

A Review on Occupational Health and Safety Risks in Micro and Small-scale Enterprises (MSEs) in Oman

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Abstract

MSEs contribute most adversely into country's economic development, as it remains the scene of comparatively increased numbers of incidents, accidents, injuries and fatalities compare to medium and large scale enterprises. These adverse effects of MSEs reveals disregard for Occupational Health and Safety (OHS) and leaving open the debate regarding the safety of its workers, employees and employers in these enterprises. In this paper the authors has reviewed the OHS risks in MSEs in Oman. The reasons for higher occupational risk in MSEs have been identified in this study. The study findings will be useful to the government and decision makers in the planning of occupational health and safety interventions for the informal MSEs industrial sector within the entire country.

Keywords

Micro Small-scale Enterprises, Occupational Health and Safety, Oman

1.0 Introduction

Around the world, Micro and Small-scale Enterprises (MSEs) show confounding behaviors to the country's economic development. At one side, it has acted as an engine of growth for the economic development since long time. Despite of these undeniable prospects, on the other side, MSEs contribute most adversely into country's economic development, as it remains the scene of comparatively increased numbers of incidents, accidents, injuries and fatalities compare to medium and large scale enterprises. These adverse effects of MSEs reveals disregard for Occupational Health and Safety (OHS) and leaving open the debate regarding the safety of its workers, employees and employers in these enterprises. For decades, enterprises have embraced many systems to minimize occupational accidents, incidents, yet despite the best intention, there has been little reduction in the rate at which people are injured or killed at work in MSEs (Pingqing et al., 2006). Similar scenario prevails in Oman, when statistics from the Public Authority for Social Insurance (PASI) reports indicate that although workers' income has increased gradually, workers especially those in MSEs suffer a high level of occupational disability and death for almost every year (Public Authority for Social Insurance, 2012). So similar to other countries, Occupational Health and Safety (OHS) in smaller enterprises has increasingly found its weight among workers, business, governments in Oman; this in turn prompts the investigations and studies among occupational health practitioners and researchers to meet the competence expected of the decision makers. Thus, any study like present thesis work would be the basis of an effective occupational health and safety rules and regulation for enterprises.

2.MSEs and their OHS perspectives

There is no internationally accepted definition of a MSE (Reverente, 1992). In most of the cases, the number of employees and their annual turnover has been the criterion for categorizing industries as a whole. It shows in Europe that an enterprise is considered to be small if it has fewer than 50 employees and the annual turnover does not exceed €7 million and to be a micro enterprise if it has fewer than 10 employees and the annual turnover does not exceed €2 million (EU, 2005; Zorpas, 2010). In India, small enterprises has less than 50 employees and the annual turnover does not exceed \$ 1.25 million; micro enterprises has less than 10 employees and the annual turnover does not exceed \$62,500 (Sharma, 2011). In Saudi Arabia, small enterprises has less than 20 employees and micro enterprises has less than 5 employees and the enterprises with annual turnover less than SR 5 million is considered to be a small and micro enterprise (Saleh, 2012).

Frijns and Vliet (1999) define small-scale industries as small-scale industries include traditional (artisan) and informal sector micro-enterprise in addition to formal enterprises. Therefore, small-scale industries comprise both micro-enterprises (1-9 employees) and small enterprises (10-50 employees), characterized by simple manufacturing or working methods. The preponderance of small-scale industries, in particular the informal sector and their employment of a substantial percentage of the work force necessitate great attention towards the health and safety problems due to greater accident, injury, and death rate in this sector (Reverente, 1992). Paying attention to occupational health and safety in this sector and improving working conditions, indisputably have noticeable impact on national production, economy and quality of life.

In spite of the distinguish facts and the vital importance of occupational health and safety in MSEs, unfortunately, occupational health and safety are practically nonexistent or, at best, minimal (Choobineh et al., 2004) and have been a neglected area (Jafry and O'Neill, 2000). This sector is almost exempted from workers compensation law and other occupational safety and health regulations. In many countries, government agencies, responsible for safety and health, are unaware of the risks facing workforces, and occupational health services do not reach out to this group of workers (McCann, 1998). Much of the experience and recorded evidence indicate that the workers in small enterprises constitute an under-served population from the standpoint of their health and safety (Glass, 1998). In spite of the lack of reliable quantitative data, experience has demonstrated that the characteristics of small-scale industries result in a greater likelihood of musculoskeletal injuries, accidents and poisoning (Choobineh et al., 2004). In facts, the micro and smaller enterprises (MSEs), even medium scale enterprises are being dealt as a whole in OHS issues, although it is highly acknowledged that methods developed for larger enterprises cannot be simply transferred to smaller enterprises (Micheli and Cagno, 2010). In addition, standards set by the ILO have mainly applied to the formal sector of labor, that is, to workers in large-scale, organized industries (Chen et al., 1999). In other words, although the debate concerning the size of the enterprises and their corresponding accident rates is ongoing, very little attention is paid to the difference between the Micro, the Small, and the Medium-sized Enterprises. Meanwhile, in the perspectives of OHS, all enterprises are: considered and supported as whole by the specific Associations (as an example, see the European Agency for Safety and Health at Work) (Micheli and Cagno, 2010); regulated as a whole (even together with LEs); generally studied as a whole scientific phenomenon, in terms of OHS- performance; generally studied as a whole scientific phenomenon, in terms of OHS- factors (perceived importance of safety, investments in safety interventions).

2.1 The well-beings of MSEs

MSEs make the backbone of the economy worldwide as they cover most of businesses that account for maximum Gross Domestic Product (GDP) created and employ most of the workers in the countries. Table 2.1 shows contribution of MSEs on economy around the world. In addition, MSEs promote industry and expand employments opportunities in both rural and urban areas through developing a pool of skilled and semi-skilled workers, and supplying material components and sub-assemblies to large enterprises (Vanadzins and Mati sâne, 2011). Consequently, more and more countries have realized the potential of the micro and small enterprises that employments and economic growth to the large extent depend on these enterprises. Both government and scientific interests in occupational health and safety in MSEs have grown considerably during the last few decades.

2.2The ill-beings of MSEs

The accidents, injuries, and death statistics for MSEs of different countries are published in various literatures and International Labor Organization (ILO) (Table 2.2 and 2.3) are significantly alarming. There is strong evidence for high accident, minor and major injury, and fatality risks in micro and small enterprises. Such as higher accident rates (Fabiano et al., 2004; Kines and Mikkelsen, 2003 for major injuries; Mayhew, 2000; Stevens,1999 for major injuries; Salminen, 1993; McVittie et al., 1997; Suruda and Wallace, 1996; Suruda and Emmett, 1988 for fatalities; Nichols, 1989) and larger magnitudes (in terms of #lost days; Fabiano et al., 2004; McVittie et al., 1997) in small sized enterprises if compared with the case of the larger ones . They show how health and safety problems are still a major concern in these enterprises.

Table 2.1 The contribution of MSEs into the country's economy in worldwide

Country	No of enterprises		% of employment		Source
	Micro	Small	Micro	Small	
USA	99%		52%		MacEachen et al., 2010
Germany	88%	10%	34%	18%	Eurostat, 2005
Spain	93%	6%	51%	20%	Eurostat, 2005
France	93%	6%	37%	16%	Eurostat, 2005
Sweden	93%	6%	38%	16%	Eurostat, 2005
Finland	93%	5%	35%	15%	Eurostat, 2005
Denmark	87%	10%	36%	20%	Eurostat, 2005, Hasle and Limborg, 2006
UK	89%	9%	32%	15%	Eurostat, 2005
Italy	96%	3%	57%	17%	Eurostat, 2005
Australia	97%		50%		Senevirante and Phoon, 2006
New Zealand	97%		-----		NOHSAC technical report 12, 2009
India	90%		60 million		Sharma, 2011
Hong Kong	97%		55%		Choobineh et al., 2004
Philippines	99%		49%		Choobineh et al., 2004
Singapore	90%		29%		Choobineh et al., 2004
South Korea	93%		35%		Choobineh et al., 2004, Kim et al., 2006
Iran	96%		85%		Choobineh et al., 2004
Saudi Arabia	92%		80%		Saleh, 2012

Table 2.2 The accidents, injuries, and death statistics of different countries

Country	Cost	Accident	Death	Source
USA	\$ 190 billion	-----	-----	Pingqing et al, 2006
Australia	\$57.5 billion	-----	-----	ASCC, 2009
Canada	\$ 1.917 billion Compensation	0.12 million	176	OCA, 2005
Spain	-----	0.58 million	420	Dupre, 2001
Italy	-----	0.62 million	686	Dupre, 2001
Germany	-----	1.2 million	666	Dupre, 2001
UK	-----	0.26 million	212	Dupre, 2001
India	-----	1.7 million	1509	Pingle, S, 2012
China	\$ 50.5 million	0.01 million	2455	Liang and Xiang, 2006; 2004
Europe		10 million/yr	6000/yr.	Walters, 2004

Table 2.3 Worldwide injuries and death of Micro and Small businesses released by ILO

Year	Workplace injuries	Death	Source
2000	431 million	2 million	Alli, 2001
2007	250 million/yr.; 8/sec	1.3 million	Fera and Macchiaroli, 2010

3.0 The Reasons of higher OHS risks in MSEs

The literature has only to a limited extent studied the reasons for the higher risk. The general reason is that almost all MSEs are physical work oriented businesses and 67.2% of workforce in the world spends more than half of their working day (10.5 hr., during typical week) in any physical works (Creating a health workplace environment: Workbook, British Columbia, 2007). The risk is higher, and the ability to control risk is lower. According to Micheli and Cagno (2008) and Beaver (2003), MSEs have the difficulties in controlling risk due to limited human, economic, and technological resources. In particular, some authors (Hasle and Limborg, 2006; Champoux and Brun, 2003) focused on the lack of capacity of small enterprises to assess and control risks in an effective way. Many researchers claim that small enterprises have special problems with the work environment and less coverage of OHS rules among the workforces, that is, only 3% of workforces are under OHS rule (European Commission, 2010). Psychological work environments are found as the reason of adverse behaviors of MSEs, because psychological work environment is very dependent on the behavior of the individual owner and thus vulnerable to emotional stress (Hasle and Limborg, 2006). Similarly, many studies show that the small enterprises have problems with fulfilling legal requirements for the control of occupational health and safety. Another important point is that the cost of implementing control measures according to the legal requirement is relatively higher in small enterprises than in larger ones (Hasle and Limborg, 2006). Therefore, it is well known that an effective approach to health and safety at work needs a suitable risk assessment phase, the adoption of prevention and protection actions. However, less attention has been paid to these phases in the practice, using non-appropriate tools and methodologies which are either too complex to manage or too simple and subjective, thus not suitable to recognize hazards and reduce the corresponding risks.

4.0 The OHS situation in MSEs in Oman

Oman is a middle-income developed country with around 3 million populations (Oman and the IMF, 2011; World Economic Outlook: Directory of Health affair, Oman, 2011). There is no formal definition of micro, small, and medium enterprises in Oman. All these enterprises belong to small and medium enterprises (SMEs). In Oman, there are more than 48000 SME's, in which the numbers of employees not exceed 50. The SMEs represent 99% of the total number of active private business enterprises, which is near 31% of country's total GDP (Emirate 24/7 Business, 2011; CPI Financial, Bankers, Middle East, 2011). Currently, the Government is planning to increase 5000 more SME's in near future throughout the country (The Muscat daily, 5th, December, 2011). Unfortunately, likewise most of the countries around the world, SMEs account for the greatest occupational health and safety (OHS) problems when it comes to poor working conditions, accidents, and work-related health problems. The figures released by the Public Authority for Social Insurance (PASI) (Public Authority for Social Insurance, 2012) shows that the numbers of occupational disability and deaths of Omani nationals working in the private sector has been increased by 70% and 60% respectively in the past two years, in 2009 and 2010. In 2011, 386 occupational death cases and 234 occupational disability case were reported in Oman. In the same time, 7756 insurance expenses cases were filed in the Royal Oman Police (ROP), which is 13.02% more than previous year. PASI also recorded a 60% rise in lump sum compensation for injuries at workplace for last two years. It is also recorded that the percentage of partial disability from work-related injury increasing significantly for last few years. Overall, occupational death and injuries cost around 4% of total GDP in Oman. Table 4.0 shows the disability, death and total expenses cases recorded by ROP in Oman for 2006 -2011.

Table 4.0 Insurance expenses recorded (for Omani nationals in SMEs) by ROP in Oman for 2006 -2011.

	2006	2007	2008	2009	2010	2011
Lump sum compensation for injuries cases	20	42	32	37	46	59
Disability cases	62	83	108	139	180	234
Death cases	176	197	220	241	329	386
Total expenses cases	4141	4734	5336	6034	6847	7756

Source: Public Authority for Social Insurance (PASI)

Moreover, in the era of globalizing economies, new safety and health risks are emerging as key challenges for informal and rural workplaces in MSEs. These workplaces often use new production systems, such as new machines and hazardous substances without having adequate protection (Kawakami, 2009) and without proper training of using the machines. Workers there often work long and irregular hours and have to accept repetitive and monotonous job contents for immediate income generation. Casual workers, subcontractors, and home-based workers who have unstable employment status are also increasingly facing the emerging occupational safety and health (OSH) risks. They seldom receive the guidance from labor inspectors or adequate OSH training services. Furthermore, Oman is receiving more migrant workers to fill domestic production needs. Migrant workers contribute to the socio-economic development of the recipient countries and they are often unfamiliar with the language and culture of the recipient country and have elevated risks of accidents and injuries at the workplace (El-Sheikh, 2005).

The Oman established OHS Law according to the ministerial decree number 145 / 2004 issued by the Ministry of Manpower in 2004 that is integrated in the structure of the environmental health department. The law has been restructured in 2007 according to the ministerial decree number 368 / 2007. But in practice, all the concentrations have been so far possible to only large and Government or semi-Government organizations, that shows the lacking of existing OHS laws especially for micro and small private businesses. Currently government in Oman took several plans associated to OHS in workplace, such as:

- *National Occupational Health Plan (2009 – 2012)* to evaluate the extent of developments and to follow up the implementation of occupational plans, programs, and targeted strategies. That concentrates on some basic principles
 - Intersectoral approach of small and medium enterprises
 - Occupational health and safety advocacy for all enterprises
 - Evidence-based activities of OHS issues.
- *The Oman Future Vision 2020* in addressing the growth of the informal sector (subcontracting, home-based work and self-employment) And, ensuring that working conditions and occupational safety and health issues are properly applied. In order to shape up the national economy, reduce dependence on oil and expatriates, acceptable conditions of work with respect to minimum wages, hours of work, and occupational safety and health; and suitable conditions that would enable Oman to fully meet its commitments as per the free Trade Agreements with the United States.
- *and Decent Work Country Program, 2010-13 along with ILO*
 - That is —safe workplace, safe persons.

5.0 Conclusion

The health status of the workforce in every country has an immediate and direct impact on national and world economies. Total economic losses due to occupational illnesses and injuries are enormous (WHO, 1999). The overall economic losses resulting from work-related diseases and injuries in Britain between, 2005 and 2006, ranged between £2.9 to £3.2 billion (Pathak, 2008). The MSEs sector is extremely heterogeneous because of the diversity in the activities they undertake. Many informal jobs are not only —flexible, precarious and insecure, but are also hazardous and take place in settings which are both unhealthy and unsafe. Such work environments can include, garage, spray painting, metal shop, and carpentry shop in informal or semi-formal market areas, roadsides and poorly serviced homes, all of which can expose the workers who work in them to environmental pollution and disease, electrical accidents, fire hazards, work related discomforts. In addition, with respect to working conditions, informal workers who are employees usually suffer from exploitation in the form of long working hours, a lack of holidays, minimal job security or generally low wages (Alfers, 2009).

The existing National OSH Systems in many countries have steadily extended their OSH protection from the formal sectors (large or medium enterprises) to informal sector (micro and small enterprises) to address existing or new emerging OSH risks. However, main challenge is to reach more vulnerable and unstructured workplaces, including informal business workplaces where many workers find employment opportunities such as metal shop, garage, welding shops, carpentry etc. OSH risks are heavier in these workplaces due to absence of adequate information and it is needed to adopt practical

approaches to provide OSH services and devise the national OSH policy and program which can assist these workers in reducing emerging OSH risks.

The number and type of informal MSEs industries in Oman is not known. And the occupational health and safety risks associated with each type of industrial operation or job has not been documented and accessible. Although, there are some interventions that the government put in place for governmental or semi-governmental large enterprises by providing rules and regulations for them in order to improve hygiene conditions under which they operates their enterprises. But, there are no similar interventions in the informal MSEs industrial sector, which pose the most challenges of health and safety. Interventions could be instituted to address occupational health and safety issues of the informal MSEs industrial sector too. Additionally, to overcome the unfavorable situation, the government in Oman has come out with many legislative models to deal with this situation. But still there is lack of systematic investigation in OHS risks. The present study will investigate the risks factor and their sources and impact in micro and small enterprises which are mainly informal enterprises in Oman. The present study findings, therefore, will be useful to the government and decision makers in the planning of occupational health and safety interventions for the informal MSEs industrial sector within the entire country. Thus, this study would assist in many ways, such as; documentation of the sector, planning of interventions including, perhaps development of health and safety programs for the sector. The findings of the study may also be useful to other countries with similar occupational health and safety problems.

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