards</th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>48.1 Risk of eye strain</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.2 Dangerous chemicals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.3 Biological agents or infectious diseases</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.4 Toxic gas hazard</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.5 Fire or explosion hazards</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.6 X-rays, other radiation, or video display terminals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.7 Electrical hazards</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.8 Too much heat</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.9 Too much cold</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Always</td>
<td>Sometimes</td>
<td>Rarely</td>
<td>Never</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>--------</td>
<td>-----------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>48.10</td>
<td>Bad air (stuffy, not enough air, etc.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>48.11</td>
<td>Too much noise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>48.12</td>
<td>Too much vibration</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>48.13</td>
<td>Too much dust</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>48.14</td>
<td>Exposure to tobacco smoke of others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>48.15</td>
<td>Working with people who are under the influence of drugs or alcohol</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Ergonomics**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>48.16</td>
<td>Risk of physical strain (e.g. back, wrist, neck)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.17</td>
<td>Awkward postures and/or repetitive motions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.18</td>
<td>Slipping and tripping</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.19</td>
<td>Lack of personal protective equipment (clothing, gloves, respirator)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.20</td>
<td>Bad work-station design</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Facilities**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>48.21</td>
<td>Poor work space or not enough working space</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.22</td>
<td>Poor lighting (too much, too little, etc.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.23</td>
<td>Litter or mess in work area</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.24</td>
<td>Unsafe equipment or machinery (including office equipment)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.25</td>
<td>Lack of health facility or examination</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>48.26</td>
<td>Lack of adequate toilet facilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
140. Please rate the following statements pertaining to the safety measures you take at your workplace:

<p>| | | | | | | |
|   |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 48.27 Lunch break/cafeteria at enterprise | Always | Sometimes | Rarely | Never | Don't know |
|   | 1 | 2 | 3 | 4 | 5 |
| 48.28 Too much work outside working hours |   |   |   |   |   |
|   | 1 | 2 | 3 | 4 | 5 |
| Personal safety |   |   |   |   |   |
| 48.29 Not enough safety training |   |   |   |   |   |
|   | 1 | 2 | 3 | 4 | 5 |
| 48.30 Travel hazards, e.g. public transportation, driving conditions |   |   |   |   |   |
|   | 1 | 2 | 3 | 4 | 5 |
| 48.31 Fear for personal safety and security |   |   |   |   |   |
|   | 1 | 2 | 3 | 4 | 5 |
| 49.1 Do you take reasonable care of your own safety and that of other persons who may be affected by your acts or omissions at work? |   |   |   |   |   |
|   | 1 | 2 | 3 | 4 | 5 |
| 49.2 Do you comply with instructions given for your own safety and health and those of others and with safety and health procedures? |   |   |   |   |   |
|   | 1 | 2 | 3 | 4 | 5 |
| 49.3 Do you report health and safety hazards, problems, issues or concerns? |   |   |   |   |   |
|   | 1 | 2 | 3 | 4 | 5 |</p>
<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>49.4</td>
<td>Do you manually move any load that might, due to its weight, expose your health or safety to danger, in all circumstances in which you may be working?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>49.5</td>
<td>Do you conform to safety measures that prevent occupational risks resulting from air pollution, din and vibrations in the work environment?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>49.6</td>
<td>Do you drink and eat in unauthorized places?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>49.7</td>
<td>Are you provided with appropriate personal protection devices?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>49.8</td>
<td>Do you use the personal protection devices put at your disposal?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>49.9</td>
<td>Do you maintain these personal protection devices in good condition?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>49.10</td>
<td>Do you receive training on the procedures and methods of chemicals’ safe and sound use?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>49.11</td>
<td>Do you understand the language written on the tags of all containers of hazardous chemicals?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Question</td>
<td>Always</td>
<td>Sometimes</td>
<td>Rarely</td>
<td>Never</td>
<td>Don’t Know</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------</td>
<td>-----------</td>
<td>--------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>49.12 Do you comply with the general precautions related to the storing of hazardous substances?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>49.13 Is there a kit provided comprising all necessary first aid products?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>49.14 Are you given sufficient and appropriate information on the risks related to your work?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

141. Looking back at the hazards listed above, select the two hazards or problems at your workplace that are of greatest concern to you:

1_____________________________

2__________________________

142. Do you communicate with employer about occupational safety and health?

1 | 2 | 3 | 4 | 5

Very likely | Very unlikely

143. Do you get a reward for following safe work rules?

1 | 2 | 3 | 4 | 5

Very likely | Very unlikely
144. Do you get penalized for violation of safe work rules?

1  2  3  4  5
Very likely | | | | Very unlikely

145. Are you allowed to conduct health and safety activities on work time (such as training, meetings etc.)?
1- Yes
2- No

146. What would you do if your supervisor told you to do something that you thought was dangerous for your health and safety?
1- I would do it anyway and not complain to anyone in authority
2- I would do it, but complain to someone in authority later
3- I would not do it until I was satisfied that there was no danger
4- I am not sure what I would do

147. Is education on healthy lifestyles available to you on the following topics? (Please circle one or more options, as applicable).
1- Smoking
2- Alcohol and drug use
3- Nutrition
4- HIV
5- Stress management
6- Fitness and exercise

148. Is there a workplace policy on any of the following? (Please circle one or more options, as applicable).
1- Smoking
2- Alcohol and drug use
3- Nutrition
4- HIV
5- Stress management
6- Fitness and exercise
149. Do you think taking safety and health measures at the workplace is a priority?
   1- Yes
   2- No

150. If not, why not?

151. If yes, Why?
<table>
<thead>
<tr>
<th>References</th>
<th>Questions</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8-13</td>
<td>II. General Information</td>
</tr>
<tr>
<td></td>
<td>16-17</td>
<td>III. Knowledge of OSH Regulations</td>
</tr>
<tr>
<td></td>
<td>22-23</td>
<td>III. Knowledge of OSH Regulations</td>
</tr>
<tr>
<td></td>
<td>24-27</td>
<td>IV. Knowledge of workplace health and safety</td>
</tr>
<tr>
<td></td>
<td>28-35, 37-38</td>
<td>V. Perception of worker’s physical health status at work</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>V. Perception of worker’s physical health status at work</td>
</tr>
<tr>
<td></td>
<td>39-44</td>
<td>VI. Perception of worker’s psychosocial health status</td>
</tr>
<tr>
<td></td>
<td>45-47</td>
<td>VII. Worker's perception of management's attitude towards OSH</td>
</tr>
<tr>
<td></td>
<td>48</td>
<td>VIII. Worker's safety and health practice at workplace</td>
</tr>
<tr>
<td>Lebanese Government. (2004). Lebanese Decree no 11802: Regulating Occupational Prevention, Safety and Health in all Enterprises subject to the Code of Labour. Article 34.</td>
<td>49</td>
<td>VIII. Worker’s safety and health practice at workplace</td>
</tr>
<tr>
<td>Lebanese Government. (2004). Lebanese Decree no 11802: Regulating Occupational Prevention, Safety and Health in all Enterprises subject to the Code of Labour. Article 38.</td>
<td>50</td>
<td>VIII. Worker’s safety and health practice at workplace</td>
</tr>
<tr>
<td></td>
<td>51-54</td>
<td>VIII. Worker's safety and health practice at workplace</td>
</tr>
<tr>
<td>Page</td>
<td>Article/Paragraph</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>VIII. Worker's safety and health practice at workplace</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>VIII. Worker's safety and health practice at workplace</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>VIII. Worker's safety and health practice at workplace</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>VIII. Worker's safety and health practice at workplace</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>VIII. Worker's safety and health practice at workplace</td>
<td></td>
</tr>
<tr>
<td>60.1</td>
<td>VIII. Worker's safety and health practice at workplace</td>
<td></td>
</tr>
<tr>
<td>60.2</td>
<td>VIII. Worker's safety and health practice at workplace</td>
<td></td>
</tr>
<tr>
<td>60.3</td>
<td>VIII. Worker's safety and health practice at workplace</td>
<td></td>
</tr>
<tr>
<td>60.4</td>
<td>VIII. Worker's safety and health practice at workplace</td>
<td></td>
</tr>
<tr>
<td>Reference</td>
<td>Page(s)</td>
<td>Section</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lebanese Government. (2004). Lebanese Decree no 11802: Regulating Occupational Prevention, Safety and Health in all Enterprises subject to the Code of Labour. Article 19.</td>
<td>60.5</td>
<td>VIII. Worker’s safety and health practice at workplace</td>
</tr>
<tr>
<td>Lebanese Government. (2004). Lebanese Decree no 11802: Regulating Occupational Prevention, Safety and Health in all Enterprises subject to the Code of Labour. Article 20.</td>
<td>60.6-60.7</td>
<td>VIII. Worker’s safety and health practice at workplace</td>
</tr>
<tr>
<td>Lebanese Government. (2004). Lebanese Decree no 11802: Regulating Occupational Prevention, Safety and Health in all Enterprises subject to the Code of Labour. Article 12.</td>
<td>60.8-60.9</td>
<td>VIII. Worker’s safety and health practice at workplace</td>
</tr>
<tr>
<td>Brosseau, et al., 2005.</td>
<td>61-62</td>
<td>VIII. Worker’s safety and health practice at workplace</td>
</tr>
<tr>
<td></td>
<td>64-67</td>
<td>VIII. Worker’s safety and health practice at workplace</td>
</tr>
<tr>
<td>الأسلة</td>
<td>التحديد</td>
<td>الأقسام الرئيسية</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>----------------</td>
</tr>
<tr>
<td>7-1</td>
<td>تحديد خصائص المُجيب الديمغرافيا-الاجتماعيّة</td>
<td>I. الديمغرافيا-الاجتماعيّة</td>
</tr>
<tr>
<td>13-8</td>
<td>تقييم المعلومات المتعلقة بظروف مكان العمل العاميّة</td>
<td>II. معلومات عاميّة</td>
</tr>
<tr>
<td>17-14</td>
<td>قياس معرفة العامل بتنظيمات السلامة والصحة المهنيّة</td>
<td>III. معرفة تنظيمات السلامة والصحة المهنيّة</td>
</tr>
<tr>
<td>18-21</td>
<td>معايير معرفة العامل بالمخاطر التي تهدد صحته وسلامته في مكان العمل</td>
<td>IV. المعرفة عن الصحّة والسلامة في مكان العمل</td>
</tr>
<tr>
<td>33-22</td>
<td>النظر في وضع العامل الصحي والجسدي وكيفيّة تأثير هذا الوضع على واجباته في مكان العمل</td>
<td>V. النظر في وضع العامل الصحي الجسدي في العمل</td>
</tr>
<tr>
<td>39-34</td>
<td>النظر في وضع العامل الصحي النفسي. قياس الجهود المكافأة عليها في هذا القسم</td>
<td>VI. وضع العامل النفسي الاجتماعي في العمل</td>
</tr>
<tr>
<td>43-40</td>
<td>تقييم نظرة المُجيب حول رأي الإدارة في تنظيمات السلامة والصحة المهنيّة وكيفيّة تطبيقها</td>
<td>VII. رأي العامل حول موقف الإدارة تجاه السلامة والصحة المهنيّة</td>
</tr>
<tr>
<td>60-44</td>
<td>معايير تدابير الأمن المتّحدة في مكان العمل</td>
<td>VIII. الممارسات المتعلقة بسلامة العامل وصحته</td>
</tr>
</tbody>
</table>
تعريف الاستبيان

رقم المؤسسة: ___________________________

رقم هويّة المشترك: ___________________________

إسم المؤسسة: ___________________________

تاريخ إجراء المقابلة: ____________
اليوم - الشهر

بدء المقابلة (الوقت): ____________
الساعة - الدقيقة

ختام المقابلة (الوقت): ____________
الساعة - الدقيقة

مجري المقابلة: ___________________________

المشرف: ___________________________

وضع المقابلة: 1- مقابلة كاملة
2- رفض متحول
3- مقابلة جزئية
4- رفض قاطع

تعليقات:

______________________________________

______________________________________

______________________________________

______________________________________
1. الجنس:
2. العمر:
3. الوضع العائلي:
4. عدد الأفراد المعتمدين عليه/عليها:
5. المستوى الدراسى الأعلى:
6. فيما يختص بملك الأساسي:
7. ما هو معتل راتبك الشهرى؟

1. ذكر
2. أنثى
1. أعزب/عزباء
2. متزوج (ة)
3. مطلق (ة)
4. مطلق (ة) منفصل (ة)
5. أرمل (ة)

1. لم يدخل المدرسة يومًا
2. مدرسة إبتدائية
3. مدرسة متوسطة
4. مدرسة ثانوية
5. مدرسة مهنية
6. جامعة

1. يتم دفع أجر شهري ثابت للك
2. يتم الدفع وفقًا لساعات العمل
3. غيرها، الرجاء التحديد:
4. أقل من 300 ألف ليرة لبنانية
5. بين 300 ألف و499 ألف ليرة لبنانية
6. بين 500 ألف و999 ألف ليرة لبنانية
7. بين مليون و2 مليون ليرة لبنانية
8. أكثر من 2 مليون ليرة لبنانية
8. نوع العمل:
1. إنتاجي
2. غير إنتاجي (أعمال مكتبية)

9. كيف تصف نظام عملك الرئيسي؟
1. أعمال كموظف دائم منظم (نظام العمل القياسي)
2. أعملي متحمّس استدعائي
3. أعمال يقوم بتوفير العمل والخدمات للأحرين وفقاً لعقد محدد
4. أعمال كمفاعل مستقل، كمستشار مستقل، كعامل مستقل

10. منذ متى تمارس عملك الحالي؟
1. منذ أقل من 6 أشهر
2. بين 6 و12 شهرًا
3. منذ أكثر من سنة (الرجاء التحديد)

11. جدول العمل
1. دوام كامل
2. دوام جزئي

12. أي من الصفات التالية تصف جدول عملك العادي بالشكل الأفضل؟
1. العمل في النهار
2. العمل بعد الظهر
3. العمل ليلا
4. عمل موزّع على حصص
5. عمل بدءام غير منتظم/عندما يتمّ استدعائي
6. عمل متناوب
13. الزراعة استخدام الجدول التالي لشرح ما هي متطلبات عملك الرئيسي:

<table>
<thead>
<tr>
<th>لا أعرف</th>
<th>أبداً</th>
<th>نادرًا</th>
<th>أحيانًا</th>
<th>دائمًا</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
| العمل في حرم الشركة/المنظمة | **13.1**
| العمل في أماكن غير المنزل أو الشركة/المنظمة. مثلاً: العمل مع الزبائن، على الطرق، أخ... | **13.2**
| التعامل مباشرةً مع أفراد غير موظفين في مكان عملك كالزبائن والمسافرين واللائدة والمرضى... | **13.3**
| العمل على أجهزة الكمبيوتر: جهاز كمبيوتر خاص، شبكة mainframe (استخدام البريد الإلكتروني/الإنترنت لأغراض مهنيّة) | **13.4**
| يتطلب ارتداء ملابس أو تجهيزات الحماية الخاصة؟ | **13.5**

401
14. هل تعلم بالاتفاقية الدولية المتعلقة بالسلامة والصحة المهنية؟
   1. نعم
   2. كلاً

15. هل تعلم بالمرسوم الوطني رقم 11802 الذي صدرت عليه الحكومة في العام 2005؟
   1. نعم
   2. كلاً

16. هل تعلم إذا كانت لدى هذا المصنع سياسة منصوبة تتعلق بالسلامة والصحة المهنية؟
   1. نعم
   2. كلاً — إنطلق إلى سؤال رقم 18
   3. لا أعرف

17. هل يمكنك الولوج إلى هذه السياسة؟
   1. نعم
   2. كلاً
المرجعة عن السلامة والصحة في مكان العمل

18. ما مدى معرفتك بالمخاطر الناجمة عن تأديتك لعملك والتي تهدد صحتك وسلامتك؟
1. أعرفها معرفة جيدة جدًا
2. أعرفها معرفة جيدة
3. لا أعرف عنها الكثير
4. لا أعرف عنها شيئاً
5. لا أعرف

19. هل تعتقد أن عملك يؤثر على صحتك؟
1. نعم
2. لا ← انتقل إلى سؤال رقم 21
3. لا أعرف

20. كيف يؤثر عملك على صحتك؟ (الرجاء رسم دائرة حول الخياران الممكنان(ة))

20.1 مشاكل على صعيد السمع
20.2 مشاكل على صعيد النظر
20.3 مشاكل جلدية
20.4 أوجاع في الظهر
20.5 أوجاع في الرأس
20.6 أوجاع في المعدة
20.7 آلام في عضل الكتفين والرقبة واليدين والرجلين
20.8 صعوبات في التنفس
20.9 أمراض في القلب
20.10 إصابة(اصابات)
(stress)
20.11 ضغط
20.12 تعب عام
20.13 مشاكل في اللوم
20.14 حساسية
20.15 قلق
20.16 انزعاج
20.17 غيرها:

21. هل تبلغ عن الحوادث أو الإصابات الناجمة أو المتعلقة بالعمل؟
1. دائمًا
2. أحيانًا
3. نادرًا
4. أبداً
7. النظر في وضع العامل الصحي الجسدي في العمل

22. كيف تصف وضعك الصحي بشكل عام؟
1. جيد جداً
2. جيد
3. لا بأس
4. سيء

23. هل قام الطبيب خلال العام الماضي بعلاج أو بتشخيص أي من المشاكل الصحية لديك؟
1. كلا
2. نعم. إن كان جوابك "نعم", الرجاء رسم دائرة حول الخيارات الممكنة (أداء الرئة، الالتهاب الشعبي...).
3. أدمان الرياح السكري، سكتة دماغية، سرطان، ألم في الرقبة، ألم في الوجه، ألم في الرجلي، طفر أعضاء.
4. غيرها, الرجاء التحديد:

24. هل عانيت من مشاكل في الجزء الأسفل من الظهر أكثر من ثلاث مرات في العام الماضي ولمدة تخطت الأسبوع؟
1. نعم
2. كلا

25. هل عانيت يوماً من ألم أم حرق أم تدخين أم إحساس بوخز أما ألم فقدان اللون في الجسم الأعلى من أوصال (اليد/المعصم) لأكثر من ثلاث مرات في العام الماضي وفترة تخطت الأسبوع؟
1. نعم
2. كلا
26. هل عانت من مشاكل في الرقبة/الكتفين لأكثر من ثلاث مرات في العام الماضي ول فترة تخطت الأسبوع؟

1. نعم
2. كلا

27. كم مرة أُصيبت في الأشهر الـ12 الماضية خلال تأدية عملك؟

1. ولا مرة
2. مرة واحدة
3. مرتين
4. ثلاث مرات
5. أربع مرات أو أكثر

28. كم يوم تغيبت عن عملك خلال الأشهر الـ12 الماضية جراء تعرّضك لمشاكل صحية؟

1. عدد الأيام: __________________
2. لا أعرف

29. هل تعتبر نفسك:
1. تتمتع بصحة أفضل من زملائك
2. بنفس مستوى زملائك الصحي
3. أقل صحّة من زملائك

30. تتلقى الأسئلة التالية بحاجتك إلى العلاج. الرجاء الإجابة على كل سؤال ب "نعم" أو "لا":

<table>
<thead>
<tr>
<th>رقم السؤال</th>
<th>السؤال</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.1</td>
<td>تجد من الصعب أخذ قسط من الراحة في نهاية يوم عمل</td>
</tr>
<tr>
<td>30.2</td>
<td>ي يجعل عملك تشعر بتعب كبير مع انتهاء اليوم</td>
</tr>
<tr>
<td>30.3</td>
<td>تتمتع عامّة بالنشاط بعد تناول العشاء</td>
</tr>
<tr>
<td>30.4</td>
<td>تستطاع بشكل عام الشعور بالراحة إبتداءً من اليوم الثاني من الفترة</td>
</tr>
<tr>
<td>30.5</td>
<td>تجد صعوبة في التركيز خلال فترات الراحة بعد انتهائك من العمل</td>
</tr>
<tr>
<td>30.6</td>
<td>تجد صعوبة في إظهار اهتمامك للناس عندما تعود من العمل</td>
</tr>
<tr>
<td>30.7</td>
<td>تحتاج عادةً إلى ساعة لتنشيط نشاطك بعد العمل</td>
</tr>
<tr>
<td>30.8</td>
<td>تفضل البقاء لوحدك بعد عودتك من العمل إلى البيت</td>
</tr>
<tr>
<td>30.9</td>
<td>تشعر بتعب كبير بعد العمل بحيث لا تمارس أي نشاط</td>
</tr>
<tr>
<td>30.10</td>
<td>أحيانًا لا تستطيع تأدية عملك بسبب التعب الذي ينتبهك في اليوم السابق من اليوم</td>
</tr>
</tbody>
</table>

31. لماذا تود تغييره على صعيد ظروف العمل بهدف تحسين وضعك الصحي أو المحافظة عليه؟
32. ما الذي يحول دون السماح لك بالقيام بهذا التغيير (الرجاء رسم دائرة حول الخيارات الممكنة؟)

1. إن المشكلة غير خطرة، فلا حاجة إلى العجلة
2. تفتقر إلى الوقت
3. تفتقر إلى الطاقة
4. تفتقر إلى المال
5. لا تعرف من أين تبدأ
6. لست واقعاً ممكناً القيام به
7. لم تلمس أي تشجيع من قبل زملائك أو عائلتك أو أصدقائك
8. لم يمنحك صاحب العمل التشجيع أو المساعدة
9. لا تريد تغيير طريقة عملك
10. لست واقعاً من قدرتك على تغيير الوضع
11. إنك ترضخ حاليًا للكثير من الضغوطات
12. لا تعرف ما الذي يعوقك
13. غيرها:

33. ما هو تقييمك لشروط السلامة والصحة في مكان عملك؟
1. جيدة جدًا
2. جيدة
3. لا يُس　
4. سيئة
6. وضع العامل النفسي-الاجتماعي في العمل

34. كيف تجد عملك بشكل عام؟
1. غير مجد بئأًا
2. مجد قليلاً
3. مجد بشكل معتدل
4. مجد كثيرًا
5. مجد إلى حد لا يُحتمل

35. ما رأيك بشروط عملك؟
1. مرضية جدًا
2. مرضية
3. غير مرضية
4. غير مرضية أبدًا
5. لا أعرف/لا رأي لي فيها

36. هل يُعرّضك عملك لإساءة فظيّة و/أ لمواجهة مع الزبائن والناس؟
1. نادرًا جدًا أو أبدًا
2. نادرًا
3. أحيانًا
4. غالبًا
5. غالبًا جدًا أو دائمًا

37. الرجاء تصنيف التصريحات التالية الخاصة بصنع قرار يتعلق بسلامتك في مكان العمل:

<table>
<thead>
<tr>
<th>لا أعرف</th>
<th>أبدًا</th>
<th>نادرًا</th>
<th>أحيانًا</th>
<th>دائمًا</th>
<th>هل السيطرة على صحتي</th>
<th>هل قدرة على التغيير والتأثير على ما يحصل لي في العمل</th>
<th>هل راضٍ عن حالتي في العمل المتصلة بأخذ القرارات التي تؤثر على صحتي وسلامتي في العمل</th>
<th>غالبًا ما أشعر في العمل أني مضطر على فعل أو أخذ قرارات أعرف أنها تؤثر سلبًا على صحتي العقلية أو الجسدية</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>37.1</td>
<td>37.2</td>
<td>37.3</td>
<td>37.4</td>
</tr>
</tbody>
</table>
38. الارجاء وضع علامة للإشارة إلى التصريحات التي توافق أو لا توافق عليها. ومن ثم، قم بتاريخ مدى ازعاجك من الوضع.

<table>
<thead>
<tr>
<th>غير منزعج</th>
<th>منزعج كثيَرًا</th>
<th>منزعج</th>
<th>أوافق</th>
<th>لا أوافق</th>
</tr>
</thead>
<tbody>
<tr>
<td>ب</td>
<td>ج</td>
<td>د</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>ج</td>
<td>ب</td>
<td>د</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>ب</td>
<td>ج</td>
<td>د</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>ج</td>
<td>ب</td>
<td>د</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>ب</td>
<td>ج</td>
<td>د</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>ج</td>
<td>ب</td>
<td>د</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>ب</td>
<td>ج</td>
<td>د</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>ج</td>
<td>ب</td>
<td>د</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>ب</td>
<td>ج</td>
<td>د</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>ج</td>
<td>ب</td>
<td>د</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>ب</td>
<td>ج</td>
<td>د</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>ج</td>
<td>ب</td>
<td>د</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>ب</td>
<td>ج</td>
<td>د</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>ج</td>
<td>ب</td>
<td>د</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

<p>| 38.1 | أعاني من ضغط العمل المستمر بسبب كثرة الانتقال إلى السؤال التالي |
| 38.2 | يتم مقاطعتي ويتم إزعاجي دائمًا خلال العمل |
| 38.3 | لدي مسؤوليات كثيرة في العمل |
| 38.4 | غالابًا ما أُجبر على العمل بساعات دوام إضافية |
| 38.5 | يطلب عملي جهدًا جسديًا |
| 38.6 | أصبح عملي أكثر تطلباً خلال السنوات القليلة الماضية |
| 38.7 | أحصل على الاحترام الذي أستحقه من المشرفين على عملي |
| 38.8 | أحصل على احترام أستحقه من زملائي في العمل |
| 38.9 | أحصل على الدعم المناسب في الحالات الصعبة |
| 38.10| يتم معاملتي بشكل غير عادل في العمل |</p>
<table>
<thead>
<tr>
<th>غير منزعج</th>
<th>غير منزعج</th>
<th>منزعج كثيراً</th>
<th>أوافق</th>
<th>لا أوافق</th>
</tr>
</thead>
<tbody>
<tr>
<td>ج</td>
<td>ب</td>
<td>أ</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
| الانتقال إلى السؤال التالي

<table>
<thead>
<tr>
<th>ج</th>
<th>ب</th>
<th>أ</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>
| الانتقال إلى السؤال التالي

<table>
<thead>
<tr>
<th>ج</th>
<th>ب</th>
<th>أ</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>
| الانتقال إلى السؤال التالي

<table>
<thead>
<tr>
<th>ج</th>
<th>ب</th>
<th>أ</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>
| الانتقال إلى السؤال التالي

<table>
<thead>
<tr>
<th>ج</th>
<th>ب</th>
<th>أ</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>
| الانتقال إلى السؤال التالي

<table>
<thead>
<tr>
<th>ج</th>
<th>ب</th>
<th>أ</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>
| الانتقال إلى السؤال التالي

**إنّ فرص ترقّيتك في العمل ضئيلة**

**لقد واجهت، أو توقع أن تواجه، تغيّرات لا تناسبني على صعيد وضعي في العمل**

**عملي غير مضمون**

**إنّ مركزي الحالي يعكس مستواي التعليمي والتدريبي**

**نسبةٌ من الجهود التي أبذلها والتحقيقات التي أنججهما، التي أتمّتها بالإحترام والتقدير اللازم، في العمل**

**أجزي مناسب إذ يتمّ أخذ جهودي وإنجازاتي بعين الاعتبار**
39. الرجاء الإشارة إلى مدى موافقتك أو عدم موافقتك على التصريحات التالية:

<table>
<thead>
<tr>
<th>الرد</th>
<th>موافق بشدة</th>
<th>موافق</th>
<th>متوسط</th>
<th>متوسط بشدة</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.1</td>
<td>أرتكب بسهولة بسبب ضغط الوقت في العمل</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>39.2</td>
<td>ما إن استيقظ حتى أبدأ التفكير بمشاكل العمل</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>39.3</td>
<td>عند عودتي إلى المنزل، أخذ قسطًا من الراحة وأنسي مسألاة العمل</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>39.4</td>
<td>يقول الأفراد المقربين متي أتي أضحى كثيرًا من أجل عملي</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>39.5</td>
<td>نادرا ما يفارق العمل خيالي إذ أفكر به قبل النوم</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>39.6</td>
<td>أعتني من مشاكل خلال الليل إذا ما قمت بتأخير عمل إلى الغد</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
رأي العامل حول موقف الإدارة تجاه السلامة والصحة المهنية

40. كيف تصف علاقاتك بالإدارة وبيزماناك في العمل بشكل عام؟
1. جيدة جدًا
2. جيدة
3. حيادية
4. سيئة
5. سيئة جدًا

41. هل تعتبر أن الموظفين والإدارة يعملون معًا بهدف منح ظروف العمل مزيدًا من السلامة؟
1. أوافق بشدة
2. أوافق
3. لا أوافق
4. أعارض بشدة
5. لا أعرف

42. هل تعتقد أنه بإمكانك الاعتماد على النقابات لحماية حقوقك على مستوى السلامة والصحة المهنية؟
1. أوافق بشدة
2. أوافق
3. لا أوافق
4. أعارض بشدة
5. لا أعرف

43. الرجاء تصنيف التصريحات التالية المتعلقة برأيك بموقف الإدارة تجاه السلامة والصحة المهنية:

<table>
<thead>
<tr>
<th>لا أعرف</th>
<th>أبداً</th>
<th>نادرًا</th>
<th>أحياناً</th>
<th>دائمًا</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

| تعتبر الإدارة سلامة الموظفين من ضمن أولوياتها | 43.1 |
| بيدي صاحب العمل اهتمامًا صادقاً تجاه سلامة موظفيه | 43.2 |
| يبذل صاحب العمل كافة الجهود للحد من أخطار العمل | 43.3 |

411
الممارسات المتعلقة بسلامة العامل وصحته في مكان العمل

44. هل خضعت للفحوصات الطبية المخصصة لما قبل التوظيف في العمل؟
   1. نعم
   2. كلاً

45. هل تخضع بانتظام للمعاينة الطبية خلال فترة التوظيف؟
   1. نعم
   2. كلاً

46. هل خضعت عند توظيفك للبرنامج التدريبي الرسمي؟
   1. نعم
   2. كلاً — انتقل إلى سؤال رقم 48

47. إن أجبت بـ "نعم"، هل يتناول هذا البرنامج التدريبي مشاكل السلامة والصحة؟
   1. نعم
   2. كلاً

48. الرجاء الإشارة إلى نسبة ظروف العمل الصعبة التي تواجهها في مكان العمل وتعرض سلامتك للخطر (الرجاء رسم دائرة حول الخيار/الخيارات الممكنة).

<table>
<thead>
<tr>
<th>الأخطار</th>
<th>لا يعرف</th>
<th>أبداً</th>
<th>نادرًا</th>
<th>أحيانًا</th>
<th>دائمًا</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>hazards</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>48.1</td>
<td>خطر إجهاد العيون</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.2</td>
<td>مواد كيميائية خطرة</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.3</td>
<td>عوامل بيولوجية أو أعراض معدية</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.4</td>
<td>أخطار الغاز المسمم</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.5</td>
<td>أخطار الناجمة عن الحرائق والتفجيرات</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.6</td>
<td>الأشعة السينية (X-Rays)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48.7</td>
<td>الأخطار الناجمة عن الكهرباء</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

البيان

412
<table>
<thead>
<tr>
<th>رقم</th>
<th>القيمة</th>
<th>ملاحظة</th>
<th>الدالة</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

**Ergonomics**

<table>
<thead>
<tr>
<th>رقم</th>
<th>القيمة</th>
<th>ملاحظة</th>
<th>الدالة</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

**المعلَّم**

<table>
<thead>
<tr>
<th>رقم</th>
<th>القيمة</th>
<th>ملاحظة</th>
<th>الدالة</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>السلامة الشخصية</td>
<td>عمل كثير خارج ساعات الدوام</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 4 3 2 1</td>
<td>48.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>غياب التدريب الكافي المتعلقة بأمور السلامة</td>
<td>48.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>أخطار التنقل، مثلًا: &quot;بسبب استخدام وسائل النقل العمومية وظروف القيادة الخوف على السلامة والأمن الذاتي</td>
<td>48.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 4 3 2 1</td>
<td>48.32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 49.1 هل تعتني بسلامتك وسلامة الآخرين الذين قد يتأثروا بأعمالك أو بأخطائك في العمل؟ |
| 49.2 هل تخضع للإجراءات المتعلقة بسلامتك وصحتك وبالإجراءات المتعلقة بصحة الآخرين وسلامتهم؟ |
| 49.3 هل تفيذ عن المشاكل والأخطار التي تعرض سلامتك للخطر؟ |
| 49.4 هل تتناول الطعام أم المشروبات في الأماكن غير المخصصة؟ |
| 49.5 هل أنت مزود بأجهزة السلامة الشخصية المناسبة؟ |
| 49.6 هل تستخدم أجهزة الحماية الشخصية المقدمة لك؟ |
| 49.7 هل تحافظ على أجهزة الحماية الشخصية بحال جيدة؟ |
| 49.8 هل تُقيَدِّمُي حول إجراءات ووسائل استخدام المواد الكيميائية بطريقة آمنة؟ |
| 49.9 هل تُجِّهُنَك على ما يكتفي من المعلومات المتعلقة بالأخطار التي قد تنتج عن عملك؟ |

50. ألق نظرة على لائحة الأخطار المذكورة أعلاه واختر العاملين أو المشكلتين اللذين تثيران قلقك في مكان العمل؟
51. هل تناقش مع صاحب عملك موضوع السلامة والصحة المهنية؟

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>من غير المرجح</td>
<td>على الأرجح</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

52. هل تكافئ على انصياعك لقواعد السلامة في العمل؟

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>من غير المرجح</td>
<td>على الأرجح</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

53. هل تعاون لانتهاك قواعد السلامة في العمل؟

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>من غير المرجح</td>
<td>على الأرجح</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

54. هل يحق لك القيام بنشاطات تتعلق بالسلامة والصحة المهنية خلال أوقات العمل (كالتدريب والإجتماعات...)?

1. نعم
2. كلا

55. إذا طلب منك المشرف عليك القيام بنشاط تعتقد أنه قد يعرض سلامتك وصحتك للخطر، ماذا تفعل؟

1. أقوم بما يطلب منه من دون التنمر أمام الإدارة
2. أقوم بما يطلب منه ولكن أشتكى أمام الإدارة
3. لا أقوم بما طلب منه قبل التأكد منه لا يعني لي الخطر
4. لا أعرف ما قد أفعله
56. هل توفر مسألة تعليم نماذج الحياة الصحية للموظفين وفقا للمواضيع التالية؟ (الرجاء رسم دائرة حول الخيار/الخيارات الممكنة).
١. التدخين
٢. تعاطي المخدرات وشرب الكحول
٣. التغذية
٤. فيروس نقص المناعة البشرية
٥. السيطرة على الإجهاد
٦. الرياضة والتمارين

57. هل تطبق المؤسسة سياسة محددة في مكان العمل متعلقة بالمجال التالي؟ (الرجاء رسم دائرة حول الخيار/الخيارات الممكنة).
١. التدخين
٢. تعاطي المخدرات وشرب الكحول
٣. التغذية
٤. فيروس نقص المناعة البشرية
٥. السيطرة على الإجهاد
٦. الرياضة والتمارين

58. هل تعتبر أن اتخاذ تدابير حماية السلامة والصحة في مكان العمل أولوية؟
١. نعم
٢. لا

59. لذا لا؟

60. نعم؟ كيف؟
<table>
<thead>
<tr>
<th>المراجع</th>
<th>الأقسام</th>
<th>الأسلة</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I. الديموغرافيا الاجتماعية</td>
<td>1-7</td>
</tr>
<tr>
<td></td>
<td>II. معلومات عامة</td>
<td>8-13</td>
</tr>
<tr>
<td></td>
<td>III. معرفة تنظيمات السلامة والصحة المهنية</td>
<td>16-17</td>
</tr>
<tr>
<td></td>
<td>III. معرفة تنظيمات السلامة والصحة المهنية</td>
<td>18-19</td>
</tr>
<tr>
<td></td>
<td>III. معرفة تنظيمات السلامة والصحة المهنية</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>IV. المعرفة عن الصحة والسلامة في مكان العمل</td>
<td>22-23</td>
</tr>
<tr>
<td></td>
<td>V. النظر في وضع العامل الصحي الجسدي في العمل</td>
<td>24-27</td>
</tr>
<tr>
<td></td>
<td>V. النظر في وضع العامل الصحي الجسدي في العمل</td>
<td>37-38</td>
</tr>
<tr>
<td></td>
<td>V. النظر في وضع العامل الصحي النفسى في العمل</td>
<td>28-35</td>
</tr>
<tr>
<td></td>
<td>VI. تأجيج الإجراءات المتعلقة بسلامة العامل وصحةه</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>VII. الممارسات المتعلقة بسلامة العامل وصحةه</td>
<td>39-44</td>
</tr>
<tr>
<td></td>
<td>VIII. الممارسات المتعلقة بسلامة العامل وصحةه</td>
<td>45-47</td>
</tr>
<tr>
<td></td>
<td>VIII. الممارسات المتعلقة بسلامة العامل وصحةه</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>VIII. الممارسات المتعلقة بسلامة العامل وصحةه</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>VIII. الممارسات المتعلقة بسلامة العامل وصحةه</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>VIII. الممارسات المتعلقة بسلامة العامل وصحةه</td>
<td>51-54</td>
</tr>
<tr>
<td></td>
<td>VIII. الممارسات المتعلقة بسلامة العامل وصحةه</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>VIII. الممارسات المتعلقة بسلامة العامل وصحةه</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>VIII. الممارسات المتعلقة بسلامة العامل وصحةه</td>
<td>57</td>
</tr>
</tbody>
</table>

لائحة المواد المرجعية:
<table>
<thead>
<tr>
<th></th>
<th>المسار المتصل بسلامة العمل وصحة</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>VIII</td>
<td>الحكومة اللبنانية (2004). المرسوم اللبناني رقم 2002: تنظيم الحماية والسلامة والصحة المهنية في كافة الشركات الخاضعة لقانون العمل. المادة 58.</td>
<td>60.1</td>
</tr>
<tr>
<td>VIII</td>
<td>الحكومة اللبنانية (2004). المرسوم اللبناني رقم 2002: تنظيم الحماية والسلامة والصحة المهنية في كافة الشركات الخاضعة لقانون العمل. المادة 58.</td>
<td>60.2</td>
</tr>
<tr>
<td>VIII</td>
<td>الحكومة اللبنانية (2004). المرسوم اللبناني رقم 2002: تنظيم الحماية والسلامة والصحة المهنية في كافة الشركات الخاضعة لقانون العمل. المادة 19.</td>
<td>60.4</td>
</tr>
<tr>
<td>VIII</td>
<td>برلوس، 2005</td>
<td>63</td>
</tr>
<tr>
<td>VIII</td>
<td>الأمم المتحدة للعمل الدولي (1981). الاتفاقية رقم 155 المتعلقة بالسلامة والصحة المهنية. المادة التاسعة.</td>
<td>64-67</td>
</tr>
</tbody>
</table>
Appendix 14

Template Form for Inspection in Enterprises in English and Arabic, as Retrieved from the Lebanese Ministry of Labour
<table>
<thead>
<tr>
<th>Name of the Establishment:</th>
<th>Registration #:</th>
<th>Major Production:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAL</td>
<td>Proprietorship</td>
</tr>
<tr>
<td></td>
<td>S.A.R.L</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address; City; Region:</th>
<th>Street; Bldg; Phone; P.O.Box:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of Owner:.........</th>
<th>Nationality:.....................</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The activity of the Establishment is</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent...............Seasonal.....Temporary.....</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the person in charge with whom the visit was performed:</th>
<th>Position:.....</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Number of employee</th>
<th>Male.....</th>
<th>Female......</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adolescent</td>
<td>Children.....</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Lebanese employee</th>
<th>Male.....</th>
<th>Female......</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adolescent</td>
<td>Children.....</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of foreign employee</th>
<th>Male.....</th>
<th>Female......</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adolescent</td>
<td>Children.....</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the foreigner</th>
<th>Nationality</th>
<th>Monthly salary</th>
<th>Permit</th>
<th>Expiry date</th>
<th>Job</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is there in this Establishment (YES, NO)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Social Services | Scholarships | Occup injuries/insurance | Library |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Scholarships</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lodging premises</td>
<td></td>
<td>Medical assistance</td>
<td>Raise in Salary</td>
</tr>
<tr>
<td>Amusement Facilities</td>
<td></td>
<td>COOP.</td>
<td>Bonus</td>
</tr>
<tr>
<td>Sport facilities</td>
<td></td>
<td>Lectures</td>
<td>Profit distribution</td>
</tr>
<tr>
<td>Share Holding</td>
<td></td>
<td>Saving facilities</td>
<td>Promotion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Supermarket</td>
</tr>
<tr>
<td>Items</td>
<td>Abbreviations</td>
<td>Available</td>
<td>Not available</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>---------------</td>
</tr>
<tr>
<td>1-Registration of the employee in MOL</td>
<td>I- Item, D-Decree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Salary Registry</td>
<td>D -35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Occupational Registry</td>
<td>I-136/1983</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-Basic Salary</td>
<td>I - 44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-Working day timetable</td>
<td>I - 35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-Daily rest</td>
<td>I - 34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7- Weekly rest</td>
<td>I - 36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8- Annual vacation</td>
<td>I -39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9- Over time</td>
<td>I -33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-Consent of the Employee on the</td>
<td>I -66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal rules of the Establishment</td>
<td>I -22 &amp; 23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-Working schedule of Adolescents &amp; children</td>
<td>I -73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-Sanction Registry</td>
<td>I 1,2,3,L 6695</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13-Penalties &amp; its distribution</td>
<td>dt 1/4/1994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-Ventilation, cleanliness, illumination, potable water, bathrooms</td>
<td>I-1,2,3,4,5,7, D 6341</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-Locker, Dressing rooms</td>
<td>dt24/10/51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-Seats for female employee whose daily work is in standing position</td>
<td>I -8, D -6341</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-Primary care kit</td>
<td>I -10, D -6341</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-Physician if &gt; 20 employee</td>
<td>I-12,D -6341</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-Permit for revolving engines</td>
<td>I 22, D 6341, D10122, dt26/8/55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-Safety &amp; health precautions</td>
<td>I-19-39, D 6341</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-Permit for boilers</td>
<td>I-31, D6341</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-Group contract</td>
<td>D17386 dt2/9/64</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Result of the visit

Signature of the inspector
<table>
<thead>
<tr>
<th>اسم المتقدم</th>
<th>تاريخ الزيارة</th>
<th>دولة</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- اسم المؤسسة: 
- رقم العمل: 
- شكل المؤسسة: 
- مكان اللقائي: 
- المنازل: 
- السكناء: 
- عنوان العمل: 
- الاسم: 
- الجنسية: 
- الرقم القومي: 
- تاريخ الولادة: 
- رقم الجبريل: 
- تاريخ الإفلاس: 

- في المؤسسة:
  - إคำถามات: 
  - إدارات: 
  - إشخاص: 
  - إداري: 
  - إدار: 
  - إداري: 
  - إداري: 
  - إداري: 
  - إداري: 
  - إداري: 
  - إداري: 

- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 
- ملاحظات: 

---

422
<table>
<thead>
<tr>
<th>номер</th>
<th>ملاحظات</th>
<th>وجود لا يوجد</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

القيمة الإجمالية: 423
Appendix 15

Participation in International Conferences and Interviews
MATERIAL REDACTED AT REQUEST OF UNIVERSITY