PSYCHOSOCIAL RISKS AND WORK-RELATED STRESS IN DEVELOPING COUNTRIES: A CALL FOR RESEARCH AND ACTION IN POLICY DEVELOPMENT

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'We recognize the impact that working conditions can have on health status, health equity and general well-being. Improving employment and working conditions at global, national, and local levels, in particular to reduce exposure to work-related physical and psychosocial hazards, would help to reduce negative health effects of the environment in which people work. We emphasize the need to devise and implement policies to ensure the health and safety of workers ….'

United Nations Economic and Social Council. Ministerial Declaration - 2009 high-level segment. Implementing the internationally agreed goals and commitments in regard to global public health.

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ABSTRACT

This research explores the understanding of psychosocial risks and work-related stress by international multi-disciplinary experts in developing countries. It further explores their views on the perceived health impact of these issues. It identifies preliminary priorities for action while considering similarities and differences in conceptualizing these issues in industrialized and developing countries. Finally, it explores in what ways these issues can enter the policy agenda in developing countries.

This research applies atriangular methodological approach where each stage provides the basis for the development of the next. It starts out with 29 semi-structured interviews to explore the views of experts and also to inform two rounds of an online Delphi survey, which then informed four focus group discussions. The total sample amounted to 120 participants (each sampled once).

Key findings for developing countries indicate that a) psychosocial hazards need addressing due to an impact on workers' health; b) occupational health and safety priorities have changed during the last decade pointing to the need for monitoring of psychosocial hazards and the need to address work-related stress, violence, harassment and unhealthy behaviours together with other workplace hazards; c) socio-economic conditions and processes of globalization need attention in the study of psychosocial hazards and an extended research paradigm is required; and d) there is an ever present need for capacity building, stakeholder mobilization, infrastructure development and international exchange and collaboration to address all workplace hazards.

Developing countries are not spared from the health and economic impact of psychosocial risks and work-related stress, and there will be a need to address these issues through policy development. To pave the way, this dissertation outlines a need for concerted action at different levels.

Keywords: developing countries, psychosocial risks, globalization, informal sector

PREFACE

One of the main responsibilities of international occupational health and safety professionals and those with related background is to act upon existing and to generate new data and approaches to prevent possible negative short- and long-term consequences for workers; developments in industrialized countries can also indicate a way for relevant issues to be addressed in developing countries. However, unless research is conducted that addresses the developing country context itself, little can be achieved to promote good practice. As I am working in an international context with a large number of experts from the occupational health arena and beyond, I became more and more intrigued why developing countries would shy back from tackling emerging issues such as psychosocial risks and often refuse to think more towards comprehensive prevention models. This is despite the fact that the public health impact is now quite well known and researched, at least in industrialized countries with more and more research emerging from developing countries.

Europe has managed to put into place social partner framework agreements on work-related stress and psychological harassment and is currently implementing these. I felt the frequent response that this is not important or relevant for developing countries was not satisfactory. The questions from developing country experts and trade unions in international meetings, however, indicated that there is an issue that needs further exploration and does deserve attention and the provision of solutions. I decided to explore this issue more in-depth within a PhD thesis, which allowed for exploratory research, which my work context currently does not.

This research should add to existing knowledge in the field of occupational health and safety, and at the same time provide a framework for thinking and tackling emerging risks, such as psychosocial risks but also other occupational risks which are not addressed due to lack of missing infrastructures, information and the same. Although the work started out at the micro-level, and addressed a multitude of issues, at the end of the path it opened up to a larger angle. This of course allows for making abstraction from psychosocial risks and work-related stress, as all micro-issues need to be addressed through a much larger scale in order to change the ways governments lead

their countries, the way globalization is going ahead, the way we address poverty, and the way we treat workers.

At the same time, this approach allows to analyse issues at micro level which is a useful approach for developing research evidence and its dissemination, as well as the development of policies. Hence, the focus of this research is on exploring micro issues while discussing these in the context of macro-issues affecting developing countries.

This thesis has to date generated two scientific publications in international journals and one book chapter. Since this work has been developed towards its application, it further continues to inform my professional work and I disseminate findings at international conferences, to policy makers and to researchers.

Focus of the thesis

This study was a first attempt to explore psychosocial risks, work-related stress and more generally well-being of workers in developing countries. The innovative angle refers to the exploration of an issue which has been allotted little or no attention in developing countries. It takes a global approach to the study of the state-of-the-art as concerns psychosocial risks and their management, which is an important occupational risk for experts, their countries and their workers, but invisible to decision-makers (namely psychosocial risks and their impact on workers' health and the wider society). One of the key issues that emerged was that we need to view and to study psychosocial risks, their impact and their relation to other risks, within an extended paradigm in developing countries than has been done so far in industrialized countries, where legislation and its enforcement are largely intact.

The focus of the research study was on the question whether the paradigm applied in industrialized countries is also useful for research and action on work-related stress and psychosocial risks in developing countries. Within this perspective, the thesis explored and presents research findings which encompass a comparison of the state-of-the-art of developing countries with industrialized countries in the realm of the understanding of multidisciplinary experts of psychosocial risks and work-related stress in developing countries. These related issues were explored within the wider occupational health and safety context, such as opinions and perception of needs of preliminary

priorities for action at the workplace and the wider OSH level, gender issues, legislation that addresses these emerging risks, key occupational sectors, and interventions.

These key issues were initially explored through an extensive literature review outlining the global view of the world of work and the need to address psychosocial risks and developing countries (Chapter 1), the state-of-the-art of psychosocial risks in industrialized (Chapter 2) and in developing countries (Chapter 3). Much less is known about the state-of-the-art in developing countries although research efforts are underway albeit in a disjointed fashion. The research methods were explained and outlined in detail (Chapter 4). This research applied triangulation and the combination of qualitative and quantitative methods to yield an in-depth and confirmatory exploration of issues through interviews, focus groups and Delphi surveys. The samples were heterogeneous consisting of multi-disciplinary and international experts from six regions of the world, hence harvesting a large array of perceptions, experiences and knowledge in OSH and related areas. Expert perceptions were explored with respect to the key issues, their opinions about needs and priorities through findings of the interviews and the Delphi surveys (Chapter 5), as well as key issues for moving the area forward discovered through the focus group discussions (Chapter 6). All key findings and key issues were pulled together at the end of the thesis and discussed within the wider socio-economic and political context of developing countries and with respect to the research questions, and the larger literature. Some recommendations for the way forward are also provided (Chapter 7).

Albeit the lengths and at times the depths into which this thesis delves, I hope that the reader will start viewing this neglected area as part of the global efforts on OSH in relation to the macro-context which affects developing countries through globalization, poverty, lack of infrastructures, and which guides political decision-making processes. If this emerging research and action area can be lifted to its real importance and potential and in parallel to the other OSH risks, then this thesis has fulfilled its purpose. Clearly, and this was one of the desires of participants, such a study needs to be conducted at national or local or sectoral level. A global study such as this one will stimulate discussion, raise awareness and encourage research and action at different levels.

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Nelson Mandela, 1918-

CHAPTER 1 : A GLOBAL VIEW OF THE WORLD OF WORK AND THE NEED TO ADDRESS PSYCHOSOCIAL RISKS IN DEVELOPING COUNTRIES

1.1 GLOBALIZATION AND THE CHANGING NATURE OF WORK

1.1.1 The development of globalization

Among the many themes that have raised public attention in recent years, globalization is one of the most debated and analyzed. Yet globalization is not easy to define, and it can mean different things to different people. In its literal sense, it means “the process of transformation of local phenomena into global ones, … a process by which the people of the world are unified into a single society and function together” (Stearns, 2010). At a broad level, globalization is “an increase in the impact on human activities of forces that span national boundaries. These activities can be economic, social, cultural, political, technical, or even biological, as in the case of disease” (Goldin & Reinert, 2007). And according to Sen (2000) it is an intensification of the processes of interaction involving travel, trade, migration and dissemination of knowledge that have shaped the progress of the world over millennia.

Historians argue today as to when in history globalization emerged, which may have been in trade between distant parts of the world that describe early forms of globalization in ancient Egypt, China, Greece and Rome (Stearns, 2010). However, the modern era of globalization could probably be dated back to approximately 1870, since one could regard the period from then until 1914 as the birth of the modern world economy (Goldin & Reinert, 2007). A famous quote by John Maynard Keynes describes his vision of the economy of the world at the time:

> *'The inhabitant of London could order by telephone, sipping his morning tea in bed, the various products of the whole earth, in such quantity as he might see fit, and reasonably expect their early delivery upon his doorstep. …But, most important of all, he regarded this state of affairs as normal, certain, and permanent...' (Keynes, 1920).*

In 1944, the Bretton Woods Conference established the International Monetary Fund (IMF), what was to become the World Bank, and the General Agreement on Tariffs and Trade (GATT) (Reinert & Goldin, 2007). Developing countries were not highly involved at this stage, except as exporters of raw materials or importers of industrial products. According to the World Bank, a developing country[1] has a low standard of living and low per capita income, an undeveloped industrial base, a moderate to low Human Development Index (HDI) score[2], and widespread poverty. Countries with more advanced economies among the developing countries that have not yet fully demonstrated the signs of a developed country are called newly-industrialized countries. These include Brazil, Russia, India, China and recently South Africa, also referred to as the 'BRICs' countries. In China, for example, the rich-poor gap is largely an urban-rural one, and it is still growing. Earnings in rural areas are less than one-third compared to urban areas and hundreds of millions of people earn less than $1/day (UNDP, 2004).

The era since the 1970s, is characterized by rapid technological progress, such as in transportation, communication and information technology, resulting in dramatically lower costs of moving goods, capital, people and ideas across the globe. Frankel (2000) noted, for example, that "now fresh-cut flowers, perishable broccoli and strawberries, live lobsters and even ice cream are sent between Continents". Flexible manufacturing systems emerged, supported by computer-aided production, which has facilitated foreign direct investment and changed the image of industrial production worldwide (Reinert & Goldin, 2007).

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[1] This thesis refers to **developing countries**, while including advanced economies and newly-industrializing countries under this term. **Low income or developing countries**: as per the 2009 World Bank list and the DAC List of ODA, effective from 2006 for reporting on 2005, 2006 and 2007, it is differentiated between *least developed countries and other low income countries*. For the latter the per capita GNI is < $825 in 2004. **Newly-industrializing countries**: As per the DAC List of ODA, effective from 2006 for reporting on 2005, 2006 and 2007, these countries are also called *lower middle income countries and territories* with a per capita GNI of < $826-$3,255 in 2004. Newly industrialized countries are countries with more advanced economies among the developing nations but those that have not yet fully demonstrated the signs of a developed country, are called newly industrialized countries. Countries fitting this profile are currently China and India. **Developing economies**: This term has been used to denote the set of low and middle income economies (World Bank).

[2] According to UNDP, the HDI measures 'average achievement in the 3 basic dimensions of human development – a long and healthy life, knowledge, and a decent standard of living'

1.1.2 Globalization and poverty

Globalization though has been linked to various aspects of poverty. It is important, however, to note that in various periods of the development of the global economy, the relation with poverty kept changing. Poverty grew with increasing globalization from 1870 until the beginning of the Great Depression in 1929, and continued to increase despite the retreat from globalization since then and until the late 1940s. Currently, with increased globalization there is a (mild) decrease in poverty observed at global scale (Maddison, 2001). In this context, Paine (2002) noted that globalization consists also of an important democratic component, which has benefited civil society with millions of people attaining higher standards of living. It has contributed to the spread of human rights and the enhancement of equity in employment law and wider employment in non-traditional spheres of work has brought more men and women into the workforce. This higher income has the potential to increase community wealth and health, improve national economies, provide larger access to education and training, and lead to improved working conditions.

Considering various aspects of economic globalization, a much more differentiated picture emerges. On the one hand, increased international trade that can help alleviate poverty through job creation, increased competition, improved education and health, and technological learning. On the other hand, the cost of living of poor populations would increase once, for example, agricultural subsidies are dropped in support of free trade. While direct investment in countries may result in the creation of jobs, promotion of competition and enhanced education and training of host country workers, it can also result in inferior working conditions[3] and exploitation of the local workforce (Reinert & Goldin, 2007).

1.1.3 Effects of globalization on working and employment conditions

Globalization, thus, has a direct effect on workers. In fact, the labour market is one of the main channels through which globalization can affect developing

[3] General conditions of work define, in many ways, people's experience of work. Minimum standards for working conditions are defined in each country but the large majority of workers, including many of those whose conditions are most in need of improvement, are excluded from the scope of existing labour protection measures…
Source of extract: ILO. www.ilo.org/public/english/protection/condtrav/wordcond/index.htm

countries (Rama, 2003). This is true in terms of both, employment[4] and working conditions. In terms of shifts in occupational sectors, globalization has largely shifted manufacturing to the developing world, where an emerging trend is the growth of service industries, which has also been associated with an increase in musculoskeletal disorders from repetitive and forceful movements and stress-related diseases (Wegman, 2006). The growth of service industries, for example, includes outsourced call centres or information technology. Such a shift seems often to be associated with higher productivity, and higher profitability for multinationals due to weak national regulatory systems (Ahasan, 2001; Hermanus, 1999). Kamusora (2006) also stresses that profitability takes precedence over the improvement of workers' health and working conditions.

One of the reasons for hazardous jobs in developing countries, and to a lesser extent in newly emerging European countries, is that liberalized trade has come together with a transfer of obsolete and hazardous technologies and machinery, relocation of occupational hazards, such as hazardous chemicals, new work and organizational processes, an increase in assembly line, low-quality and precarious jobs (WHO, 2001). Also, it seems that virtually all models of health and safety programmes require trained and experienced personnel to institute them and to provide leadership. However, industrializing countries generally lack trained personnel at every level (LaDou, 2003).

Another reason for hazardous jobs is related to the fact that workplaces are divided into formal and informal ones. Informal sector workers are not protected by any national labour laws. They receive neither health insurance nor pensions, and are not included in any national labour statistics. Minimum standards for working conditions are defined in each country only for the formal sector. In poor countries, agreements are not explicitly subject to any contract, and the informal sector employment forms a high proportion of total employment (ILO, 2000). For this reason, the majority of workers, including

[4] Conditions or circumstances in which a person is engaged in a job or occupation. Very frequently this involves an agreement or relationship between an employer that hires workers and an employee who offers his/her labour power….in poor countries agreements are not explicitly subject to any contract, and the informal sector employment forms a high proportion of total employment. Source of extract: World Labour Report 2000. Income security and social protection in a changing world. Geneva: ILO, 2000.

many of those whose conditions are most in need of improvement, in particular in the informal sector, are excluded from the scope of existing labour protection measures (ILO, 2010c). Globally more than 80% of the workforce is engaged in small-and medium-sized enterprises. This is likely to be more in some developing countries, where the largest workforce can be found in the informal economic sector. For example, in India the informal economy generates about 60% of the national income and of 88 million women workers only 4.5 million work in the organized sector. The situation is more pronounced in Benin, Chad and Mali where the size of the informal economic sector is up to 95% (ILO, 2002; ILO, 2004; Kawakami, 2006; Kogi, 2006).

It seems, moreover, that globalization has led to an increase in the informal sector work (Takala & Hämäläinen, 2009). Studies show that particularly Africa has benefited least from globalization in terms of improved working and employment conditions (Takala & Hämäläinen, 2009). Emerging industries in Central America, for example, “maquiladora” or the assembly industry (Export-Processing Zones) emerged. Companies that have maquiladora status include Wal-Mart, Sony, General Electric, amongst others (Pohl, 2006; War, 2002). In this industry, 90% of workers are women or children, and workplaces are often characterized by unstable jobs, low wages, long working hours, sexual harassment, temporary contracts and subcontracting (Gutierrez, 2000). The case of Mexico’s maquiladora is often cited to illustrate how aggressive pursuit of integration into the global market can result in growing economic and social inequalities among workers (Hualde, 2004). These include falling wages and deteriorating working conditions for many or most workers (Cypher, 2001, 2004), especially for women (Alarcón-González & McKinley, 1999; Fussell, 2000; Martínez, 2004), and increased workplace hazards and industrial pollution (Frey, 2003; Kopinak, 2002; Kopinak & Barajas, 2002). While these new industries make an important contribution to the national economy, the working conditions are likely to have a negative impact on the mental and physical health of workers and their families.

In addition, inadequate social and technical infrastructures in developing countries pose a problem for tackling existing and new occupational hazards efficiently, as the situation on work-related injuries and diseases confirms. Occupational diseases indicate a pathological process caused by the repetition of a work-related activity, such as prolonged exposure to hazards at

work, whose effects may only manifest after long periods of time, since they are often slow and not clearly linked to work conditions. Moreover, they may have multiple potential sources, including lifestyle factors, which make it often difficult to establish whether or not the conditions are directly related to work (Giuffrida, Iunes & Savedoff, 2002).

Furthermore, in a total population of 2.7 billion workers in the world, there are about two million deaths per year that are due to occupational diseases and injuries (Takala, 2002). It is, nonetheless, well known that traditional (widespread) occupational diseases are underreported (Azaroff, Levenstein & Wegman, 2002), and data for nonfatal injuries are not available for most parts of the globe, so that these statistics turn out to be almost certainly gross underestimates (Takala, 2002). The risk for fatal accidents may thus be 10-20 times higher in the newly industrialized and developing countries than in the industrialized countries (ILO, 2003; Rantanen, 2001; Takala, 1998). Schulte (2005) called it essential to bring health and safety standards up to code as quickly as possible worldwide in light of evidence of fatalities and illnesses related to occupational risk exposure.

Fatalities in different sectors have been allotted to the mining, construction and transportation sectors, which represent the most hazardous sectors, followed by public administration, wholesale trade, manufacturing, retail trade, services, finance and insurance (Viscusi, 2003). Also the agricultural sector is considered a high-risk sector. Considering the above, WHO works towards full occupational health service coverage for all workers, including those in the informal economy, small- and medium-sized enterprises, agriculture, and migrant and contractual workers (WHO, 2007).

The recent Tirana Declaration on Rural Health which was adopted at the third International Congress on Rural Health in Mediterranean and Balkan Countries (22-25 September 2010), states that “more than half of the world’s population live and work in villages and bear a disproportionate burden of poverty, diseases, public health and occupational and environmental health risks, and poor access to social protection including social security". The declaration further outlines that “unsustainable, unhealthy and unsafe agricultural practices cause substantial numbers of occupational and work-related diseases, injuries and pesticide poisonings, disabilities, premature

deaths, loss of income potential and human suffering, and thus perpetuate poverty in rural areas". In Southern Asia, for example, rural areas are home to more than 70% of the population, and agriculture is the region's principal occupation, employing more than 60% of the labour force (World Bank, 2009). Agricultural workers are particularly exposed to pesticide poisonings. In Pakistan agriculture is the main sector employing 40% of the workforce. They face physical hazards, sexual harassment, and malevolent behaviour of land owners (Panhwar & Memon, 2007).

Agriculture represents the main source of income in developing countries, but it is also significant for industrialized countries (Colosio, 2007). For most workers in developing countries and in the agricultural sector, there is little distinction between health at work and health at home as they are often the same place. For example, pesticide poisoning is hazardous for workers and their families, as well as the community. Generally, there are increased health and safety risks in all occupations in the developing world, and especially for informal sector workers, which is also often the case in industrialized countries, particularly in the case of unskilled migrants.

In the services sector for the most part call centres represent high pressure working environments. Call centres have been referred to by the media as 'electronic sweatshops' due to limited task variety, little control over when to take calls and how long to spend on them and other restricting circumstances (Sprigg, Smith & Jackson, 2003). Sprigg, Smith and Jackson (2003) looked at call centres in different sectors. Information technology (IT), and telecommunications turned out to be the largest sectors. The fastest growing sector is IT and researchers often study the impact of the expansion and increasing complexity of this sector which is related to work-related stress. Researchers realized that urgent action is required as the problem will only increase if nothing is done to combat it (Aziz, 2003).

These sectors are followed in exposure to psychosocial risks and work-related stress by finance, the public sector, and smaller sectors such as retail, utilities, hotels and leisure, transport and travel, and emergency services. Findings alert to high job-related depression, low job satisfaction, and insufficient use of skills, particularly by call handlers. Anxiety levels are broadly similar across the different roles (HSE, 2003).

Clearly, coupled with poverty and ill health, the problem is worsened in developing countries with the migrant workforce mostly facing extraordinary risks. They usually do unattractive and often dangerous work. And, in particular, unskilled migrant workers from developing countries experience occupational accidents which do not always show up in official occupational accident records (Takala & Hämäläinen, 2009). For example, mining workers in South Africa, who often come from neighbouring countries, face high risks of silicosis, tuberculosis and HIV/AIDS (Trapido et al., 1996), in addition to the dangers they face working in a mine underground, such as exposure to silica dust or fatal accidents.

As a matter of fact, workers in developing countries often face combined risks of traditional and emerging risks, despite the fact that we now have widespread knowledge about these and effective preventive measures (Kjellstrom & Rosenstock, 1990). It seems, therefore, unfortunate that, in general, occupational health remains neglected in developing countries because of competing social, economic and political challenges (Nuwayhid, 2004). The cycle of poverty (Figure 1.1) clearly depicts the vicious cycle between poverty, ill-health and hazardous jobs in the absence of any kind of worker protection. One can start looking at the cycle from any circle and take the direction of the clock. One example would be that those who live in poverty will most likely be engaged in hazardous jobs. These in turn will be likely to cause injury. And this cycle would infinitely continue without any external intervention, which could be enforced legislation or policy at national level.

The figure outlines that the world of work has been changing throughout the centuries, but that, particularly during the last few decades, the growth of large multinational companies has been accompanied by greater decentralization, outsourcing and flexible work environments, with wide variations in the conditions of work and in exposure to occupational hazards (Rantanen, 1999). Voyi (2006) stresses that poorer countries remain indebted to the rich, so that resources are ever-scarce for their own development, which causes an ethical vacuum and a negative impact on workers' health. Without effective international interventions the process of globalization may increase the vulnerability of certain populations (Voyi, 2006).

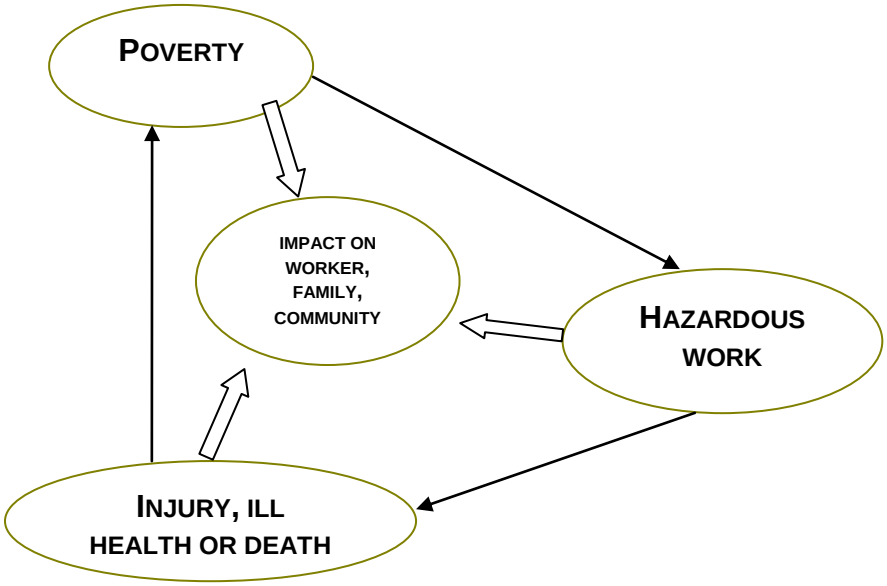


Figure 1.1 Cycle of poverty for workers, their families and the community
Source: WHO official presentation material in expanded version

Voyi's argument becomes even stronger with the fact that 80% of the world's GDP is produced in industrialized countries and only about 20% in developing countries. In other words, one fifth of the world's working population produces four fifths of the world GDP (Rantanen et al., 2004). It follows that wealth and prosperity are extremely unequally shared between developing and industrialized countries given that 80% of the global workforce resides in the developing world (Rosenstock, Cullen, & Fingerhut, 2006), and is subjected mostly to unhealthy and unsafe working conditions (WHO, 2007a).

Pressure is growing, and Elliott and Freeman (2003) argue that China's growing role in the global economy will lead to increased pressure from consumers and investors to improve the rights of its workers. The BRICs countries are catching up fast with industrialized countries on the global markets to ensure their shares, while at the same time they need to keep in their perspective the power of the prosperous consumer.

Also the effects of globalization on Europe have not been mild, not alone due to the threat of unemployment through moving production plants to lower cost sites, but also though the establishment of new work methods such as lean production and just-in-time production (Boisard et al., 2003; EFILW, 2005).

Also in Europe, these practices led to an increase in self-employed workers and poor compliance with occupational health and safety regulations (European Parliament, 2006), which also led to increased job insecurity and increased concerns for the future (Sverke et al., 2006).

It is particularly interesting in this context to think of the new European countries and those that are in the pipeline to be embraced by the European Union, as a stepping stone from the countries in economic development to industrialized country status. For example, the South-Eastern European countries (e.g., Albania, The Yugoslav Republic of Macedonia, Bosnia, Romania, and Moldova) have been affected by civil conflicts or war and political unrest. They have also seen changes in the world of work, and changes in lifestyle. Policies and systems still require adapting and adjusting amidst the changing socio-economic and political conditions faced by these countries. They need to identify gaps at regional and national levels, and challenges lie in the fact that policies must be aligned to European standards. To support this process, the European Union provides grant support for economic transformation of Central and Eastern European countries, including occupational health and safety projects. As of 2000, the European Union has also expanded collaboration beyond Europe, with African, Caribbean and Pacific countries, realizing the close links between continents and the strengths they can generate through international collaboration.

1.1.4 Traditional and emerging workplace risks

Every kind of work is linked to certain occupational risks. The changing economic context has been associated with a shift in the types of risks encountered in the work environment, with new types of workplace hazards emerging in addition to traditional ones. Traditional workplace risks can be broadly divided into physical risks, which include biological, bio-mechanical, chemical and radiological risks. Emerging workplace risks include psychosocial risks, as well as exposure to a number of new and emerging chemicals and processes of which the consequences for human health are still unknown (e.g., nanotechnology). There is an evident delay in controlling these modern and emerging risks in developing countries, since many still struggle extensively with the more well-known traditional occupational risks. These are increasingly controlled in industrialized countries, a fact which

explains the switch of attention to the modern hazards of working life (e.g., EU-OSHA, 2007, 2009, 2010).

Physical risks not only interact with one another in producing their effects, but may also interact with psychosocial risks (e.g., Melamed et al., 1999; Schrijvers et al., 1998). For example, Broadbent (1971) has described how noise and sleep loss might interact in affecting task performance. There is also evidence that exposure to poor equipment and work station design, in conjunction with poor task design and work organization give rise to work-related upper limb disorders (Chatterjee, 1987, 1992; HSE, 1990a). Published studies point to the fact that traditional risks are intrinsically related to psychosocial risks, since both have the potential for detrimentally affecting social and psychological health as well as physical health. Therefore, we have to think about psychosocial risks as risks to both, psychological and physical health (Cox, 1993). Overall, there is substantive evidence to suggest that poor physical working conditions, in general, can affect both workers' experience of stress and their psychological and physical health (Warr, 1992).

1.2 NEW GLOBAL CHALLENGES TO OCCUPATIONAL HEALTH

1.2.1 Differing priorities in developing and industrialized countries

Given the variety of working conditions and the plethora of associated health hazards (which developing countries also face), a complex picture arises. Although many developing countries still struggle with traditional risks, they are obliged to address also emerging issues, such as psychosocial risks. As described above, many differences exist between industrialized and developing countries in terms of economic, social and political circumstances, but also in knowledge, development and application of policies and interventions at different intervention levels. Industrialized countries should, therefore, also have different occupational health and safety priorities. Contemporary international occupational health experts identified priorities reproduced in Table 1.1. The dichotomy confirms that priorities in industrialized and developing countries differed in 2001 (Rantanen, 2001).

Table 1.1 Priorities in developing and industrialized countries

Priorities in developing countries	*Priorities in industrialized countries*
Agriculture	Stress
Other dangerous occupations, mining, construction, forestry	Ageing workforce
Transfer of hazardous technologies	Right to know, informed consent, transparency
Major accidents and fires	Chemicals, particularly high production volume chemicals (HPV), & new chemicals
Accidents, safety, housekeeping, and productivity	Ergonomics, manual handling
Toxic metals, solvents	Allergy
Organic dusts	Indoor air
Vulnerable groups, child labour	New technologies
Heat stress	Management and safety culture
Heavy physical work	Occupational health services

Source: Rantanen, Lehtinen & Savolainen, 2004

Generally, priorities in industrialized countries primarily refer to health consequences such as stress and allergies, as well as to management processes and the availability of health services. In developing countries priorities are related to hazardous occupational sectors, physical threats and vulnerable groups. Psychosocial risks and stress at work are not part of the equation.

Although work-related stress and other psychosocial risks are absent from this priority list for developing countries, they have been mentioned in a scattered fashion in the literature. Currently, a number of activities are underway to identify their relevance and impact. For example, South African surveys of occupational health practice found that workers are exposed to new chemical, psychosocial and physical risks that are emerging from new forms of industrial processes and work organization (Loewenson, 1998). More recently a very extensive Colombian study examined the origins of diseases derived from work-related stress and recorded in 14 cities. 40% of cases were in official security services personnel, and 33% occurred in different service enterprises.

The Colombian Federation of Insurance Companies FASECOLDA (2002) found that 0.5% of occupational diseases were caused by stress, and that violence is one of the most important causes of occupational stress disorders in the country.

Between 1994 and 2004, only 22% of diseases were considered work-related, a surprisingly low number given the number that actually reported work stress. This suggests that there is a lack of awareness of stress as a precursor to diseases (Villalobos, 2007), but also lack of knowledge about causes, consequences, assessment and management methods and their application.

More recently, the WHO emphasized that world developments and research findings indicate a need for addressing psychosocial risks and work-related stress, and that these are of increasing concern globally (Houtman, Jettinghof & Cedillo, 2008). In fact, already in 1995, the World Health Organization alerted to the reality that approximately 30-50% of workers reported hazardous physical, chemical or biological exposures or overload of unreasonably heavy physical work or ergonomic factors that may be hazardous to health and to the working capacity; an equal number of working people reported psychological overload at work resulting in stress symptoms (WHO, 1995). Worldwide there is currently no evidence of any improvements.

1.2.2 Work-related stress and psychosocial risks

In this context, it is noteworthy that stress at work has been an extensively discussed topic by laypeople and professionals and that currently there does not seem to be one common global denominator, or an unequivocal language, but only a more general understanding of the phenomenon by most professionals. Stress is, therefore, presumed to result from a complex set of dynamic phenomena, and is not just as a consequence of a single external event, acting on a person (WHO, 2010b). Also work-related stress is not an emerging risk anymore, since it is not new and increasing (definition of emerging risks in EU-OSHA, 2005), but constitutes an established risk that is still increasing, given that it has been long recognized as a problem affecting the workforce of industrialized countries.

Clearly, there is now considerable evidence, and reasonable consensus, within the research community of industrialized countries of work aspects which are experienced as stressful and/or have the potential for causing psychological or physical harm (e.g., Belkic, Landsbergis, Schnall & Baker, 2004; Chandola, Britton, & Brunner, 2008; Cox, Griffiths & Rial-González, 2000; Heuchert Hort & Kuhn, 2001; HSE, 2006; Kivimäki, Vahtera, Virtanen, Elovaino, Pentti & Ferri, 2003; Park & Lee, 2009; Rosengren et al., 2004; Satzer, 2009; Semmer, 2006; Siegrist, 2002; Siegrist & Marmot, 2004; Stansfeld & Candy, 2006; Wegman, 2006; WHO, 2001c, 2006b).

Psychosocial risk factors are considered an integral element in the stress process, in terms of the interaction among job content, work organization and management, environmental and organizational conditions on the one hand, and the employees' competencies and needs on the other; an interaction that can prove to be hazardous to employees' health through their perceptions and experience (Cox et al., 2000). At organizational and workplace levels, work content includes the nature of tasks, the workload and the pace of work, the number of hours worked, as well as the level of participation and control over the workload and work processes. Work context refers to career development opportunities, status, the level of payment, the role in the organization and its level of clarity, interpersonal relationships (conflict, psychological harassment), the nature of the organizational culture, as well as the work-home interface in terms of support, conflicts and spill-over effects. This is visualized in Table 1.2.

It should be kept in mind that psychosocial risks are present in every workplace, and they may not pose a problem as long as they are properly addressed and preventive action has been developed and implemented. However, they may pose a threat to health through lack of recognition of these risks (and consequent inaction), mismanagement of such risks, lack of prevention and, to an extent, continuous exposure to such risks in certain occupations. Therefore, exposure to psychosocial risks in any occupational category cannot be equal to zero (WHO, 2010).

Table 1.2 Psychosocial risk factors

Organizational and workplace level

WORK CONTENT
Job Content: Monotonous, under-stimulating, meaningless tasks; lack of variety; unpleasant tasks
Workload and Work pace: Having too much *or* too little to do; working under time pressures
Working Hours: Strict and inflexible working schedules; long and unsocial hours; unpredictable working hours; badly designed shift systems
Participation and Control: Lack of participation in decision making; lack of control (for example, over work methods, pace, hours, environment)
WORK CONTEXT
Career Development, Status and Pay: Job insecurity; lack of promotion prospects; under-promotion or over-promotion; work of 'low social value'; piece rate payments schemes; unclear or unfair performance evaluation systems; being over-skilled or under-skilled for the job
Role in the Organization: Unclear role; conflicting roles within the same job; responsibility for people; continuously dealing with other people and their problems
Interpersonal Relationships: Inadequate, inconsiderate or unsupportive supervision; poor relationships with co-workers; psychological (incl. sexual) harassment and violence; isolated or solitary work; no agreed procedures for dealing with problems or complaints
Organisational Culture: Poor communication; poor leadership (including downsizing); lack of clarity about organisational objectives and structure
Home-Work Interface: Conflicting demands of work and home; lack of support for domestic problems at work; lack of support for work problems at home
Physical Work Environment: Unsafe procedures; no or limited information available to protect oneself; risk of injury or death
Employment Conditions: Precarious jobs; job insecurity

Adapted from: WHO, 2005; EU-OSHA, 2007

One particular psychosocial risk identified in industrialized countries, which has received much attention in the last years, is interpersonal relationships, in particular workplace violence and psychological harassment. Third party violence is a concern in the service sector. It refers to violence from clients, customers, patients or pupils (e.g., Rosskam, 2002). Psychological

harassment occurs when someone is exposed to persistent negative, humiliating, intimidating or hostile behaviours in the workplace. According to the Fourth European Working Conditions Survey (2007), 6% of the workforce was exposed to threats of physical violence, 4% to violence by other people and 5% to psychological harassment at work over the past 12 months. In Australia, of a total sample of 4500 individuals 632 mentioned they had experienced bullying in the workplace, in particular by their supervisors or their co-workers (internal communication from the Australian Government, 2009). As mentioned before, incidences of psychological harassment and violence are more prevalent in the service sector, and indeed the risk of experiencing both threats of violence and psychological harassment is greatest in the healthcare sector, in public administration and defence. In the transport, communication, hotel and restaurant sectors and in education, the risk is found to be higher than the average (Leka & Cox, 2008a).

In addition to high exposure to known psychosocial risks, the healthcare sector in Africa is also largely affected by people suffering from HIV/AIDS. Due to recent discussions about the brain drain from developing to industrialized countries, a WHO report (WHO, 2004) reiterates the problems healthcare workers face. The research studied the migration patterns of health professionals in six countries in Africa. Healthcare workers leave due to unfavourable macroeconomic conditions, physical strain, and low pay including stressful working conditions in countries where the prevalence of HIV/AIDS is high, such as in South Africa (57.5%), Uganda (61.5%), and Zimbabwe (58.4%). In addition, the stresses caused by handling several HIV/AIDS-related deaths every day take their toll on nurses, many of whom also suffer from the disease (Stilwell, 2001). It is worrying that the real impact of the pandemic on the health professionals is unknown at this point.

1.2.3 Developments in developing and industrialized countries

Work-related stress in developing countries is one of the areas which have not yet been quantified owing to lack of data on exposure or causality, as well as important exposures and outcomes (Concha-Barrientos, 2004). The lack of research in this field and the struggle with other well-known and traditional occupational risks (chemicals, biological and physical risks) may present one major barrier that prevents developing countries from developing awareness

and from addressing and controlling emerging health concerns such as work-related stress and its consequences. In developing countries, there is a true lack of coherent research to provide an insight into the nature of work-related stress and the psychosocial working conditions that may cause it. Clearly further studies and efforts are required to address the psychosocial work environment and the relevant risk factors related to it in developing countries.

One important question is why there still is so little that is being done in developing countries in the area of occupational health in general and psychosocial risks in particular. Some experts claim that the inadequacy of funding allocations impedes the development of international occupational health, partly due to the fact that other health issues compete with occupational health (LaDou, 2003). Another general issue pertains to the fact that occupational diseases emanating from some physical risks are not included in the definition of easily preventable diseases; neither are any psychosocial risks that are affecting workers' health. In fact, decision-makers in most developing countries still perceive occupational health as a luxury, which is one reason for the lack of political action, poor data collection, and weak enforcement of occupational health and safety regulations (Nuwayhid, 2004).

These points are very relevant because workers around the world, despite differences in their environments, face practically the same types of workplace hazards in terms of chemical, biological, physical and psychosocial hazards (Rosenstock, Cullen & Fingerhut, 2006). In addition, the human reactions to stressors are universal, but the means at disposal to counteract these are unevenly distributed (Takala & Hämäläinen, 2010). Hence, there are undoubtedly potential differences in addressing these due to different levels of awareness and knowledge about prevention of work-related stress and psychosocial risks.

Research now indicates that contemporary and emerging psychosocial risks are changing. Their consideration needs to go beyond the traditional workplace-centred approach. The HIV/AIDS pandemic and its impact on healthcare workers is one example only. Another one is processes related to globalization (Idris, Dollard & Winefield, 2010) undermining platforms of social

stability outside an organization through global economic phenomena (e.g., breakdown of the family, etc.) (Karasek, 2008).

In this context, the European Agency for Safety and Health at Work (2007) issued an expert forecast on emerging psychosocial risks related to occupational health and safety. The most prevalent psychosocial risks leading to work-related stress and subsequent diseases were new forms of employment contracts that included precarious work and flexbile working time, job security, work intensification and violence and bullying (EU-OSHA, 2007). The information provided by these reports is based on evidence which consistently shows impact at the level of workers' health, public health and business health.

1.3 THE ECONOMIC BURDEN AND HUMAN SUFFERING

1.3.1 Absenteeism

Absenteeism due to occupational injuries or ill health is of growing concern globally, but so is absenteeism due to work-related mental health problems. The health impact from psychosocial risks and work-related stress affects workers and their families, as well as businesses, since workers' illness is related to outcomes that can have financial impact on businesses. These variables include sickness absences, the hidden cost of presenteism when a sick worker is present at work and not fully productive, and also unemployment. Effects are also visible at national and even global economic levels. Indeed, the cost of the work-related health loss and associated productivity loss represents around 4-5% of the GDP (Takala, 2002).

The impact of psychosocial risks on well-being can be demonstrated in many ways. Absences are one concrete consequence for businesses and economies at large. For example, a study from Rugulies and colleagues (2007) demonstrated that violence was a strong predictor of absence in human service workers. In particular bullying is likely to prevail in stressful working environments where workers are exposed to high levels of interpersonal conflict and noxious leadership styles, including those characterized by avoidance behaviours (Hauge, Skogstad & Einarsen, 2007).

For example, between July 2007 and June 2008, an estimated 5.8 million scheduled working days were lost to sickness or injury, and women and part-timers working in the public sector were found to be most likely to be absent from work because of sickness or injury (Leaker, 2008). Interestingly, also those working less than 16 hours per week were less likely to be absent than those working over 45 hours (Leaker, 2008), suggesting the impact of work context in terms of working hours as a psychosocial risk for illness. In 2008, the British Cabinet Office estimated the total cost of absences at £393 million.

1.3.2 The national and global cost

Generally, and like the case for the United Kingdom, statistics from industrialized countries show that the collective cost of work-related stress is high, having potentially major impacts on national economies. And the link between health and productivity has been recognized for centuries as the cornerstone for a healthy economy (Goetzel, Ozminkowski, Sederer & Mark, 2002; Oxenburgh, Rapport & Oxenburg, 2004; Stewart, Ricci & Leotta, 2004). The high costs of the impact of work-related stress, which is evidenced by national statistics, have facilitated public dialogue, and the issuance of many studies that attempt to address the causes and origins of work-related stress.

The financial impact, for example of presenteism, may represent 20 million working days annually on which employees are not fully productive because of a mental health problem (WHO, 2005), and which are hidden costs difficult to quantify. In addition, many workers are also on sick leave, sometimes even long-term, as a result of stress-related health problems. In the European Union, these workers would be moved to incapacity benefit should they not be able to return to work. Usually, industrialized countries enjoy a welfare system that provides a public "safety net", as a result of which the burden of unemployment is shared by the government (Dewa, McDaid & Ettner, 2007). In the absence of a welfare system that may protect individuals who are unable to work, for example, as a result of their mental illness, workers in developing countries are likely to continue to work despite their disability (Dewa, McDaid & Ettner, 2007). The impact on workplace productivity is, therefore, even magnified, and goes beyond the direct costs as a result of impairment in the workplace.

Statistics show that in many industrialized countries, 35–45% of absenteeism from work is due to mental health problems (WHO, 2003) and 40% of employee turnover is due to stress at work (Rosch, 2000). Mental health is often used interchangeably with social, emotional, and spiritual well-being (Lethinen, Riikonen & Lathinen, 1997). There is now a strong belief that mental health problems and stress-related disorders are the biggest overall cause of premature death in Europe (Levi, 2002; WHO, 2001a).

Table 1.3 demonstrates the national and global business case through the economic impact on countries and at global level of absences due to work-related stress resulting in mental health problems.

The level of related costs of not preventing psychosocial risks may eventually help to stimulate action in this area, as these costs can be enormous. Therefore, addressing psychosocial risks, also in developing countries, should be recognized as an important objective, particularly when statistics show that the collective cost of stress is high for national economies and at global level, in particular for mental health problems.

Although research (e.g., EU-OSHA, 2007) indicates that impact from psychosocial risks reaches beyond the workplace, Nuwayhid (2004) argues that the internal domain of occupational health research, such as focusing on workplace hazards, work organization, exposure-disease spectrum, etc., works well in industrialized countries. The issue seems to be that it does not translate well to developing countries due to the lack of mechanisms and risk assessment processes. Although progress has not been linear in industrialized countries, occupational health has been influenced mainly by events outside the field, such as social movements and changes in the delivery of health care and perception of mental and physical health. Only after the development of a successful legal and economic system in an industrializing country is it possible to incorporate a successful programme of occupational health and safety (LaDou, 2003), including emerging risks. The needs to address all these issues at different levels, but particularly the policy level, are enormous in industrialized countries where efforts are underway, but specifically in developing countries, and indeed at global level where efforts are often weak or non-existent.

Table 1.3 The cost of mental health problems and work-related stress

Type of cost	*Country*	*Estimated cost*	*Working days & additional information*	*Source*
Presenteism due to mental health problems	globally		employees are not fully productive on 20 mio working days/year	WHO, 2005
Work-related health loss & associated productivity loss	globally	4-5% of the GDP		Takala, 2002
Occupational diseases & accidents	globally	10 million DALYs lost	2.2 million workers	1 CDPP, 2007 2 ILO, 2005
Stress at work	globally	costing the employers around €571 million	6.5 working days each year	WHO, 2010
Work-related stress & related mental health problems	EU (15 Members States)	on average between 3% + 4% of the GNP = €265 billion/year		EU, 2005
Stress at work	UK	estimate 5-10% of the GNP/year costing employers around €571 million		Cooper, 2006
Mental health problems	UK	£26 billion/year; up to £1,035/employee; business costs: £8.4 bio/year for absence; $15.1 bio/year reduced productivity; £2.4 bio/year for new personnel (2007)	5-6 mio lost working days/year (2000)	1 Liimatainen & Gabriel, 2000 2 Sainsbury Centre for Mental Health, 2007
Work disability caused by mental disorders	Finland		18% workers placed in disability & early retirement	Koukoulaki, 2004
Sick leave due to stress and mental strain	Sweden	€2.7 billion	14% of the 15,000 workers on long-term sick leave	Koukoulaki 2004
Stress-related illnesses	France	between €830 and €1,656 mio		EU-OSHA, 2009

Stress-related absenteeism	United States		over half of the 550 mio working days lost/year	EU-OSHA, 2000
Psychological reasons	Canada		absences increased by 400% between 1993 & 1999	Université Laval, 2002
Stress at work	Australia, excluding Victoria and Australian Capital Territory	around $49 mio in 1995-96 with an additional $38 million for Commonwealth workers in 1995-6		1 National OHS Commission 1998 2 Dollard & Winefield, 2002 3 Australian National Audit Office, 1997

1.3.3 Policy-level developments and needs

In Europe, where the policy context of health and safety is considered to be more advanced, initiatives have not had the impact anticipated both by experts and policy makers so far (Taris et al., 2010), which may mainly be due to the gap between policy and practice (Levi, 2005). In addition, Ministries of Health, which take a public health approach, and Ministries of Labour, which primarily take an occupational health approach, may differ in terms of their priorities and actions in relation to issues such as work, employment and mental health (Cox et al., 2004). This has, for example, resulted in a lack of coordinated effort to institute mental health promotion and intervention programmes in the workplace (McDaid, Curran & Knapp, 2005).

Furthermore, stakeholders have different opinions and perceptions about the nature and importance of psychosocial risks and work-related stress, and trade unions do not necessarily agree with employers or governments for that purpose (EU-OSHA, 2010; Natali, Deitinger, Rondinone & Iavicoli, 2008).

Findings from the PRIMA-EF European-wide stakeholder survey (Leka & Cox, 2008a) show that even in Europe there is low prioritization of work-related stress, particularly by employers. Trade unions and employer organizations believe that, a priori, there is lack of awareness about the issue of work-related stress, and governments primarily blame low prioritization of psychosocial issues in general for the lack of initiatives in this area (Natali, Deitinger, Rondinone & Iavicoli, 2008).

Overall, psychosocial risks and work-related stress are not prioritized by policy makers. And although no clear patterns of evaluation and impact of policy-level interventions have been reported so far, possibly due to lack of resources (time and money) and confounding variables, stakeholders highlight the need for more long-term evaluation. The development of clear key messages to reach policy makers, accompanied by clear communication structures, are essential to obtaining impact (Leka, Jain, Iavicoli, Vartia & Ertel, 2010). Nevertheless, the current state-of-the-art indicates that the European legislation is the most advanced model for preventing and addressing psychosocial risks and work-related stress worldwide. However,

prioritization of psychosocial risks, policies and their management, capacity and structure to manage these, differ even across European member states (Leka, Jian, Iavicoli, Vartia & Ertel, 2010).

Extensive awareness-raising and information dissemination, as well as research, will certainly be required due to the current lack of policy making with enforcement, skills to address new forms of work, lack of resources, and lack of action, all being linked to this barrier. Generally, legislation, policy and standards development need to be addressed and/or improved, and awareness-raising and education are key to achieving impact.

In spite of the available evidence, the prevention and management of psychosocial risks has also not been high on the global policy agenda. Consequently, the Commission for Social Determinants of Health recommended that, while occupational health and safety policies remain of critical importance, the evidence strongly suggests the need to expand the remit of occupational health and safety to include work-related stress and harmful behaviours (CSDH, 2008). Some positive developments, however, include addressing psychosocial risks and work-related stress not in legislation, but in specific policy frameworks in industrialized or industrializing countries, including Korea, Brazil, or South-East European countries. Currently, however, most developing countries do not even have any significant policies that address occupational health issues in general, even though many governments will claim that they are responsive to workers' needs (Kamuzora, 2006).

Policy development is necessary to raise awareness and to provide a platform for enforcement. Interestingly, Nuwayhid (2004) stresses that policy-makers do not lack information, but that there is a lack of effective transfer mechanisms. Countries would need to embrace technological innovation and develop significantly in terms of institutional arrangements and in the legal sphere. Research would need to maximize existing assets while minimizing conflict with practical realities. Nuwayhid further argues that the focus should be first on the external-contextual domain, followed by a more focused, specific workplace approach, which would help build consensus amongst occupational health researchers and other disciplines (e.g. economists, social scientists, unionists, women's organizations). Such research may facilitate the

creation of political mechanisms responsive to occupational health needs in developing countries. This would also include a number of considerations. One such consideration, for example, would need to be that women's work is not protected adequately in a number of developing countries largely due to traditional norms and misperceptions of women's work as being less significant, supplementary or unskilled (Nuwayhid, 2004). Another one would refer to the interplay between work and non-occupational diseases such as HIV/AIDS and tuberculosis, since “occupational health cannot continue to exist in isolation” (LaDou, 2003; Nuwayhid, 2004). For it to move out of its silo, occupational health needs to develop towards a public health approach (WHO, 2007a).

It is also important to understand that actors in the policy-making process have the capacity to keep issues off the agenda that they control. This may lead to under-funding of occupational health, lack of equipment, lack of money to train or sustain personnel, lack of inspections, lack of investment in research, lack of tools for risk assessment and management (Kamuzora, 2006). A study of occupational health in Latin America and the Caribbean confirms that occupational health still has low priority on the policy agenda of governments in these countries (Giuffrida, Iunes & Savedoff, 2002). As a matter of fact, occupational health laws cover only about 10% of the population in developing countries. Most small-scale industries in industrializing countries lack appropriate occupational health regulations and protective or control measures (LaDou, 2003).

1.3.4 Levels of intervention

Theoretical and empirical research in the work-related stress literature has mainly focused on individual or job task domain causes of work-related stress (Kang, Staniford, Dollard & Kompier, 2008). At the same time, interventions at the workplace level may have a positive impact on the quality of life of employees and hence improve both economic and social sustainability (Hillier, Fewell, Cann & Shephard, 2005). According to the logic of a hierarchy of causes, the 'causes of the causes' (referring to social context, social stratification, differential exposures and vulnerabilities and differential health outcomes) (Marmot, 2007), the greatest impact should arise from targeting more distal causes, and interventions should focus at the organizational level.

Dollard and Karasek (2010) stress that an intervention at enterprise level may include monitoring, and modifying working conditions and funnelling resources, as well as building conditions that are conducive to healthy production. Interventions designed for the macro level, could also be applied at enterprise level to promote effective psychosocial risk management, especially where country systems to support the macro initiatives are not fully developed or lacking sophistication (Leka, Jain, Iavicoli, Vartia & Ertel, 2010).

In some countries, primary healthcare services are provided through the workplace, which is an ideal setting for early interventions and for protecting and promoting the health of workers and their families (Ivanov & Kortum, 2008). The workplace may also become a setting for treatment, but foremost for prevention. Whilst health promotion in workplace settings has received attention in industrialized countries, the focus on mental health promotion has been on stress in general (Hillier, Fewell, Cann & Shephard, 2005).

Often self-help action occurs, as for example in Pakistan, where one only finds services to tackle psychosocial issues in large cities, and thus many in need of psychological or psychiatric care use spiritual healing as a way of coping (Panhwar & Memon, 2007).

1.4 CURRENT RESEARCH

Occupational health researchers in industrialized countries investigate the effects of work on health, depending on the defined process that translates their scientific findings into policies. As discussed above, this approach is currently limited to the workplace. Generally, it should not be assumed that the existing body of research, including available intervention methods from industrialized countries, can be extrapolated to developing countries without additional consideration of aspects beyond the workplace and specific to their working, living, political, socio-cultural and economic contexts. The body of research in developing countries is in itself currently too scarce to draw meaningful conclusions.

Therefore, and to obtain a better general understanding of diverging issues between developing and industrialized countries, this research drew on expert knowledge pertaining to the importance and impact of psychosocial risk

factors and work-related stress. Experts came from the six regions of the world as defined by the World Health Organization[5]. Figure 1.2 outlines the distribution of these regions which are not strictly constituted on a geographic, but rather on a political basis.

Figure 1.2 The WHO regions

In short, this research is concerned with an understanding of 'micro' features of workplaces and the influences of 'macro' features, such as political, economic and social circumstances. The overall aim of this research is to emphasize the importance of psychosocial risks and work-related stress for workers' health and economies at large. This research explores these issues, which are largely ignored by policy-makers in developing countries.

A number of broad questions concerning developing country contexts are addressed and these include the following:

[5] AFR: African region; AMR: American region; EMR: Eastern-Mediterranean region; EUR: European region; SEAR: South-East Asian region; WPR: Western-Pacific region.

1. How do experts understand issues that pertain to psychosocial risk factors and work-related stress and do they perceive these as being of concern and priority issues for their countries and workers?
2. What are the main issues to consider when addressing psychosocial risk factors and work-related stress?
3. Do current national legislatory systems, company policies and voluntary actions address psychosocial risks and work-related stress?
4. Which issues seem to be of priority with respect to general occupational health and safety, as well as workplace-specific issues, and have they changed during the last decade?
5. What are the opportunities and challenges for addressing psychosocial risk factors and work-related stress?
6. Are the current models that drive research and practice comprehensive enough to be applied in developing country contexts to achieve progress in this area?

The literature clearly demonstrates that a contextual orientation of addressing psychosocial risks and work-related stress, as opposed to the narrow traditional workplace-centred approach, can assist our understanding of the nature of these issues in developing countries and guide the application of subsequent interventions.

The rationale for this research is demonstrated graphically in Figure 1.3, the conceptual framework.

The conceptual framework outlines that international processes of globalization influence the national situation and the community level. These in turn shape working environments and poverty levels. Vulnerable groups, such as women and migrant workers, are most often found in the informal sector where employment conditions are sub-standard. Particularly employers and formal sector workers have more influence on government policies than workers in the informal sector or small farmers (Rama, 2003).

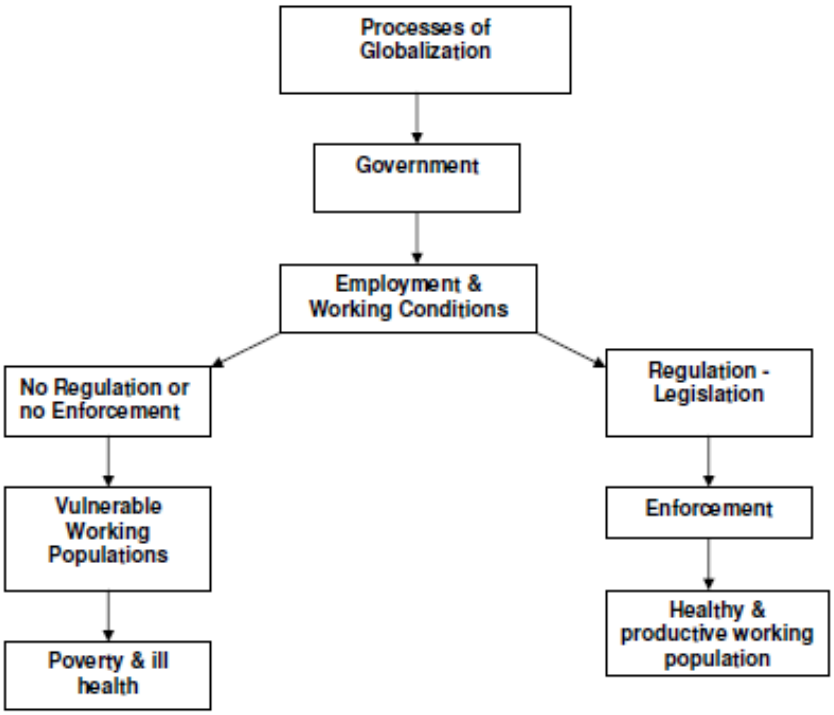


Figure 1.3 Conceptual framework for this research

To achieve the aim of this research, it is important to examine the current state-of-the-art in relation to psychosocial risks, their impact and management in both industrialized and developing countries. The next chapter begins this review from the industrialized country context.

CHAPTER 2 : THE CURRENT STATE-OF-THE-ART IN RELATION TO PSYCHOSOCIAL RISKS IN INDUSTRIALIZED COUNTRIES

2.1 DEFINITIONS AND THEORETICAL MODELS

2.1.1 Definitions of psychosocial risks and work-related stress

As outlined in Chapter 1, we can assume that there are differences in the understanding and the paradigm (workplace versus a larger economic, social and political focus) in addressing psychosocial risks and work-related stress in developing and industrialized countries. Chopra (2009) confirms that there are notably stark differences in the workplace environment and occupational standards between the industrialized and the developing world. Industrialized countries, in particular European Union Member States, are in the process of tackling these emerging issues not only at enterprise, but also at policy level, as they have been realizing the high cost to the health of workers, the businesses, the public health system, insurance companies, and the economy at large.

Psychosocial risks have previously been described as an integral element of the stress process, in terms of the interaction among job content, work organization and management, environmental and organizational conditions on the one hand, and the employees' competencies and needs on the other; an interaction that can prove to be hazardous to employees' health through their perceptions and experience (Cox et al., 2002). Table 1.2 in Chapter 1 outlines evidence-based psychosocial risk factors categorized in terms of both the content and context of work, which have been agreed upon by the research community.

Without doubt, one of the most researched long-term consequences from exposure to psychosocial risk factors is work-related stress. Stress has been conceived as the result of detrimental working conditions, but also as causing poor physical and mental health (Cox et al., 2000; Leka, Griffiths & Cox, 2003; WHO, 2010). What constitutes the complexity of work-related stress is

that it has been conceptualised as both an input variable, and as an outcome of a process that is referred to as stress, which makes it difficult to clearly distinguish between input and output (D'Amato & Sijlstra, 2003). For example, while in some studies stress and illness are considered to be an outcome of working conditions, other studies see work-related stress as causing mental health problems (e.g., Hromoco et al., 1995; Schultz et al., 1995). Despite complications, it can be said that psychosocial risks go hand in hand with the experience of work-related stress (WHO, 2010), since work-related stress is

> *'the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope' (WHO, 2003).*

The European Commission proposes a broader, but similar, definition of work-related stress, namely

> *'a pattern of emotional, cognitive, behavioural and physiological reactions to adverse and noxious aspects of work content, work organization and work environment…. Stress is caused by poor match between us and our work, by conflicts between our roles at work and outside it, and by not having a reasonable degree of control over our own life' (Levi, 2000).*

These definitions are based on contemporary theories, and stress is treated as an emotional state, which is triggered by the person's appraisal of their situation at work. If the situation is perceived as stressful, the experience is unpleasant and occurs when the person realizes that demands are too high and they cannot cope, and when those demands are important or when their efforts are not adequately rewarded (Cox & Griffiths, 2010). Methodological challenges to date lie in the measurement of the construct of work-related stress.

The European Foundation for the Improvement of Living & Working Conditions (2007) reports that work-related stress is among the most commonly reported causes of illness by workers affecting more than 40 million individuals across the European Union. The report also stresses that 6% of the European

workforce had been exposed to threats of physical violence, 4% to violence by other people and 5% to psychological harassment at work over the past 12 months. Violence and psychological harassment at work are considered psychosocial risk factors (see Table 1.2). In fact, interpersonal relationships have been demonstrated to be a significant antecedent of the stress process when they are characterized by behaviour that is harassing or abusive (Rospenda, 2002). The large impact of this problem affecting the European workplace and workplaces in other industrialized countries, has called attention to the issue by researchers and policy makers.

2.1.2 The main theoretical models and their evidence

The definitions and the nature of psychosocial risks and work-related stress focus primarily on the individual and the workplace. The three theoretical models upon which these definitions are based are significantly overlapping approaches to the study of stress (Cox & Mackay, 1981). The first approach conceptualizes work-related stress as simple, mechanistic and linear, derived from the discipline of engineering. Here the individual is viewed as a passive vehicle upon which noxious or aversive aspects of the work environment are enacted and which focuses on stress being a set of causes not symptoms. The concept of stress threshold emerged from this school of thought, with differences in stress being attributed to the resistance and vulnerability of the individual (Cox & Mackay, 2001). The approach has been named the *engineering approach*.

The second or *physiological approach* also saw the environment's aversive or noxious characteristics as stressors, but stress was understood as a dependent and not an independent variable as in the case of the engineering approach, or physiological response to such an environment. This approach was proposed by Hans Selye (1950, 1956). In the short term, physiological reactions to stress can prove to be beneficial; however prolonged or repeated elicitation of this physiological response can result in detrimental physical consequences (Cox & McKay, 1981). The major distinction between the engineering and physiological conceptualizations of stress is that, in the physiological approach, stress is defined by what occurs *within* the person while in the engineering approach, it is characterized by what occurs *to* the

person, although this does not account for existing data and ignores strong cognitive and contextual factors in the overall stress process (Cox & Griffiths, 2010).

The third or *psychological approach* overcomes many of the limitations of the two previous models. Stress is defined as a dynamic interaction between the individual and the environment and is often inferred by the existence of a problematic person-environment fit and the emotional reactions which underpin those interactions (Cox et al., 2000). Central to this approach is the role that environmental factors play in work stress, particularly the role played by psychosocial and organizational factors (Cox & Mackay, 1981). There are two main branches of this approach: the transactional and interactional models.

Transactional models

Transactional models are concerned with the processes by which exposure to the work environment, in terms of the person's experience of demands, control, and social support drive the experience of stress, the individual's reaction to it, their attempts at coping, and the effects on their health and behaviour (Cox & Griffiths, 2010). Stress is conceptualized as an internal representation of a problematic transaction between the person and his or her work environment (Cox et al., 2000). The notion of 'transaction' implies that work-related stress is neither resident in the employee's work environment nor an expression of his or her reaction to that environment (Cox, 1978). Rather,

> *'...stress reflects the conjunction of a person with certain motives and beliefs with an environment whose characteristics pose harm, threats or challenges depending on these personal characteristics'* (Lazarus, 1990, p.3).

Main challenges outlined with this approach include its complexity and lack of stability, which seems a long way away from the simple 'blackbox' linear mechanistic system that was described in earlier theories (Cox & Griffiths, 2010). It has its origins in clinical psychology (Lazarus & Folkman, 1984) with a focus on the individual. Research indicates that the relationship between psychosocial risks and health outcomes is mediated by a variety of factors

(Cox et al., 2006). Therefore, the transactional model accounts for the complex relationship by acknowledging individual variation and differences in the stress process (Cox et al., 2000).

Subsequent developments conceptualized the stress appraisal process into the basis for the practical risk management approach at the organizational level by positioning the work-related stress process within a traditional health and safety framework, by developing a psychosocial taxonomy of stressors to facilitate risk assessment for the European Agency for Safety and Health at Work (Cox, Griffiths & Rial González, 2000), the British Health and Safety Executive Management Standards initiative (Cox, 1993; Mackay, Cousins, Kelly, Lee & McCraig, 2004), and the development of the European Framework for Psychosocial Risk Management: PRIMA-EF (Leka & Cox, 2008).

Interactional models

Interactional models focus on the structural aspects of the person's interaction with his work environment (Cox et al., 2000). The most influential model in this category has been the *job-demand-control-support theory* (Karasek & Theorell, 1990). Another influential interactional model, the *effort-reward imbalance model* (Siegrist, 1996). The job-demand-control-support theory includes work pace, conflicting demands, and decision latitude, including decision authority or control, and skill discretion (variety of work and opportunity for use of skills). The model states that high decision latitude and low to moderate job demands are favourable for workers' health, but that the combination of high job demands and low decision latitude would result in ill health. For example, one reference study showed that exposure to high job demands for nurse managers and clinical directors had a significantly higher probability of high level of work stress. However, the available psychosocial resources inside and outside work taken together did not balance the experienced work stress in both groups (Lindholm, 2006), hence highlighting the importance of social support. In addition, a meta-analysis provides robust evidence for prospective risk factors for common mental disorders, such as high demands and low decision latitude and (combinations of) high efforts and low rewards. This suggests that the psychosocial work environment is important for mental health (Stansfeld & Candy, 2006).

The *effort-reward-imbalance* model outlines that work-related stress can be caused by an imbalance between high efforts and low rewards. Mental and physical problems may arise from an imbalance between high levels of effort spent at work, while receiving in return either no or only little recognition and reward, and, therefore, not matching the level of effort (Siegrist, 1996). Rewards refer to extrinsic components such as income, career mobility, job security, esteem and respect. Direct evidence for the model has been found for physical health (for example, Peter et al., 1995 in Siegrist 1996). In terms of mental health impact, Siegrist (1996) found a high ratio of effort-reward imbalance to be associated with the level of burnout symptoms reported in bus drivers and hospital nurses. Burnout was also the outcome of an imbalance between effort and reward while dealing with clients (Carney et al., 1993).

Research not only indicates an impact on physical and mental health, but also adverse behavioural outcomes. Kouvonen and colleagues (2005) found that high effort-reward imbalance was associated with high body mass index in a sample of 45,810 male and female employees. One year later it could be demonstrated that women and men with high effort-reward imbalance were 40% more likely to have simultaneous three times higher lifestyle factors, such as smoking, drinking, physical inactivity, and high body-mass index, when compared to the control group with low effort-reward imbalance (Kouvonen et al., 2006), which seems to indicate a higher level of general well-being.

The theoretical models presented here are important as they provide an explanation of the association between work and health. They select relevant components from the complex reality, they allow for generalizing beyond single observations and, lastly, they serve as a guide for health-promoting interventions at work. Industrialized country approaches are based on specific work-related stress theories, and, as indicated above, the definition of stress is intrinsically linked with theory. The extension of the paradigm beyond the individual, the workplace and even beyond a traditional health and safety framework may be necessary considering the impact beyond work, affecting the public health arena.

It is possible that the effort-reward-imbalance and the job demand-control support models may simply be different ways of cutting the same cake and may just offer two perspectives on the same system (Cox & Griffiths, 2010). They ought to be seen as integrated when considering the adverse impact of work conditions (Benach, Muntaner & Santana, 2007). For this research it is relevant that both theories have shown that work-related stress can have negative health impact.

Considering the richness of the conceptual background, it can be concluded that the theoretical basis for work-related stress can be interactional and focused on the structural characteristics of the person's interaction with their work environment. The basis may also be transactional and focus on the cognitive process and emotional reactions governing person-environment interactions (Tabanelli et al., 2008).

2.1 provides a visual presentation of the theoretical models described.

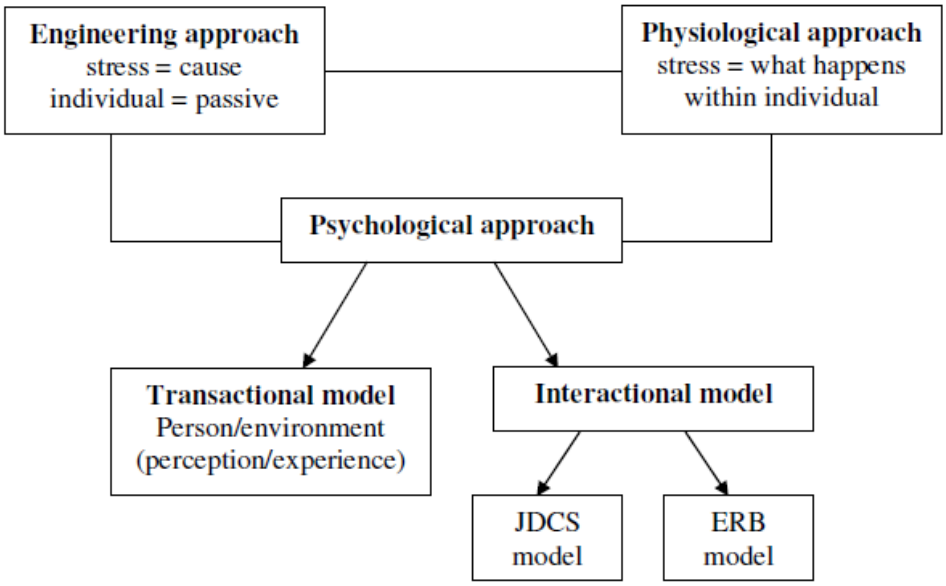
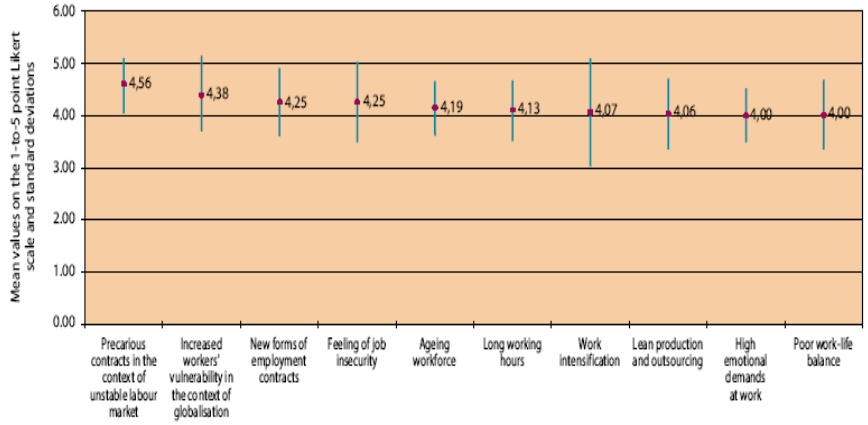


Figure 2.1 Overview of theoretical models

2.1.3 The changing nature of psychosocial risks

As discussed in Chapter 1, evidently psychosocial risk factors are changing and seem to be increasingly shaped by processes of globalization. A recent European study (see Figure 2.2) indicates that contemporary psychosocial

risks are changing and go indeed beyond the traditional individual and/or workplace-centred approach.



The 10 most important emerging psychosocial risks identified in the survey
NB: MV > 4: risk strongly agreed as emerging; 3.25 < MV ≤ 4: risk agreed as emerging)

Figure 2.2 The 10 most important emerging psychosocial risks identified
Source: EU-OSHA, 2007

Issues such as precarious contracts in the context of the unstable labour market, increased vulnerability of workers in the context of globalization, new forms of employment contracts, and the feeling of job insecurity (EU-OSHA, 2007; European Parliament, 2006), point to a need for a larger paradigm beyond the individual and the workplace, even in industrialized countries. Clearly, the nature of work and employment conditions has also changed considerably in most industrialized countries. Chapter 1 outlines the relevant processes of globalization responsible for this shift in paradigm. Research seems to distinguish though between effects depending on the socioeconomic status, indicating that the adverse working conditions related to the 'new' employment arrangements tend to be more prevalent in lower socioeconomic occupations and disadvantaged occupational classes. Indeed, the lower the socioeconomic position, the higher the risk of exposure to adverse and stressful working conditions (Siegrist 2002), and also more vulnerable to poorer health (Chandola & Jenkinson, 2000).

In this context, the control-demand-support model holds that the impact of the burden results from lack of control an individual has over the complex physiological coordination required in response to increasing demands (Dollard & Karasek, 2010). Karasek (2008) states in his stress-disequilibrium

theory that physiological coordination has been pushed to extremes because of long-term exposure to stressors in the global economy. Diminished capacity for physiological coordination is the social implication, which eventually leads to chronic disease (Karasek, 2008). Chronic diseases belong to the category of non-communicable diseases (NCDs), which include cardiovascular diseases, depression, high blood pressure, obesity and others (WHO, 2011)

2.2 HEALTH IMPACT

2.2.1 Research on workplace hazards

Research on workplace hazards and their relationship to work-related stress and health has focused on both physical (e.g., EU-OSHA, 2007, 2009; Jones, 1999; Kasl, 1992; Schnall, Belkic, Landsbergis & Baker, 2000) and psychosocial risks (e.g., Cox, Griffiths & Rial-González, 2000; EU-OSHA, 2010; Leka et al., 2008, WHO, 2010). Cox, Griffiths and Rial-González (2000) stress that the psychological effects of physical hazards reflect not only their direct action on the brain and their unpleasantness, but also workers' awareness, suspicion or fear that they are being exposed to harm, which can give rise to the experience of stress. Hence, there is currently strong evidence to support the claim that there is an association between work-related health complaints and exposure to psychosocial risks, or to an interaction between physical and psychosocial risks, to an array of health outcomes at the individual and the organizational levels (Cox, Griffiths & Rial-González, 2000).

Research and practice teach us that short periods of pressure are an intrinsic part of all work and life. They can provide us with a challenge and keep us motivated. However, excessive long-term pressure at work can lead to stress, which undermines performance, is costly to employers and affects health. The ability to cope may be reduced by a state of resulting illness which can both act as a significant source of stress, and may also sensitize the person to other sources of stress. Within these limits, the common assumption of a relationship between the experience of stress and poor health appears justified (Cox, 1988a).

Health consequences of stress and exposure to psychosocial risks can, for example, appear in the form of anxiety and non-communicable diseases such as depression (for example, Bin Nordin, Bin Abdin & Naing, 2008; Park, Min, Chang, Kim, Min, 2008), chronic diseases, such as coronary heart disease, which has an impressive evidence base (e.g., Bosma et al., 1997, 1998; Bunker, Colquhoun, Esler, Hickie, Hunt, Jelinek, Oldenburg et al., 2003; Greenlund et al., 1995; Johnson et al., 1996; Karasek & Theorell, 1990; László, Ahnve, Hallqvist, Ahlbom & Janszky, 2010; Siegrist et al., 1990), certain cancers (e.g., Cooper & Cartwright, 1994; Vissoci Reiche, Vargas Nunes & Kaminami Morimoto, 2004;), musculo-skeletal disorders (e.g., Bongers, Ijmker, van den Heuvel & Blatter, 2006; Park & Lee, 2009), obesity (e.g., Ishizaki et al., 2008; Takaki et al., 2010), substance abuse (e.g., Kivimäki et al., 2003; Siegrist & Rödel, 2006), and violence (e.g., EU-OSHA, 2007; WHO, 2007). Moreover, Quick, Horn and Quick (1986) confirmed that work-related stress can cause behavioural, medical and psychological problems.

Effects on workers' health from psychosocial risks were explored through a European survey of self-reported work-related illness prevalence estimates, which indicates a significantly increased risk of work-related stress, depression and anxiety for those reporting higher workloads, tighter work deadlines, lack of support at work and being physically attacked or threatened at work (HSE, 2007). A meta-analysis (2004-2005) suggested that particularly combinations of high demands and low decision latitudes as well as high effort and low rewards are associated with psychological disorders, such as depression and anxiety (Stansfeld & Candy, 2006; Van der Doef & Maes, 1999). Effort-reward imbalance in particular has been found to be associated with cardiovascular disease, poor self-perceived health, and several mental disorders (Siegrist & Marmot, 2004). This was confirmed through a meta-analysis of more than 11,000 employees in Europe conducted by Kivimäki and colleagues (2006). They found a non-significant age- and gender-adjusted risk ratio of 1.58% (95% CI 084-2.97) of developing coronary heart disease when reporting a combination of high efforts and low rewards. It has also been proposed that long-term exposure to stress may lead to burnout (Freudenberger, 1994) or to suicide (Hawton et al., 2001; Tyssen et al., 2001; WHO, 2006b) or elevated levels of suicide in certain occupations exposed to a

variety of psychosocial risks, the unemployed and those who suffer from job insecurity (e.g., Boxer, Burnett & Swanson, 1995).

This is only the most researched tip of the iceberg concerning health problems linked to the workplace, as well as to other, non-work conditions (e.g., Belkic, Landisbergis, Schnall & Baker, 2004; Cole, Ibrahim, Shannon, Scott & Eyles, 2002; de Lange, Taris, Kompier, Houtman & Bongers, 2005; Perbellini, 2004; Putnam & McKibbin, 2004; Wilhelm, Kovess, Rios-Seidel & Finch, 2004). In the occupational health and safety community, it is generally agreed-upon that the workplace is an effective entry point for interventions to prevent such ill-health outcomes (e.g., Sorenson & Barbeau, 2004; WHO 2007a), although both work and non-work risks impact on negative health outcomes (e.g., Schulte, 2006).

2.2.2 The impact of insecure jobs

Findings from work-related stress research are also consistent with the more general life event stress literature showing that specific acute work-related stressful experiences contribute to depression and, more importantly perhaps, that enduring structural occupational factors, which may differ according to occupation, can also contribute to psychological disorders. There are significant implications for employees, their families, employers and indeed the wider community (Tennant, 2001). In particular in times of financial uncertainty and economic crisis, effects such as increased suicides have been observed. This is, for example, the case in Latvia where the suicide rate increased by 15% from 2007 to 2008 (EU, 2009). In the same report, Norway suggested rather a negative health impact of unemployment, such as reduced life expectancy, cardiovascular diseases, anxiety and depression, and increased alcohol consumption, whereas the impact on suicide would remain unclear.

Also, repeated re-organizing, downsizing and expanding of organizations, has become very common and is related to established health effects among workers and employees (Ferri et al., 2007; Theorell et al., 2003; Westerlund et al., 2004; Westerlund, Theorell & Alfredsson, 2004), and the experience of job insecurity has been associated with poorer physical and mental health

outcomes (Ferrie et al., 1998; Metcalfe et al., 2003; Ostry & Spiegel, 2004; Pollard, 2001; Virtanen et al., 2005;). Sustained job insecurity due to precarious labour market position has been linked to poor health behaviours by way of declines in specific coping mechanisms. Some evidence shows that temporary employment is associated with increased death from alcohol-related causes and smoking-related cancers (Kivimäcki et al., 2003). The WHO estimated that 400 million people around the world suffer from mental or neurological disorders or from psychosocial problems such as those related to smoking, drinking and drug abuse (WHO, 2000a).

Temporary employment has also been associated with behaviours like over-compensating and sexual harassment (Goldenhar et al., 1998). A study has shown that self-perceived job insecurity was the single most important predictor of a number of psychological symptoms such as mild depression (Dooley et al., 1987). Hence, workers exposed to chronic job insecurity are more likely to report minor psychiatric symptoms as compared to those with secure jobs (Ferrie et al., 2002).

2.2.3 Linking work-related stress and musculo-skeletal disorders

Research also indicates a potential link between the two most prevalent work-related problems, work-related stress and musculo-skeletal disorders. For example, at the Robens Centre for Health Ergonomics, a three-year study identified work stress and work-related musculoskeletal disorders as the two leading occupational health problems in the UK. The study involved 8000 workers, in 20 companies, across 11 industrial sectors, and revealed that both physical and psychological risk factors at work were directly involved in the development of these disorders and that a cultural change is required in organisations to avoid such problems stemming from physical and mental stressors in the workplace (Devereux et al., 2004).

A dramatic increase in work-related musculo-skeletal disorders in the Republic of Korea caused by psychosocial factors, awkward working postures and repetitive body movements, has been observed since 2000 (Park, 2005). Research has shown an increasing risk of work-related diseases and

accidents in Southeast Asian countries which have experienced rapid industrialization (Haratani & Kawakami, 1999).

A recent Korean survey revealed the most often reported work-related symptoms to be muscular pain (shoulder, neck, upper arms and lower extremities) (18.1%), followed by stress (17.9%), backache (16.8%), fatigue (16.7%) and headache (11.2%) (Park & Lee, 2009).

2.2.4 Linking work-related stress and heart disease

In the Republic of Korea researchers have observed a significant increase in work-related cerebrovascular and cardiovascular diseases since the mid-1990s (Park 2006; Park & Lee, 2009). Stress and increased risk of cardio-vascular diseases represents one of the best established associations, as addressed lately by the INTERHEART Study (Rosengren et al., 2004), a multi-centre, multi-regional (Asia, Europe, Africa, USA, Australia) investigation, which demonstrated excess risk of myocardial infarction associated with psychosocial stressors. Several other studies demonstrate a positive association (e.g., Belkic et al., 2004; Schnall et al., 2000). Chandola and collaborators (2008) found that job stress is longitudinally associated with the incident of coronary heart disease, low physical activity, poor diet, and lower heart rate variability. In fact, 32% of the stress-coronary heart disease association is mediated through health behaviours. Current estimates and scientific research reveal that in Germany around 20,000 cases of heart attacks have work-related causes. Ten thousand of these could be prevented by stress prevention at the workplace (Heuchert et al., 2001; Siegrist, 2002).

It has also been suggested that large-scale intervention studies are still required to advance our understanding of causality and means of prevention in the relationship between work-related stress and disease (Belkic et al., 2004; Eller et al., 2009; Kivimäki et al., 2006, 2008), although it would seem that the impact of the work content and context on physical and psychological health, and health behaviours, is a well-researched area in industrialized country contexts.

2.2.5 Linking work-related stress and depression

Depression is one of the most common mental disorders found in the general community and in the workplace. Depression can be difficult to diagnose and can manifest as physical symptoms, such as headache, back pain, stomach problems, or angina. Work stressors have also been associated with psychological disorders, such as depression and anxiety (Stansfeld & Candy, 2006; Van Der Doef & Maes, 1999). Depression has also been linked to occupational stress (Tennant, 2001), and 8% of depression has been attributed globally to environmental factors, in particular occupational stress (WHO, 2006). One consequence of long-term exposure to stress may be burnout. Burnout is often accompanied by insomnia, headaches, gastrointestinal symptoms, a variety of muscular and joint pains, lapses in memory, and depressive moods (WHO, 2011a).

Kawakami et al. (1990) found in a study of male industrial workers in Japan that jobs associated with high levels of stress had more than eleven-fold relative risk of depression. Indeed, depression is expected to account for 15% of the global burden of disease (Murray & Lopez, 1996). The WHO confirms that in Europe mental health problems and stress-related disorders are the biggest overall cause of early death (WHO, 2001a). WHO further stresses that the prevalence of depression, suicide and other stress-related conditions together with destructive life-styles and psychosomatic diseases, cause immense suffering to people and their families beyond Europe. In addition, specific phenomena, such as Karoshi (death by overwork and more recently 'death by suicide at work') have become social issues in Asian countries, in particular Korea, and Japan. Suicides particularly increase with the pressures of the economic crises (e.g., Kondo & Juhwan, 2010).

2.3 POLITICAL ACTION

In industrialized countries, first significant steps have been undertaken towards targeted action at the policy level. In the European Union, these include the 1989 EC Council Framework Directive on the Introduction of Measures to Encourage Improvements in the Safety and Health of Workers at Work (EEC, 1989). In 2001, the European Council of Ministers concluded that

...'stress and depression related problems … are of major importance … and significant contributors to the burden of disease and the loss of quality of life within the European Union.'

They underlined that such problems are

'common, cause human suffering and disability, increase the risk of social exclusion, increase mortality and have negative implications for national economies.'

Ministerial Conferences on Mental Health were held by the WHO Regional Office for Europe in 2003 and in 2005. The latter had a session on mental health at work. The theme was 'there is no health without mental health'.

In addition, to date, the European Social Partners issued two framework agreements on work-related stress (European Social Partners, 2004) and on psychological harassment and violence at work (European Social Partners, 2007), after extensive but successful social dialogue. It has also been argued for the urgent need of stronger social dialogue structures given the global market pressures for organizations to meet competing demands by adopting short-term economic goals instead of long-term sustainable work systems that have the potential to balance competitiveness with quality of work life (Leka & Cox, 2008).

In 2008, a follow-up conference entitled "Together for Mental Health and Well-being" was held in Brussels. Preparations are underway in Europe to strengthen the business case for tackling poor mental health at work, the high rates of absenteeism, reduced productivity, and premature withdrawal from the labour force due to mental health problems related to work-related stress. The importance of mental health and work is also recognized by the European Community Strategy on Health and Safety at Work for 2007-2012. This Strategy refers to the contribution of good health in guaranteeing that quality and productivity at work can promote economic growth and employment.

On 27 April 2009, the Member States of the European Union held a *Round Table to Reduce the Psychosocial Impact of the Financial and Economic*

Crisis. Research findings reiterate the negative health impact on higher rates of anxiety and depressive disorders due to financial insecurity, the relationship between higher debt and increased prevalence of mental disorders, as well as an increased risk by factor 2-4 of suicide in the unemployed. The measures that require taking are clearly beyond the workplace and require engagement at political and economic levels as well as by civil society. Theorell (2000), for example, suggests that research that takes factors such as increasing risks of becoming unemployed or being required to change jobs, into account, will be

> *'well positioned to help make changes in the work environment and to ensure that new work environments are designed to enhance health from the start.'*

Beyond Europe, one legislatory example comes from the Republic of Korea. In 2002 existing legislation concerning employers' duties and health measures to meet the current needs and changes in occupational diseases was revised. In addition, in 2003, the rules regarding the Industrial Health Standards were amended. The Korean Government included a regulation concerning prevention of health problems due to job stress. The national policy for job stress management in Korea is connected to the policy for prevention of work-related cerebro-vascular and cardiovascular diseases and addresses particularly working populations that work long hours, do shiftwork including night work, drivers and controllers. The duties of employers include risk assessment and management with respect to job stressors, their causes and health outcomes with a focus on cerebrovascular and cardiovascular diseases, hypertension, stressing prevention and general wellbeing (Park 2006; Park & Lee, 2009).

Besides this rule, the Korean Government included some major implementation strategies for the prevention of work-related cerebrovascular and cardiovascular diseases into the 2nd 5 year Planning on Industrial Accident Prevention. The strategy includes a periodic national survey on mental health, the development and improvement of the Korean questionnaire on occupational stressors measurement, the construction of a data base on the big five high risk industries or occupations to provide technical services to workplaces, an update of work management guidelines for high risk groups on

the work-related cerebro-vascular and cardiovascular diseases, and enforcement and settlement of prevention activities for health problems due to occupational stressors. It seems, often policies that address the outcomes of psychosocial risks are embedded in existing national strategies. The WHO Global Plan of Action on Workers' Health (WHO, 2007a) also addresses workplace health risks in a comprehensive manner, addressing the prevention of all risks present, be they physical, mental or social.

Prevention has become the key approach to occupational and public health. It requires knowledge and actions to address determinants of health. Clarifying the link between psychosocial risk factors and disease outcomes and proposing effective interventions, justifies action to address these important determinants of health.

The state-of-the-art in industrialized countries shows that the majority of research and discussions evolve around the experience of an ever-increasing workload with a decreasing workforce in a climate of rapid change and with control over the means of production being increasingly exercised by bigger bureaucracies (Cooper, 2006).

The apparent clarity of issues in industrialized countries becomes diluted by a multitude of other influencing factors in developing country contexts. The next chapter will outline some of the factors and processes that should shape our understanding of global issues influencing developing country concepts of psychosocial risks and work-related stress and, more widely, of issues of well-being.

CHAPTER 3 : THE STATE-OF-THE-ART IN DEVELOPING COUNTRIES

3.1 DEFINITIONS AND KEY ISSUES

3.1.1 Global definitions

The previous chapters outlined the processes of globalization and how they influence the global situation of the working population. They outlined the state-of-the-art of psychosocial risks in industrialized countries, what is known about their theoretical basis including work-related stress, their health impact and the financial and public health costs to society, businesses, and the individual in terms of health impact.

Work-related stress has been defined at European, as well as at global level by the World Health Organization, underlining the need to address psychosocial risks and work-related stress globally. Both issues are intrinsically interrelated at national and at global levels. And indeed, psychosocial factors will always be a global corporate concern, as they cut across all physical, professional and workforce boundaries (EU-OSHA, 2010). Current definitions are informed by contemporary models and theories.

A WHO global definition of work-related stress underlines that

> *'the most stressful type of work is that which values excessive demands and pressures that are not matched to the worker's knowledge and abilities, where there is little opportunity to exercise any choice or control, and where there is little support from others' (Leka, Griffiths & Cox, 2003).*

Another definition describes work-related stress

> *'as a pattern of reactions that occurs when workers are presented with work demands not matched to their knowledge, skills or abilities and which challenge their ability to cope; when there is a perceived*

imbalance between demands and environmental or personal resources, reactions may include physiological responses (for example increased heart rate, blood pressure, hyperventilation, as well as secretion of 'stress' hormones such as adrenaline and cortisol), emotional responses (for example feeling nervous or irritated), cognitive responses (for example, reduction or narrowing of attention and perception, forgetfulness), and behavioural reactions (for example aggressive, impulsive behaviour, making mistakes'.) (Houtman, Jettinghoff & Cedillo, 2008).

Due to the complexity of the issue of work-related stress, we seemingly face a challenge in providing a fully inclusive definition which gives credit to all aspects of contemporary theories and issues involved.

3.1.2 The need for a broader definition of work-related stress

Recently, Cox and Griffiths argued that new research lacks perspective (Cox & Griffiths, 2010). This may indeed imply the need to develop a different definition of work-related stress. Cox and Griffiths (2010) view contemporary stress research as having reached a plateau, since studies do not provide us with any new knowledge at this point, but rather repeat themselves with new groups of workers or in new countries or with new stressors. In this context, very little research has been undertaken in developing countries. While most work-related stress research focuses solely on the workplace, Cox and Griffiths (2010) underline the need to consider the wider context by drawing out commonalities of the main theories of work-related stress. Their most important conclusion for the research under discussion is that the main theories share a common framework in describing a system of events and process which involves both environmental components and individual, psychological, physiological and behavioural components, and that these components interact in the wider context of the relevant social, organizational, and societal environments (Cox & Griffiths, 2010). This is supported by the fact that researchers' involvement in work-related stress has been primarily within the domain of occupational health and safety.

However, we cannot regard this area in isolation as it requires consideration of macro issues including legal and economic concerns of workforce studies in a particular country context. Therefore, researchers in the developing world should examine occupational health in the broader context of social justice and national development, in collaboration with researchers from other disciplines (Nuwayhid, 2004).

3.1.3 Low prioritization of occupational health in general

Generally and as already referred to in Chapter 1, a key issue to consider is the low priority of occupational health in developing countries. Allocated resources are limited, information and research are inadequate, evidence about significance is poor, and there is a limited number of allies and partners (Nuwayhid**,** 2004). Nuwayhid (2004) proposes that we need to rethink the indicators of achievement and progress in occupational health, and although traditional markers such as fatality rates and health outcomes are important, they are insufficient, particularly in countries with inadequate health surveillance systems. It is argued that markers of progress should, therefore, also include training outcomes of occupational health professionals, development of theory, implementation of policy and advocacy of programmes, while underlining that occupational health processes are just as important as occupational health outcomes. Indeed human capital in the form of professional capacity is crucial for improving working conditions. One good practice example comes from Malaysia, which has seen a series of legislative acts, development of federal agencies, as well as inclusion of various training at universities, in the public and in the private sector (Rampal et al., 2002).

Considering the prevailing circumstances, it is not surprising that stress in developing countries is one of the areas which have not yet been quantified owing to lack of data on exposure or causality, important exposures and outcomes (Concha-Barrientos et al., 2004). The lack of research in this field and the struggle with other well-known and often more visible traditional work-related risks (chemical, mechanical, biological and physical hazards) may present additional important barriers that prevent developing countries from building awareness, let alone addressing and controlling emerging health concerns triggered by psychosocial risks. Therefore, a call to employers,

worker representatives, researchers and policy makers to include these emerging issues within comprehensive and broad approaches to occupational health, is a call for attention to occupational health per se.

3.1.4 A move towards awareness of psychosocial risks and work-related stress

Although awareness and action in developing countries lags far behind the successes experienced in the industrialized world, and although there are undoubtedly potential differences in the awareness and knowledge about the prevention of work-related stress and psychosocial risks in industrialized as opposed to developing countries, some studies in developing countries have replicated findings from industrialized country studies. For example, one study from a rural context in India found that job demand was the main factor significantly associated with exhaustion. Control and rewards accounted for cynicism and job satisfaction, respectively, and both demands and rewards were equally important in accounting for levels of psychological distress (Duraisingam & Dollard, 2005).

Especially in Latin America, awareness about the importance of psychosocial risks and their impact has been increasing recently. Research shows an increase in studies that deal with psychosocial risks each year, reaching up to 25% of all studies in occupational health presented in 2006. Burnout studies in service occupations are the most common type of investigation and between 16 and 30% of prevalence has been reported and associated with various psychosocial aspects of work. For example, high job strain in 24% of workers was reported in studies conducted in Argentina and Mexico (Juarez-Garcia & Schnall, 2007).

On the African continent, the First Inter-ministerial Conference on Health and Environment recognized in its report that Africa not only has to cope with traditional environmental risk factors to human health, it now also has to cope with new and emerging threats, including new occupational risks. These are seen to add to the burden of traditional occupational health problems such as injury, respiratory disorders, dermatitis and musculoskeletal problems. The report further states that Africans are now suffering from asthmatic conditions

and psychosocial stress (IMCHE/CP6, 2008). The African report neither refers any further to psychosocial stress, nor does it indicate how to tackle this emerging risk. However, the recognition of psychosocial stress as an issue is a first step towards future action.

At global level, the Occupational List of Diseases was recently renegotiated (ILO, 2010e). The former list was established in 2002. The ILO report outlines the resistance to the inclusion of psychosocial risks and work-related stress, particularly because the list might be used for compensation purposes. The report states that

> *'A clear example was the issue of stress confined to post-traumatic situations: the worker representatives would have liked to find work-related psychosocial issues, such as stress, reflected more in this list. Also, the rise in musculoskeletal disorders showed that there was a need to address this issue, which had been restricted to a bare minimum in the list. Future action will deal with further investigating the causal relationship with a specific agent, exposure or work process; that they occur in connection with the work environment and/or in specific occupations; that they occur among the groups of workers concerned with a frequency which exceeds the average incidence within the rest of the population; and that there is scientific evidence of a clearly defined pattern of disease following exposure and plausibility of cause.'*

Albeit all the drawbacks, it can be considered a small success that mental and behavioural disorders have, for the first time, been specifically included in the ILO list. It is, however, understood that there is still a large amount of work ahead before the health impact from psychosocial risks will be recognized at global level by all social partners. A positive development is that the global debate has also engaged all stakeholders at this point given that the ILO is tri-partite.

Many multi-nationals have entered and continue to enter the developing country territory for their business. Developing countries, in particular, lack political mechanisms that translate available information into action to address

occupational health issues. It may, therefore, be reasonable to see these companies as a channel to promote ethical occupational health and safety practices, covering both traditional and emerging risks at work. One revelation from the investigation at hand was that multi-nationals sometimes find ways around existing labour protective laws to avoid having to apply them. However, many realize that this is neither beneficial for their businesses nor for their reputation.

Other key issues include the emergence of psychosocial risks and its ensuing health and economic impacts in developing countries, as well as the level of knowledge and information and political will required to take effective action. Many other problems and occupational risks prevail that require attention, but are there any priority issues that need tackling in occupational health in general, and in workplaces in particular? The research that has been conducted in developing countries contributes currently to building a better knowledge base. The question not yet answered pertains to the level at which action could most effectively be taken. Would it be at company level through enforcement of company policies or at national level through comprehensive occupational health policies, or both, or by targeting individuals? In this context, can developing countries learn from the experience in industrialized countries? Some further key aspects that need consideration when studying psychosocial risks and work-related stress in developing countries are discussed below and pertain to issues of poverty, vulnerability and national or local action.

3.2 SOCIO-ECONOMIC CONDITIONS

3.2.1 Poverty and inequality

More than 90% of injury deaths occur in low- and middle-income countries, where preventive efforts are often non-existent, where healthcare systems are least prepared to meet the challenge, and where injuries clearly contribute to the vicious cycle of poverty and the economic and social costs that have an impact on individuals, communities and societies (Gosselin, Spiegel, Coughlin & Zirkle, 2009). Poverty and inequality have in fact increased in many parts of the world (WHO, 2001). Only 5% to 10% of workers in developing countries

and 20% to 50% of those in industrialized countries have access to adequate occupational health services (WHO, 1995).

In developing countries, there are overwhelming problems with unemployment, poverty, malnutrition, and infectious diseases. 450 million people live in extreme poverty and suffer from malnutrition, while another 880 million live in what can only be described as absolute poverty. In 2005, nearly 1.4 billion workers across the globe did not earn enough to lift themselves and their families above the US 2 dollars a day poverty line. And nearly every 5th worker in the world has to survive with less than 1 US dollar for each family member (Nomann, 2005). This situation has a clear impact on the health and well-being of workers, their families, communities and nations as a whole. Growing up in poverty gives people less opportunity to build up strengths and capabilities to maintain good physical or mental health and well-being (Schoon, 2006).

3.2.2 Social determinants of health

A number of social determinants are important in the development and maintenance of mental and physical health. Evidence-based findings link social determinants such as social status, stress, early life, social exclusion, work, unemployment, social support, addiction, food and transport, to health in its broad sense (Wilkinson & Marmot, 1998). Employment dimensions (such as precariousness) may share some common pathways (e.g. lack of autonomy at work leading to mental illness), but may also be characterized by specific pathways (e.g., child labour leading to low growth). Therefore, employment conditions are closely linked to material deprivation and have a strong effect on chronic diseases and mental health via several psychosocial factors, life-style behaviours, and direct physio-pathological changes (Benach et al., 2007).

Lastly, the first Whitehall study, conducted among British civil servants, concluded that inequalities in health were not limited to the health consequences of poverty or conventional risk factors for ill health (e.g., Bosma, Marmot, Hemingway, Nicholson, Brunner & Stansfield, 1997). It importantly hypothesized that psychosocial factors such as work stress fill in

the unexplained part of the social gradient in mortality, mental well-being and sickness absence (Benach et al., 2007).

3.2.3 Job insecurity

Hu and Schaufeli (2010) studied the impact of past and future job insecurity on the mental health of Chinese family business workers. They found that the negative effects of past job insecurity on employee well-being (i.e., emotional exhaustion, job dissatisfaction, poor organization commitment, and intention to quit) were exclusively due to the fear of future job insecurity. For example, employees having experienced downsizing of their companies will continue to anticipate downsizing in their current jobs. This may result in conditions of poor mental health as seen in the Chinese workers.

While unemployment has well-known and significant effects on health and psychological well-being, precarious jobs also appear to have ill health consequences. Even if the effects on individuals may not be as serious as those due to unemployment, the overall effect of precarious employment appears to be negative (WHO, 2001). Links with psychosocial stress (in large part a direct or indirect consequence of employment relations) is generally well understood and common to a host of social determinants (Benach et al., 2007).

In fact, temporary, part-time and precarious employment have been linked to a number of psychosocial risks such as increased job demands, lower job security, reduced control over working conditions and increased likelihood of labour force exit (Benach, Amable, Muntaner & Benavides, 2002; Benavides, Benach, Diez-Roux & Roman, 2000; McDonough & Amick, 2001; Quinlan, 2004; Quinlan, Mayhew & Bohle, 2001). The WHO Commission for Social Determinants of Health also stated that work-related stress may be one of the most common social determinants of health for the employed, which can at times be as dangerous as unemployment, and which is known as a great cause of distress and poor health (WHO, 2006).

Therefore, precarious working conditions are an important consideration in stress research, as they point to the vulnerabilities of certain groups of workers.

3.3 VULNERABLE WORKERS

3.3.1 Disadvantaged groups

In the aftermath of the current economic and social crisis, the ILO annual report on Global Employment Trends (ILO, 2010c) states that

> *'the share of workers in vulnerable employment worldwide may have increased by more than 100 million in 2009, and with it global poverty.'*

At global level, the WHO Global Plan of Action for Workers' Health (WHO, 2007) states that increasing international movement of jobs, products and technologies can help to spread innovative solutions for prevention of occupational hazards, but can also lead to a shift of that risk to less advantaged groups. The growing informal economy is often associated with hazardous working conditions and involves such vulnerable groups as children, pregnant women, older persons and unskilled migrant workers. This research does not focus on vulnerable groups in general, but restricts itself to issues that concern the situation of women and unskilled migrant workers, while keeping in mind that these groups also experience disadvantages in industrialized working contexts.

3.3.2 Women workers

Women and men have different experiences when it comes to occupational health, as they generally engage in other types of work, which also means they are exposed to different risks and work-related health problems (Premji, 2011). Participation in paid labour has a positive effect on women's and men's health and on the well-being of households, communities and economies (Premji, 2011). Even as women rise in power globally, gender discrimination is still prevalent in developing countries. Women have proven to contribute substantially to social stability and economic progress. Around the world, women make up 40% of the paid workforce (ILO, 2010). In

developing countries the social effects of female economic power are particularly evident, since women invest large amounts of income into community and family. One example is that of the micro credits provided by the Bangladeshi micro credit banks worldwide to finance a number of start-off projects, of which the largest number are lead by women to empower them (Pitt, Khandker & Cartwright, 2003).

However, the downside is that women are often considered to be "supplementary wage earners" rather than workers in their own right. They are also among those who have the poorest social and economic status in many countries of the world, and the weakest control over directing resources towards their needs (Loewenson, 1999). Women have also suffered particularly badly from an increase in assembly line, low-quality and precarious jobs (WHO, 2001). Therefore, the vulnerable position of working women (and children), and changing demographic patterns require particular attention (Wegman, 2006). Results from several community-based cross-sectional studies have shown that women in informal jobs were more likely to have minor mental disorders than those in formal job contracts (Santana et al., 1997). This association was not observed among men (Ludermir & Lewis, 2005).

Moreover, due to the gender division of labour, women and men play different roles in relation to children, families and communities and this also has implications for their health (Premji, 2011). For example, in many developing countries water and fuel collection for domestic purposes represents a huge burden for women. In Gujurat, India, women spend 3-4 hours a day on average collecting water (Human Development Report, 2006). And even though women are increasingly joining the paid workforce, in most societies they continue to be mainly responsible for domestic, unpaid work such as cooking, cleaning and caring for children, and so they carry a triple burden (e.g., Loewenson, 1999). Many are balancing responsibilities for paid and unpaid work which often leads to stress, depression and fatigue (Duxbury & Higgins, 2001; Manuh, 1998). Balancing responsibilities is particularly problematic when income is low and when social services and support are lacking. In some cases, the lack of availability of child care means that women

must take their children to work where they may also be exposed to hazardous environments (Heymann, 2006).

Women are also largely responsible for unpaid health care work for their elderly, disabled and ill relatives. For example, in African rural settings, as in many other parts of the world, women perform all domestic and care tasks while many also assume the men's traditional role in paid employment. Women are also largely represented among unpaid contributing family workers, those who work in a business establishment for a relative who lives in the same household as they do (ILO, 2010, 2010d).

Hence, although more women have been brought into the workforce recently, they still need to carry a triple burden and many tend to be placed in insecure employment sectors with precarious working and employment conditions. Formal sector employment is mostly dominated by men, with women usually making up less than a third. Export Processing Zones (EPZ) (or Zone Franche), however, employ 68% of women from developing countries. EPZ's have high turnover and long working hours (Glick, 2006). Furthermore, the work is often strenuous, repetitive, and ergonomically dubious and with little control over job pace for content resulting in increased occupational risk and risk of stress (Fuentes & Ehrenreich, 1994). In Northern Thailand and Uganda, as in many other countries, the social context of factory work in EPZs (e.g. sexual harassment, family separation) has led to workers engaging in risky behaviours like substance abuse and unprotected sex (Buregyeya, 2008; Theobald, 2002). In Honduras, the socioeconomic precariousness experienced by women sweatshop workers in the garment industry has forced some of them to leave their children unsupervised as they work 15 hours a day, 7 days a week (Heymann, 2006).

Another example is that of Zimbabwe where 90-92% of workers in the informal economy are women (WHO, 2001). Psychosocial stressors reported are violence, sexual abuse and discrimination (Iriart et al., 2006). These are reported, in particular, for domestically employed women (Sales & Santana, 2003). Most women engaged in weaving in informal jobs in Thailand reported stress perceived as a result of pressures to keep the quality of products, the tight time schedule, and from debts related to their jobs (Nilvarangkul et al.,

2006). In addition, women work longer hours, up to three times that of men (Smyre, 1992).

More recently, research has shown examples of women's self-help groups that assist these women in achieving personal and economic empowerment, increase benefits through group membership in terms of income, and enhance meaningfulness in their daily lives. They also experience increased personal control over spending and decision-making power in the home (Moyle et al., 2006).

Based on this evidence, there is a need to consider gender issues when addressing the health and safety effects of working conditions. The management of psychosocial risk factors should account for both, the specific characteristics of the work women and men traditionally perform, and the special issues faced both by women and men who work in non-traditional environments for their gender. Some positive developments stimulated by trade unions include examples such as in Brazil, where 85% of collective agreements accounted for job security for pregnant workers. In Benin**,** unions have a number of projects, laundry services at work to alleviate the workload at home, childcare near the main market for children of women vendors to facilitate breastfeeding. And in Honduras, where women in the garment industry were forced to leave their children unsupervised as they work 15 hours a day, 7 days a week (Heyman, 2006), the Honduran Maquila Union signed a collective agreement including family-related benefits for workers at a garment factory. This included a grievance procedure, expansion of medical benefits provided by the on-site clinic, increased maternity leave, education scholarships, assistance with costs for workers' children's education, holiday benefits, and a small wage increase.

3.3.3 Migrant workers

Migrant workers can be divided into highly-educated and skilled workers both from developing and industrialized countries, and unskilled workers from developing countries (Takala & Hämäläinen, 2009). In industrialized countries, for example in Spain, migrant workers make up the largest proportion of workers without social security (39.7%) compared with all the

other groups of workers (EWCO, 2009). The same report indicates that migrant workers are particularly exposed to ergonomic, but above all psychosocial risks. This thesis discusses some issues related to the unskilled workforce from developing countries.

The migrant workforce is increasing worldwide, reaching an estimated 120 million (ILO, 2000a). Legal and illegal workers have a different status and, therefore, varying levels of access to basic social services (WHO, 2007b). Often low-skilled and seasonal workers are concentrated in sectors and occupations with a high level of occupational health risks (WHO, 2007b). Indeed, migrant workers face multiple risks. For example, mining workers in South Africa are exposed to extraordinary risks of silicosis, tuberculosis and HIV/AIDS, diseases that are inextricably linked to workplace, housing, social and economic factors (Trapido et al., 2010). In the mining sector in Pakistan, 92% of workers are even unaware of the health hazards inherent in mining, and most are migrants (Panhwar & Memon, 2007). The increasing number of immigrants, both legal and illegal, can also challenge health and safety in a more indirect manner. Immigrants' cultural background, anthropometrics and training may defer from those of the average national of the country they enter to work, and might impact their use of local technology developed for these defining specifications (e.g., Gurr, Straker & Morre, 1998; Kogi, 1997; O'Neill, 2000), hence potentially exposing them to further risks. Also a recent study shows that migrants from developing countries as Ethiopia face different challenges to their health and safety than migrants from industrialized countries. Reasons listed are the limited knowledge of health and safety systems, limited access to training, difficulties in understanding what is being offered by their host country, and different experiences of health and safety regimes in their country of origin (Jemaneh, 2009).

Migrant workers tend to be employed in high risk sectors, receive little work-related training and information, face language and cultural barriers, lack protection under the destination country's labour laws and experience difficulties in adequately accessing and using health services. Agricultural growers in the United States of America - agriculture being one of the high-risk sectors worldwide - employ between 3 and 5 million migrant farm workers. Common stressors include being away from friends and family, rigid work

demands, unpredictable work and housing having to put up with existing conditions (Magana & Hovey, 2003).

Women migrants represent nearly half of the total migrants in the world and their proportion is growing, especially in Asia (ILO, 2010b). They often work as domestic workers or caregivers while men often work as agricultural or construction workers (ILO, 2010c). Agricultural workers face injury from machinery, poisoning from chemicals, inadequate rest and abuse (e.g. discrimination from crew leaders, substandard housing, violence, etc.). Domestic workers experience lack of control over their conditions, job insecurity, isolation, racism and physical and psychological abuse (Anderson, 2000; Bakan & Stasiulis, 1995; Cheng, 1996; Grandea & Kerr, 1998; Neysmith & Aronson, 1997; Zahid, Fido, Razik, Mohsen & El-Sayed, 2004). There are other health impacts of economic migration. Migration has furthermore been associated with reliance by women on risky survival strategies such as undertaking sex work (Singh, 2007) supported by an increase in HIV infection among migrant workers in various countries (ILO, 2010b). The impact of migration on health can also reach beyond the worker. Currently, the increasing migration of nurses (the large majority being women) who leave their home countries in search of better conditions for themselves and their families has given rise to concerns about the negative impact of this trend on health systems in the home countries (Buchan & Sochalski, 2004).

In short, population movements generally render migrants more vulnerable to health risks and expose them to potential hazards and greater stress arising from displacement, insertion into new environments and reinsertion into former environments (WHO, 2007b), as well as sub-standard working conditions.

3.4 HEALTH IMPACT

3.4.1 Global studies

Interestingly, already in 1984 Cooper undertook a ten-country comparison study and reported that many companies have become conscious of the dire effects of excessive managerial stress on the performance of organizations, as well as on the health of their employees. This was evident, in particular, with respect to developing countries, where executive stress is taking on

critical dimensions, particularly with regard to mental well-being and job satisfaction. The pressures on managers to perform in a climate of rapid sociological, technological, and economic change were suggested to produce negative effects in industrialized and developing countries. Executives in Brazil, Nigeria, Egypt, and Singapore demonstrated a higher incidence of mental stress symptoms and job dissatisfaction than their equivalents from highly industrialized countries investigated, such as the United States, Sweden, and West Germany (Cooper, 1984).

Researchers in China, one of the BRICs countries and undergoing rapid industrialization, have started to look into the health impact from psychosocial risks and work-related stress (for example, Li & Jin, 2007). In 2007, 17 studies on work stress and cardiovascular disease were reported from Mainland China. They all demonstrate a positive relationship between work stress and increased blood pressure, hypertension or coronary heart disease. Research also indicates that in China people tend to deny or not to notice psychological depressive symptomatology and traditional westernized diagnostic methods report very low prevalence of major depressive episodes (Schulz, Israel, Williams, Parker & James, 2000). This may imply that mental health impact caused through stressful working environments, may not be detected, and therefore neither addressed, nor prevented, due to cultural prescriptions.

Findings by Rosengren and collaborators (2004) show that several factors associated with psychosocial stress were associated with increased myocardial infarction and were relatively consistent across the different geographic regions, ethnic groups, and ages, both in men and women. Healthcare workers, teachers, civil servants, engineers, policemen, drivers, hotel workers, textile workers, railway workers and airport workers were among the groups studied (Li & Jin, 2007).

Panhwar and Memon (2007) state that in Pakistan major psychosocial risk factors include low salary, job insecurity, shift duties, long working hours, high workload, lack of career development, sexual harassment, as well as lack of participation in decision-making. The researchers particularly mention the healthcare sector, but also the construction sector, which is rapidly growing,

provides low wages, posture-related problems, lack of protective equipment and job insecurity (Panhwar & Memon, 2007). Also, Pakistan has not signed the ILO Conventions to protect the health and safety of workers (Panhwar & Memon, 2007).

In South-Africa, multi-national enterprises in export-processing zones have been associated with high levels of machine-related accidents, dusts, noise, poor ventilation, and exposure to toxic chemicals. Work-related stress levels are also high, adding further risk. It has been reported that accidents, stress, and intense exposure to common hazards arise from unrealistic production quotas, productivity incentives and inadequate controls on overtime. These factors create additional pressure to highly stressful work, resulting in cardiovascular and psychological disorders. In young women who often work in export-processing zones, stress can affect reproductive health, leading to miscarriage, problems with pregnancies, and poor fetal health (Fuentes & Ehrenreich, 1994, ILO, 1988).

Also in Latin America studies were undertaken due to an annual increase in work-related musculo-skeletal disorders registered by official statistics since 1987 in Brazil. More recently, studies were conducted in call centre operators in a bank in Sao Paulo (Rocha, Glina, Marinho & Nakasato, 2005). The researcher found that predominantly women work in this sector. In the study, 67% of these women were 18-23 years old. 43% of the women had neck and shoulder problems and 39% wrists and hand problems due to static positions and high stress.

In South-East Asian countries, which have experienced rapid industrialization, Haratani and Kawakami (1999) observed an increasing risk of work-related diseases and accidents. The researchers point to the strong need for research and prevention of work-related stress and its adverse effects on workers' health in newly-industrializing and developing countries.

In an Iranian sample of car manufacturing workers, the risk of injury among those with work-related stress was significantly higher than those without work-related stress. Stress was responsible for 11.9% of all occupational injuries in the latter group (Soori, Rahimi & Mohseni, 2008).

A number of studies have also been undertaken in different developing country sectors. Examples include psychosocial risks that developed into health problems, such as mental health problems for immigrants (Vega et al., 1985), Mexican farm workers (Magana & Hovey, 2000), teachers (Porto et al., 2006), or occupational stress through work-life imbalance and competing demands of work and family conflict (Rothman & Mehan, 2006), and through long hours (Borojeni, 2007).

The WHO states that cutting across age, gender and social strata, a growing body of evidence shows the impact of mental health problems throughout the world. Some 400 million people around the world suffer from mental or neurological disorders or from psychosocial problems such as those related to alcohol and drug abuse. Mental disorders are common, universal, a major source of disability in individuals and a burden to both families and communities (WHO, 2000a). One of the largest evidence bases that depict associations between work-related stress and cardiovascular disease has been developed for both industrialized and developing country contexts (Rosengren et al., 2004).

These research examples are encouraging, however, it seems there is still lack of sufficient empirical evidence, as well as a weak prevalence of epidemiological evidence about the exposure of the working population to the different psychosocial risk factors and the related health outcomes at the global level (Concha-Barrientos et al., 2004), which represents an important basis for action at company and policy levels.

3.5 LEGISLATION, POLICIES AND VOLUNTARY ACTIONS AND THE ROLE OF MULTINATIONAL ENTERPRISES

This section outlines some barriers and some solutions to the implementation of action and interventions at different levels to address psychosocial risks and work-related stress.

3.5.1 Barriers

The current division between working conditions and the (physical) work environment makes the inclusion of psychosocial risks at work harder to embrace in legislation and harder to identify by most occupational health and safety professionals. The problem is larger than their 'intangibility' owing to the fact that not all stress-related disorders are disabling, albeit causing suffering to workers and their families. Some regulations refer to exposure limits, but enforcement is not assured everywhere. In many countries, even though information of traditional hazards may exist, the lack of a functional labour inspection authority does not allow enforcement of even existing regulations and guidelines (Jeyaratnam, 2002; Levy, 1996). A consequence of this situation is lack of resources allotted to deal with occupational health threats in general. This implies that policies or legislation rarely address the prevention or management of psychosocial risks and work-related stress in developing countries, in particular because traditional risks remain the primary focus.

In this respect, the African continent is struggling quite extensively. In 2007, Ekore reported that psychosocial risk factors in the workplace are highly underestimated by organizations in Nigeria, since currently no health and safety policy emphasizes psychosocial risks and work-related stress as cause for concern, and legislation in Nigeria only covers traditional hazards. In organizations where there are policies, the problem is their implementation due to the lack of government legislation ensuring compliance. Consequently, there is a lack of awareness among workers about psychosocial hazards and work-related stress in the workplace (Ekore, 2007). It seems, in Nigeria the health of workers is not even taken seriously (Ephraim, 2009). Ephraim (2009) points out that

> *'…improving occupational health isn't like fixing a pothole. There is nothing for a politician to point to and say, "My party takes credit for that". Results aren't visible within an election cycle. Yet occupational health affects in ways that last longer than the roads we drive on, or the items we purchase with the money politicians promise to save us.'*

Ephraim (2009) adds that the barriers to implementing occupational health provisions are lack of vision and political will.

Furthermore, in South Africa,

> *'the implementation of occupational health and safety practices 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 the Government even to enforce existing regulations (Joubert, 2002).*

Muchiri (2003) further states that South Africa has some of the most recent legislation in occupational health and safety, while Uganda, Kenya and Tanzania are currently in the process of reviewing their legislation, but that many challenges remain. Particularly enforcement and compliance with safety and health standards are unknown in the informal sector in many developing countries (Muchiri, 2003).

Garcia-Juarez and Schnall (2007) point out the fact that in Mexico there is

> *'… no legislation, little awareness and thus, little interest concerning these issues and, in fact, little attention has been paid to psychosocial risks in Latin-American countries.'*

Sanchez-Roman (2006) specifies that there are some provisions in Mexico for general worker protection (e.g., the National Labour Law, State Workers Law, National Safety, Hygiene and Occupational Environment Law, The Mexican Work and Social Security Secretariat), but also lack of monitoring and enforcement. More fundamental problems are found in the Philippines as there is a dire lack of labour inspectors, and a lack of statistics on occupational injuries and diseases. Critics say that this prevents 'delinquent' companies from being penalized appropriately (LaDou, 2003).

Clearly a major role of trade unions is to encourage development of and improvements in national legislation and policies that affect workers' well-being. However, the majority of developing countries lack the proper political

mechanisms to translate scientific findings into effective policies. In addition, there is lack of governmental interest, lack of solid research, and weak enforcement of health and safety regulations (Nuwayhid, 2004). LaDou (2003) argues that the ILO through its conventions may be the proper forum for a standard proposal, but since it has no enforcement power, it alone is inadequate. Nuwayhid (2004) adds that many decision makers in developing countries perceive occupational health as a "luxury", and it is not clear to them that occupational health is clearly linked to a healthier and more productive labour force, and thus may be one tool to break the cycle of poverty as well, since healthier workers are more productive, which improves output, salaries, living conditions, and national economies at large.

3.5.2 Solutions

To be effective in terms of addressing global developments and shifts discussed previously, we increasingly require integrated and holistic approaches, taking into account the changing world of work, and preventing new and emerging risks together with traditional forms of hazards. Therefore, legislation in any given country has to provide a legislative framework for occupational health and safety promotion, and to provide guidelines to be implemented at the workplace level. If these elements are not in place, they need to be developed in collaboration between an industrialized and a developing target country, and to be modified according to the local and national conditions (Rantanen, Lehtinen & Savolainen, 2004).

Much of the responsibility for promoting health in the workplace lies on the one hand with the companies themselves. Promotion of a healthy workplace must be pursued from within the company, since changing patterns of life, work and leisure have a significant impact on health (Ottawa charter, 1986).

On the other hand, governments should recognize that national and local policies and legal instruments need to address psychosocial and physical risks and health behaviours. Governments should also recognize that welfare programmes need to address psychosocial and material needs, both being sources of anxiety and insecurity. Currently, the lack of inclusion of psychosocial risks and work-related stress in policy development globally

makes it difficult for companies of all sizes to put into place effective control strategies to deal with these issues. Policies and activities to improve mental health and well-being at work should indeed occur both at the national and organizational levels (Dollard & Winefield, 2002).

Following some extensive studies, action was taken because the studies showed strong health impact of psychosocial risks and work-related stress. They provided proof for the lack of awareness of stress as a precursor of diseases. As a consequence, Colombia introduced a work-stress protocol which currently lacks enforcement, but provides a first step to raising awareness and addressing these issues (Villalobos, 2007).

It has also been proposed, with a particular focus on the African region, that governments should establish inter-sectoral frameworks, which include the monitoring of new and emerging environmental threats in their activities and threats posed by new and emerging hazards (ICHE/CP6, 2008). The same report proposes the development and implementation of awareness-raising campaigns, community sensitization and education activities on prevailing occupational risk factors. Networking at international and regional level has proven to be important to support these processes within the research and practitioner community. Examples at international level are the WHO Global Network of Collaborating Centres for Occupational Health, and at regional level the Latin-American research network. Whereas the WHO network focuses on a large array of occupational health issues, the Latin-American network focuses only on psychosocial risks, which researchers felt needed addressing due to the quite extensive health impact.

This time Ephraim (2009) remarks about Nigeria on a very positive note:

> *'I think the time cannot be better than now. Over the last two years, there have been newspaper reports on illness of many of our politicians. …This is therefore the time for workers to task politicians with regards to what can be done for them to safeguard and improve their health.'*

In addition, Muchiri (2003) argued that legislation also needs to be flexible to meet the psychosocial needs of the workers, as well as technological, social and economic needs. Codes of practice should also be developed for each country, which would increase workers' awareness of the areas that need more attention, and would help to promote safety and health at workplaces. Most African countries have occupational health and safety legislation, but they lack the ability to deal with the current challenges of globalization. Developing countries will require increased consciousness and empowerment of workers that they are able to control the work process. They will need to support generating unbiased information about occupational health risks, as well as educate employers and policy makers to see occupational health as a powerful vehicle for business development and for socio-economic improvements.

As mentioned previously, in most instances it is the powerful multinationals that influence legislation in these countries. It is for this reason that engaging them is crucial in order to influence the way business is done for the development of society (Voyi, 2006). They may, therefore, present an important target group, together with workers and employers of SMEs and policy makers, to develop and implement policies and strengthen legislation.

3.5.3 Overview of this research

Currently, research studies that have dealt with psychosocial risks and work-related stress are largely limited to industrialized settings. Some studies point to the importance of these issues in developing countries, but the availability of data is restricted and not conclusive in terms of impact and the concrete nature of psychosocial risks. The key issues at stake are the emergence of psychosocial risks and their ensuing health and economic impact on many workers in developing countries, little or no knowledge and information about how to take effective action, the lack of policies, legislation, and, if these exist, the lack of enforcement. Some of the research presented and undertaken in developing countries is contributing to the currently weak knowledge base. At present, we require more empirical and epidemiological evidence to raise awareness and stimulate action, and an encompassing framework to effectively deal with these issues.

This research set out with the review of literature on the impact of global processes and on human and economic health, at global level, in industrialized, but particularly in developing countries. The results showed that, while there is considerable research on psychosocial risks in general and while there is growing evidence for a link to adverse health effects in industrialized countries, little is known about the situation in the developing world. In addition, developing countries still struggle with traditional hazards and with the enforcement of existing regulations in this area. This has led to a focus on policy actions on such traditional occupational risk factors.

Following the literature review, this work underwent four stages of development. First, the identification of experts from developing countries with multi-disciplinary backgrounds related to occupational health and the establishment of a network. Secondly, semi-structured interviews were conducted and analysed through thematic analysis. Thirdly, two rounds of a Delphi survey were undertaken, and fourthly four focus group discussions were conducted and analysed through framework analysis.

In addition to the research questions outlined in Chapter 1, this research aimed at providing a framework to address psychosocial risks and work-related stress in developing countries, considering vulnerable workers, health impact, legislatory frameworks and policies, interventions, working conditions, and hazardous sectors. The aim was also to obtain information on priority issues that need tackling in occupational health in general and in workplaces in particular. One of the main responsibilities of international professionals and experts is to stimulate and support action where required, to collaborate with developing country experts, to spread knowledge, to use existing and new data, to prevent negative long-term health and economic consequences through the development of adapted strategies and relevant tools. This research may serve as a stimulus to this process through identifying trends, and through providing insights into an insufficiently researched area.

In summary, the research should inform and stimulate the following actions through its findings, rationale and recommendations:

- awareness-raising based on the trends observed in developing countries and education of stakeholders;
- assessments to understand the magnitude of health and economic problems stemming from psychosocial risks and work-related stress;
- prioritization of the most urgent needs and trends by world regions or sectors;
- adaptation, implementation and evaluation of the available intervention tools from industrialized to developing countries;
- development of policy at organizational and national levels for inclusion in comprehensive occupational health and safety frameworks; as well as
- stimulating an under-researched and low attention area of occupational health and safety and motivating policy makers to address psychosocial risks and work-related stress due to considerable public health impact.

The following chapter describes in further detail the methodology employed in this research to achieve its aims and objectives.

CHAPTER 4 : RESEARCH METHODOLOGY

Good measurement, no matter how elegant or wonderful, is sterile unless it is accompanied by meaningful findings. Likewise, provocative interpretations may be rendered illusionary if they cannot be firmly supported by solid methodology (Marvin Dunnette, I/O Psychologist, 1993)

4.1 THE NATURE OF THIS RESEARCH

To date, not much has been happening at policy level in developing countries in the area of occupational health in general and emerging hazards in particular. Researchers (e.g., Nuwayhid, 2004) argue that policy makers in developing countries do not necessarily lack information, but effective transfer mechanisms. Research is required in new areas such as the psychosocial working environment, and its role would be to maximize existing resources to facilitate the development of political mechanisms to respond to traditional and emerging occupational health needs in developing countries. Overall, psychosocial risks and work-related stress are not prioritized by policy makers neither in industrialized nor in developing countries and their prioritization, existing policies and their management, capacity and structure to manage these differ across countries (Leka Jain, Iavicoli, Vartia & Ertel, 2010).

Given the above, this research has two aims. One, and given that this is an under-explored issue in developing countries, is to raise awareness of psychosocial risks including work-related stress. In the sphere of occupational health, generally developing country policy makers tend to focus on the 'visible' threats to workers' health caused by their physical working environment. They, therefore, tend to ignore emerging risks emanating from the psychosocial working environment. The second aim is to stimulate policy development at organizational and national levels in this area. In this sense, the ultimate aim of this research is to inform policy development and policy makers about the importance of psychosocial risks within the realm of all occupational hazards and at the same time to promote a comprehensive approach to worker protection and the promotion of their health.

Qualitative approaches have a large role to play in policy-oriented research. Walker (1985) said in this context:

> *'What qualitative research can offer the policy maker is a theory of social action grounded on the experiences – the world view – of those likely to be affected by a policy decision or thought to be part of the problem.'*

This underlines that those who will be concerned will need to be part of the solution and ideally provide a basis for policy development. Ritchi and Spencer (1994) outline the four categories that need to be addressed in applied policy research. They are as follows: 1) consideration of the context and identification of the form and nature of what exists; 2) diagnostics to examine the reasons for, or causes of, what exists; 3) evaluation and appraisal of the effectiveness of what exists, particularly in terms of barriers of implementing the system; and 4) development of a strategy to define approaches to overcome barriers. This research attempted to cover steps 1) and 2) and partly 3) and to pave the way for step 4).

As explained above, this is an under-studied area with lack of data. An insight and enhanced understanding can, therefore, only be provided through exploratory research methods. This research is based on three main characteristics including the employment of a mixed method approach, which is based on principles of triangulation and which aims at consensus building. Figure 4.1 presents the data collection approach and the analyses applied.

This Chapter further explains Figure 4.1, the means of data collection used and the justification of the choice of methods applied in this research. A combination of quantitative and qualitative methods[6] was used to answer the research questions which have a global focus. Generally, the actual research question directs the choice of research method. The literature outlines more

[6] refers to the various means by which data can be collected and/or analyzed

than 30 methods (e.g., Tesch, 1991) and, therefore, the actual research question(s) need to be defined before appropriate research methods are chosen (Hallberg, 2002).

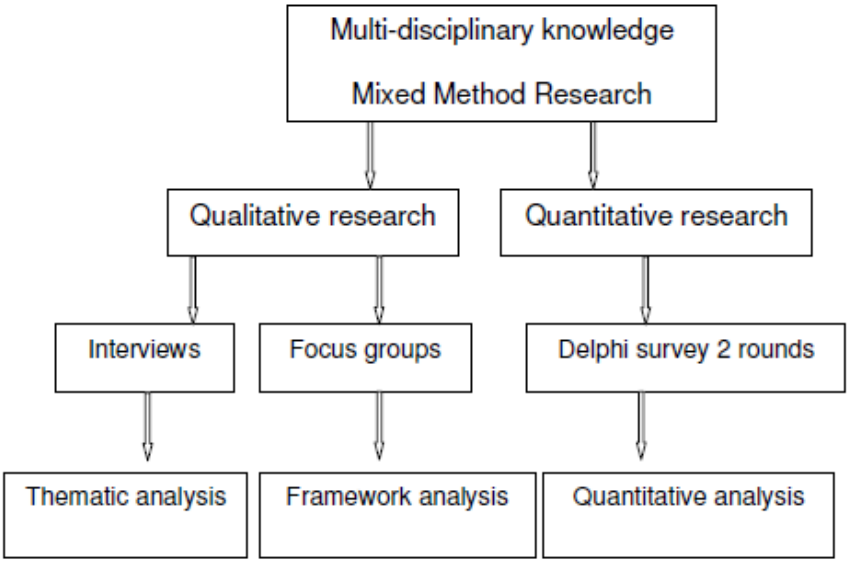


Figure 4.1 Methodology and analysis

This thesis attempts to provide an insight into the perception and the nature of psychosocial risks and work-related stress, and their health impact in developing countries as perceived by multi-disciplinary experts from developing countries or experts with developing country experience. It explores differences and similarities in experts' experiences and knowledge about developing country work contexts in comparison to research findings from industrialized countries. It tries to define priorities for action and the most urgent workplace issues to be addressed in developing countries. It also identifies vulnerable workers and the most hazardous sectors. Below the main characteristics of the research approach are explained and justified.

4.2 RESEARCH METHODS

4.2.1 Mixed method approach

Traditionally there has been an ongoing debate between the two paradigms of qualitative and quantitative research methods, which is also called the

qualitative-quantitative debate (e.g., Reichardt & Rallis, 1994). Quantitative methods apply the positivist paradigm and qualitative methods the constructivist (Guba & Lincoln, 1994; Howe, 1988) or the realist or essentialist paradigm (Brown & Clarke, 2006).

The mixed-method approach is based on the principle of triangulation or cross examination (Cheng, 2005), which allows the researcher to be more confident with a result if different methods lead to convergent results, as well as enables her to improve the accuracy of judgment about a phenomenon through the collection of different kinds of data. This may enable the enrichment of our understanding by allowing for the discovery of new or deeper dimensions (Todd, 1979) and, thereby, not fit a current theory or model. It is also assumed that multiple and independent measures do not share the same weaknesses or potential for bias (Rohner, 1977), and although each method has assets and liabilities, triangulation purports that it exploits and neutralizes the assets rather than amplifies the liabilities (Todd, 1979). Methodological triangulation is the use of more than one method to gather data, such as interviews, questionnaires, focus groups or document analysis (Bogdan & Biklen, 2006; Denzin, 1978; Morce, 1991). Denzin (1978) understood triangulation as the combination of methodologies in the study of the same phenomenon (see also Bogdan & Biklen, 2006).

Sequential triangulation is used if the results of one methodology are essential for planning the next method (Morce, 1991). In this research, the research problem is primarily qualitative as it deals with perceptions and knowledge of experts, which is why experts' opinions were first gathered through interviews, followed by quantitative Delphi surveys, which were to be confirmed and further refined by focus group discussions.

It is important to note for this research that this approach of triangulation has also been supported through research at the global level and is, therefore, considered important for global research initiatives. For example, Stone and Campbell (1984) noted that developing countries rely heavily on Western survey research methods to gather data often leading to inaccuracies through cultural reinterpretation of survey questions by respondents due to the limited

contextual bias. They, therefore, argue for the combination of qualitative and quantitative methods in international work.

4.2.2 Quantitative methods

A researcher applying a *quantitative method* tries to fragment or delimit phenomena into measurable or common categories that can be applied to all of the subjects or wider and similar situations (Winter, 2000). There are two main approaches that underlie quantitative research. One is reliability and the other validity. *Reliability*, on the one hand, is a concept that implies that study results must be reproduced under a similar methodology to be qualified as reliable. Hence, there is a notion of replicability or repeatability of the results. On the other hand, *validity* determines whether the research measures what it intended to measure, as well as the truthfulness of the research results.

This research, being exploratory, evidently needed to be complemented by the provision of a qualitative scope to offer further insight and ideally a debate.

4.2.3 Qualitative methods

Undeniably, some researchers who advocate the quantitative approach view qualitative methods as useful only in preliminary studies conducted before "real" studies begin (Hallberg, 2009). Charmaz (2000) pointed out that Barney Glaser and Anselm Strauss, the founders of grounded theory, rejected the idea that quantitative research would be the only usable approach to inquiry. The use of qualitative methods was acceptable if it was confined to a developmental role for statistical investigation. This has changed, since now it is recognized that contributions of qualitative research are much more wide-ranging and that they have an important role to play. Such research has its own right, particularly in providing insights, explanations and theories of social behaviour (Ritchie & Spencer, 1994).

The literature generally underlines that qualitative approaches are flexible and sensitive to social context (e.g., Braun & Clarke, 2006) and that they are essentially non-numerical. Researchers also stress that qualitative analysis is based on complex, detailed and contextual interpretation (Banister et al.,

2003). Qualitative research lives and breathes through the context provided. It is the particularities that produce the generalities, not the reverse. This is contrary to prior instrumentation or pre-designed and structured instruments (e.g., Miles & Huberman, 1994). It is nevertheless an a priori that the researcher states clearly whose guidelines were used and which steps were followed in the research process (Babchuk, 1996). For this thesis this is outlined in detail in Chapters 5 and 6.

What qualitative research data does not intend to achieve are generalizations of findings to wider populations, testing for differences or associations between participants or variables, and setting out to accept or reject a hypothesis or research question. It hence does not try to find a fixed truth (Banister, Burman, Parker, Taylor & Tindall, 2003), but rather it tries to identify a present trend. In this context, Golafshani (2003) argues that reliability and validity have to be redefined to reflect the multiple ways of establishing truth for qualitative data sets.

As for *reliability* of qualitative data*,* Stenbacka (2001) argues that

> *'the concept of reliability is even misleading in qualitative research and that it is an irrelevant matter in the judgment of quality of qualitative research. If a qualitative study is discussed with reliability as a criterion, the consequence is rather that the study is no good.'*

Lincoln and Guba (1985) suggest an alternative to the terms reliability and validity in qualitative paradigms which denote credibility, neutrality, confirmability, consistency or dependability, and applicability or transferability.

To summarize, in this research, quantitative and qualitative data were linked to enable confirmation or corroboration of each other via triangulation, to elaborate and develop analysis providing richer details, and to initiate new lines of thinking through attention to newly discovered aspects. Key decisions that guided the choice of qualitative research were based on the lack of data in developing countries and the prior operationalisation of concepts of psychosocial risks and work-related stress in industrialized country contexts. For this research this means that:

- it was to be exploratory
- it was to be explanatory (in terms of parallels with research from industrialized countries)
- findings were expected to be complex and multi-level
- the methodology was to include multi-method approaches to ensure data validity and reliability (or for that matter credibility, neutrality, confirmability, consistency or dependability, and applicability or transferability) through re-occurring themes
- a conceptual framework was to be devised.

Miles and Huberman (1994) rightly outline that:

> *'..within a given study there can be both exploratory and confirmatory aspects that call for differential front-end structure, or there can be exploratory and confirmatory times, with exploration often called for at the outset and confirmation near the end.'*

Some markers of good quality research as devised by Miles and Huberman (1994) were satisfied, such as

1. the familiarity with the phenomenon and the setting under study,
2. the multi-disciplinary approach and sample as opposed to a narrow grounding or focus on a single discipline, and
3. good investigative skills.

With respect to 1, the researcher has gained knowledge of the phenomenon during her studies and long-standing work experience, as well as the context of developing countries, which is the main focus of her global work. As to 2, the researcher focused on participants (in the two initial methods of interviews and two Delphi rounds), who were from developing country contexts or who were intrinsically familiar with these. The sample was multi-disciplinary, with specialties all relating to workers' health issues. This avoided a narrow view on the issues under investigation, given that psychosocial risks are one risk component besides others in the working environment. And lastly, the

researcher has had opportunities to be trained on her investigation skills to explore issues in-depth during her studies and her work life.

4.2.4 Consensus building through the research methods

The first method found to be best suited and feasible were semi-structured interviews. Interviews allow participants to provide rich, contextual descriptions of their perceptions and knowledge about the topic under discussion. This method was followed by a two-tiered Delphi survey and, lastly, four focus groups. The interview schedule was developed on the basis of an extensive literature review and with a suitable number of geographically distributed and multi-disciplinary experts.

The interview approach was primarily used to a) assist in the development of the quantitative research design, and b) to obtain an idea about 'what is out there' with reference to the research questions. Interviewees actively construct their social worlds and the primary aim is to generate data which provide us with an authentic insight into people's experiences, perspectives and realities. Efforts were made to choose participants for the interviews based on the best possible geographically-balanced sample available. The questions were forwarded to participants prior to the interview since the same was conducted in English, a second or even third language to most participants, thus allowing sufficient time for preparation. A telephone interview was conducted with 27 participants and two face-to-face interviews were conducted with participants from Malaysia and Albania. The results served the construction of the first Delphi survey.

The Delphi survey which was conducted as a two-tiered investigation aimed at further exploring key issues identified through the interviews to complement the empirical exploratory data and building consensus among experts. This method is a structured group interaction process that is directed in "rounds" of opinion collection, which is achieved by conducting a series of surveys using questionnaires (Turoff & Hiltz, 1996). The objective is consensus building. Because the study involves experts, it is assumed that some reasonable quality information will be obtained, and because it is an iterative system, it is assumed that good quality knowledge will evolve. The goal of the Delphi

process is to systematically facilitate communication of information via several stages and to define priorities based on consensus with respect to each question of the research area.

The last step of the methodology included the intention to complement and to confirm the data previously gathered from the interviews and the Delphi surveys. For that purpose, four focus groups were conducted in four different settings. Participants were invited through conference programmes. Targeted were particularly all representatives from developing countries, with a particular focus on those participants from low income countries.

Hence, this triangular process eventually aimed at consensus-building of multi-disciplinary experts concerning psychosocial risks in the workplace as well as those risks that lie beyond this area but within the arena of occupational health or related to it. Usually as groups learn about each others' views and needs, they may even develop common ground for action. In addition, they can create or stimulate solutions that may better reflect their concerns. This is one of the stimulators of policy development, since participants felt that this area is of importance and they may well be instrumental in furthering research or in supporting policy development in their countries.

4.3 SAMPLING

The pool of experts required was developed by the researcher prior to the study, except for some individuals who joined the focus groups independently. The three methods applied appealed to different participants, which allowed a relatively large number of experts to contribute to the study and facilitated that each expert took part in only one methodological approach. All participating individuals were required to have expertise, sufficient experience and knowledge of occupational health and safety issues in developing countries with a particular interest in psychosocial risks and work-related stress. They were either required to be from a developing country or to have specific or broad knowledge about developing country contexts. The specific requirements are outlined in detail in Chapter 5 and can be consulted in Annex I.1. The researcher sought the best global distribution on experts spanning

over the six world regions as defined by the WHO. The focus groups were open but participants turned out to be comparable in terms of the requirements for participants in the first two methods.

The participant sample from developing countries included 29 participants for the interviews. 74 individuals responded to the first online Delphi survey and 53 responded to the second round, which is situated within the acceptable attrition range. The number of responses received in Delphi rounds can differ as it cannot be ensured that all participants will respond in both rounds. Therefore, it is actually quite common for such variation to be observed. A similar attrition rate has been observed in other similar Delphi studies, such as that conducted by the European Agency for Safety and Health at Work on emerging psychosocial risks (EU-OSHA, 2007). A number of reasons may come into play here such as for example competing professional commitments.

The four focus groups consisted in total of 39 active experts. All participants were actively recruited from all global regions as proposed by the WHO categorization[7] to collect a suitable breadth of data, and yield a representation as global as possible of the developing world context. Tables 5.1 and 5.2 in Chapter 5 provide detailed information about the geographical distribution and the professional background of participants.

4.4 ANALYSES

For the analysis of the interview data, thematic analysis was applied which is exploratory and usually aims at understanding rather than knowing the data (Marks & Yardley, 2004). This was important, as it was a matter of exploring the perceptions and the knowledge around psychosocial risks and work-related stress in developing countries and the differences in viewing these concepts in developing and industrialized countries. Another purpose of the analysis was to reveal potential parallels or inconsistencies in participant knowledge and experiences of the situation in developing countries and regions. The themes were obtained through a process proposed by Braun and

[7] The Americas (AMRO), the African (AFRO), Eastern-Mediterranean (EMRO), European (EURO), South-East Asian (SEARO), and Western-Pacific (WPRO) regions

Clarke (2006), and the thematic grid was subsequently used to develop the Delphi survey.

In addition, interview data must be interpreted against the background of the content in which they were produced (Hammersley & Atkinson, 1983, 2004), which underlines the value of the extensive literature review undertaken in Chapters 1 to 3. The interview schedules were subjected to pre-testing and adjusting and inter-rater reliability checks on coding of answers to open-ended questions. All actions and stages of the data analysis are made explicit in Chapter 5.

The themes identified through the interviews constituted the basic framework for the Delphi analysis and, indeed the Delphi results could in some constructive way confirm findings from the interviews. Whereby questions for the first round were based on the interview results, the second was developed by using frequencies to identify consensus among experts in the first round. In this case, the small sample and its diverse nature in terms of participants from different regions with unique experiences, does not lend support to the use of inferential statistics. In addition, the exploration of differences among groups of experts with only a handful of participants would not be scientifically justified and would not lead to reliable and valid results. The purpose of the study was to identify trends and to look for possible consensus in the views of the respondents. This will hopefully pave the way for further research exploring the issues of concern.

The top ten responses for each question with the highest response rates were retained for the second round of the Delphi to obtain a choice of fives priorities for the second round of the Delphi; where two results were equal, eleven priorities were retained. The results of the two rounds of the Delphi were compared with one another to determine consensus between the two rounds. This is discussed in detail in the results section of Chapter 5. Two graphs

were established for each of the six questions, whereby one focuses on the issues that affect all regions across the board, and one on regional issues that could be distinguished.

The great advantage of this method was that it allowed for the use of internet facilities and for the development of online surveys to allow new ways of group interaction which can be incorporated in the Delphi process (Cabaniss, 2001; Keil, Tiwana & Bush, 2002; Richards, 2000; Schmidt, 1995).

Focus groups were the second qualitative method applied. To obtain stronger confirmation of the findings, which may be restricted by the nature of the quantitative approach, subsequent focus group discussions were organized as explained. Such an approach has also been advocated by Skulmoski, Hartman and Krahn (2007) for PhD research. During the discussion, deeper insights could be developed.

Ledermann (see Thomas et al., 1995) defines a focus group as

> *'a technique involving the use of in-depth group interviews in which participants are selected because they are a purposive, although not necessarily representative, sampling of a specific population, this group being 'focused' on a given topic.'*

The method is particularly useful for exploring people's knowledge and experiences and can be used to examine not only what people think but how they think and why they think that way (Kitzinger, 1995). Because focus groups through a series of well-designed questions can often reveal more honest and in-depth information than questionnaires (Morgan & Krueger,1993), or Delphi surveys for that matter, this method seemed suitable to complement the other qualitative and quantitative methods applied and to probe in-depth on confirmatory aspects or those that expanded current findings. Also the method allows a dynamic interchange concerning a particular topic. Jenny Kitzinger (1995) explains the advantages of focus groups, if they are designed as in the study at hand:

'Group discussion is particularly appropriate when the interviewer has a series of open ended questions and wishes to encourage research participants to explore the issues of importance to them, in their own vocabulary, generating their own questions and pursuing their own priorities. When group dynamics work well the participants work alongside the researcher, taking the research in new and often unexpected directions.'

For the purpose of this study, the knowledge or origin of a developing country context was desired for the focus groups as well. Although Rabiee (2004) points out that the recruitment of participants for focus groups is a big challenge if low-income country groups are sought, the consistency of all four groups was satisfactory insofar as developing countries were represented complemented by participants who had knowledge about a developing country. Hence, the group was heterogeneous in terms of experiences and professional background. Indeed, the group homogeneity outlined in the literature (e.g., Krueger, 1994; Morgan & Krueger, 1993) would have resulted in less heated debates and less interesting outcomes, than with the heterogeneous groups that were gathered. And although many of the participants emanated from low or lower-middle income countries, but they were balanced in number with industrialized country participants who had knowledge about developing country contexts.

4.5 ETHICS

Participants agreed to contribute to the research on a voluntary basis and gave written consent for the interviews to be undertaken. Participants were free at anytime during, or post interviews to terminate or withdraw their testimonies. They were assured that their identity would remain confidential and not be linked to the responses provided during the several study phases. The Delphi rounds and equally the focus group discussions, which were open to interested individuals, were led under the same consent and confidentiality conditions as the interviews. Participants were further assured that any publication on the basis of this research would not identify individuals. All data collected was kept in accordance to the Data Protection Act (1998). The researcher adhered to the BPS Code of Conduct (2000). Ethical approval for

this research was gained by the Institute of Work, Health & Organisations Ethics Committee.

The following chapters will in detail further outline the methods applied and the results of the empirical studies on experts' perception and understanding of psychosocial risks, work-related stress and related issues in the working context of developing countries.

CHAPTER 5 : EXPLORATION OF EXPERT PERCEPTIONS OF PSYCHOSOCIAL RISKS AND WORK-RELATED STRESS IN DEVELOPING COUNTRIES

5.1 INTRODUCTION

This exploratory research examines the understanding and perceptions of multi-disciplinary experts of psychosocial risks and work-related stress in developing countries. It also enquires about action taken in developing countries to address occupational hazards, with a particular focus on psychosocial risks and work-related stress. The specific objectives of the first study in this research are to increase our understanding of these issues in developing countries, and to explore if the paradigms and the nature and conceptualization of work-related stress and psychosocial risks are comparable in industrialized and developing countries. This work should prepare the ground for focused awareness-raising activities, for stimulating research and collecting good practice examples as they exist in developing countries, for adapting existing tools from industrialized country contexts, for creating new ones, field testing and evaluating these. This research should, therefore, stimulate action in the short term, such as raised awareness, increased research, a focus on preventive measures and training and education programmes. In the long term, it should influence policy development in developing countries with a view to comprehensive occupational health and safety approaches, including psychosocial risks.

Since the project could stimulate involvement by a group of multi-disciplinary professionals with related expertise in occupational health issues across the six global regions, a number of issues could be explored through interviews and a two-pronged Delphi survey:

i. the understanding and perception of the nature of and concerns for psychosocial risks and work-related stress,
ii. knowledge about health outcomes for workers active in working environments that are not conducive to prevention,

iii. occupational sectors that seem to be most affected by a negative psychosocial working environment,
iv. information about gender differences and similarities with respect to vulnerabilities to psychosocial risks,
v. different level interventions (including legislation, policies, voluntary actions) that may be in place to address the psychosocial work environment,
vi. priorities for action concerning health and safety issues in general and workplace issues and risks in particular.

All of these issues are interrelated and are further discussed next with respect to the literature.

As previously discussed, it is generally agreed that work-related stress is closely related to psychosocial risks which include work characteristics such as high or low job demands, fast work pace, isolation, lack of control, harassment, lack of opportunity for growth and irregular work schedules. Broader factors such as poor home-work life balance, job insecurity and deprived living conditions are also known to contribute to the experience of work-related stress (WHO, 2007). Consequently, measures which focus exclusively on only one of these levels tend to be ineffective in the long term.

The most studied core contributing factors to psychosocial risks and work-related stress have been found to be embedded in the work content and work context. However, new and precarious forms of contracts in the context of the unstable labour market (employment conditions), increased vulnerability of workers in the context of globalization, new forms of employment contracts, and the feeling of job insecurity have been identified as important emerging psychosocial risks (EU-OSHA, 2007). Where more of the contributing factors are present, increased levels of stress are likely to result.

The scientific literature as presented in the previous chapters of this thesis indicates that stress may significantly contribute to the development of physical illnesses, including asthma, coronary heart disease, MSDs, skin diseases, and certain types of arthritis, migraine, peptic ulcers, ulcerative colitis and diabetes. There is also evidence that people impaired by stress

engage in fewer health promoting behaviours, for example for smoking and alcohol consumption, and some evidence shows that temporary employment is associated with increased death from alcohol-related causes and smoking-related cancers (Kivimäki et al., 2003). The literature informs that while unemployment has well-known and significant effects on health and psychological well-being, insecure jobs also appear to have health consequences and although they may not be as serious as unemployment the overall effect of precarious employment appears to be negative (Quinlan, 2001). For downsizing, which can eventually lead to increased job insecurity, research shows a significant linear relation between the level of downsizing and long periods of sick leave, attributable to musculoskeletal disorders and trauma (Vahtera et al., 1997).

Certain sectors have been identified in the literature as being particularly exposed to psychosocial risks and related health outcomes such as healthcare (Estryn-Behar, 2005; Stilwell, 2001), manufacturing (Borojeny, 2007; Fuentes & Ehrenreich, 1994; Glick, 2006, Gutierrez, 2000), the service sector (Sprigg, Smith & Jackson, 2003), and the IT sector (Aziz, 2003). In addition, the informal economic sector poses a special challenge in terms of addressing any kind of occupational health and safety issues. The population is hard to identify, to research and to capture due to the fast changing, temporary and precarious working situations. Being in informal business and informal employment may cause mental distress and psychological diseases, because of job insecurity, i.e., the threat to lose long-term stable jobs (WHO, 2007b). It also means that workers are not recognized, recorded, protected or regulated by the public authorities.

Gender considerations play a significant role when studying working conditions. Women and men have different experiences when it comes to occupational health, as they generally engage in other types of work, which also means they are exposed to different risks and work-related health problems (Premji, 2011). Women have suffered particularly badly from an increase in assembly line, low-quality and precarious jobs (Loewenson, 2001). Therefore, the vulnerable position of working women (and children), and changing demographic patterns require particular attention (Wegman, 2006). Many are balancing responsibilities for paid and unpaid work which often

leads to stress, depression and fatigue (Duxbury & Higgins, 2001; Manuh, 1998).

In terms of interventions, industrialized countries can provide some examples. But only at the highest level of development is the ground set for intervention by delineating policy and legislation with respect to occupational health and safety, and health promotion. This may include policy with respect to working hours, compensation, employee rights and codes of conduct (Semmer, 2006).

It is recognized that the existence of a national, legislative framework with government commitment is critical before interventions lower down can be truly regulated. This is problematic for many industrializing countries who try to work with governments that do not fully support their occupational health programmes (Dollard & Winefield, 2002). Moreover, in many developing countries it is difficult to put in place any control strategies specifically for psychosocial risks since there is either inadequate or simply lacking policy with relation to these types of risk (WHO, 2007).

Currently there are few evidence-based evaluation studies despite a pressing need for this if genuine progress is to be made (Caulfield et al., 2004). The topic remains particularly scarcely addressed in developing countries and those undergoing transition. In some cases, occupational health is neglected due to competing social, economic and political challenges occurring in the country (Nuwayhid, 2004).

To capture the rich array of issues and cover them optimally, this research applied a mixed methodology to include both qualitative and quantitative methods. It was conducted in several phases to capture as much information as possible. The semi-structured interviews aimed to inform the development of the Delphi surveys, to explore the extent to which experts had knowledge about psychosocial risks and work-related stress, and lastly to explore whether they pose problems in developing countries that require addressing. Phases I-III are presented in this chapter. Phase IV will be presented in Chapter 6.

Phase I: Identifying and recruiting participants from developing countries;
Phase II: Conducting semi-structured expert interviews;
Phase III: Developing and distributing a Delphi survey conducted in two rounds; and
Phase IV: Organizing a series of expert focus groups.

5.2 METHOD

5.2.1 Semi-structured expert interviews

5.2.1.1 Interview procedure

Phase I - identifying and recruiting participants: Experts from developing countries, familiar with issues concerning the psychosocial work environment and work-related stress, were identified via an existing network of occupational health and safety specialists. Individuals joined the "Network" through completion of an online registration form. Criteria for inclusion were: (a) the experts' origin needed to be in a developing country or the individual needed to be familiar with a developing country and the working context. In the former case, the country of origin would be the primary country, and in the latter case the developing country would be indicated as the secondary country.

Experts needed to have b) expertise in a field related to occupational health (psychology, sociology, epidemiology, medicine, psychiatry, etc.); (c) a number of years of experience in their respective field; (d) basic knowledge of workplace voluntary interventions and legislation on issues pertaining to psychosocial risks at work; and (e) a degree of practical experience in the application of methods or interventions that concern psychosocial risks at work.

Participants were actively recruited from all global regions as proposed by the WHO categorization[8] to collect a suitable breadth of data, and yield a representation as global as possible of the developing world context. 79 experts were identified and included in Phases II and III of the research.

An effort was made to choose participants for the interviews (Phase II) based on the best possible geographically-balanced sample available. E-mails were sent proposing a date and time for a telephone interview. About 90% of the initially chosen participants responded. The missing 10% were replaced by second choice interviewees from a previously higher represented region. The questions were forwarded to participants prior to the interview since the same was conducted in English, a second or even third language to most participants, thus allowing sufficient time for preparation. A telephone interview was conducted with 27 participants and two face-to-face interviews were conducted with participants from Malaysia and Albania.

Participants were called by telephone at the previously agreed-upon day and time. Ethical issues were outlined, assuring them of confidentiality and anonymity as discussed in Chapter 4. They were provided with a brief overview of the aim and objectives of the study. Probing questions were used to clarify ambiguous answers or to ask participants to elaborate. At times, due to language barriers or poor telephone connections, participants were asked to repeat their answers and some connections needed to be re-established after recurrent problems. Participants were thanked for their participation.

5.2.1.2 Interview schedule

Phase II -conducting semi-structured expert interviews: The interview schedule was developed based on a scientific literature review and included ten questions in total. They explored a number of issues related to psychosocial risks and work-related stress in experts' countries. Questions were formulated to assess the understanding and conceptualization of work-related stress, and psychosocial risks *(1 - What does work-related stress*

[8] The Americas (AMRO), the African (AFRO), Eastern-Mediterranean (EMRO), European (EURO), South-East Asian (SEARO), and Western-Pacific (WPRO) regions

mean to you? and 2 - What do you understand by the term 'psychosocial hazard?"). A third and closely related question assessed the level of concern attributed to these issues within the context of the developing world (3 - *Do you think that these issues represent concerns for workers' health in your country? Why?*). A fourth question tried to probe participants' knowledge on health outcomes (4 - *In your opinion, can psychosocial hazards and work-related stress be related to any health outcomes?*), and a fifth question looked into the importance of the subject-area in the participants' countries in terms of addressing the issues (5 - *To what extent do you believe psychosocial hazards are important to address compared with more traditional (mechanical, physical, biological and chemical) hazards at work, and why?*). Then the questions covered wider terrain and asked about existing legislation, policies and voluntary action (6 - *In this context, do you know of any legislation, policies or voluntary actions in your country on traditional hazards and on psychosocial hazards and/or work-related stress?*). The seventh question asked about effects on health of psychosocial risks and work-related stress as they pertain to particular occupational sectors (7 - *If you think psychosocial hazards and work-related stress are affecting workers' health in your country, which occupational sectors do you think are most affected and why?*). The eighth question was a gender question aiming to understand the differences between exposure of men and women to psychosocial risks and work-related stress (*8 – Do you think men and women are equally vulnerable to such issues in your country? If you believe they are not equally vulnerable, what do you think are the main differences in these groups?*). The last but one question covered knowledge about interventions that address psychosocial risks and work-related stress, a question closely related to question 6 (*9 – Are you aware of any interventions to prevent, address and control psychosocial hazards, and particularly stress at work? Please give examples with references to a specific work context).* And the last question asked the participants to identify priorities of action with regard to occupational health and safety issues in general (*10 – If you had to choose three main priorities that need to be addressed in your country in relation to workers' health and safety, what would these be?).* The interview schedule was piloted with two reviewers and two volunteers in face-to-face interviews. Some of the questions were adjusted following this pilot.

5.2.1.3 Interview sample

A total of 29 individuals from developing countries previously recruited were interviewed representing all of the global regions. Table 5.1 below outlines the participants' demographics, i.e. the countries represented by the participants. The participants' multi-disciplinary background and the main disciplines represented in the group relate to psychiatry, social work, medicine, advocacy in public health, education in psychology, epidemiology, occupational health and safety, industrial psychology, management and human resources, neuropsychology, and ergonomics. Developing countries were defined based on the 2009 list of developing countries of the World Bank, July 2008 (Annex V1), as well as the ODA list effective 2006 (Annex V2). The study countries cover close to 40% of all countries listed in this list. Table 5.1 outlines the interview participant demographics.

Table 5.1 Interview participant demographics - 29 expert interviews

Global Region	*No.*	*Developing countries discussed and participants' disciplines*
Africa	8	Namibia (4 participants): Social work, academia; psychology & medicine; medicine, HIV/AIDS focus and advocacy in public health Nigeria: Psychology (lecturer) South Africa (2): Epidemiology; OSH expert Zambia: Industrial psychology, leadership & organization development Trinidad and Tobago: Management and human resources
Americas	5	Chile: Epidemiology, medicine and psychiatry Colombia: Psychology, epidemiological surveillance and research in links between occupational diseases & stress Mexico: OSH expert Puerto Rico: Psychology
Eastern-Mediterranean	5	Iran (3): Psychology & OH; OSH expert; OH expert Tunisia: Psychology, Epidemiology, Medicine Pakistan: OH Physician

Europe	2	Albania: OH & Epidemiology Macedonia: Neuropsychological medicine
South-East Asia	6	India (3): Sociology & Psychology; Psychology & Psychiatry Malaysia: OSH expert Thailand (2): Epidemiology; Epidemiology & OH China: OH Physician
Western-Pacific	3	Federated States of Micronesia: Psychology, Psychiatry & Medicine Vietnam: OEH; psychology and ergonomics

Published in Journal of Occupational Health: Kortum, Leka & Cox (2011)
OH = Occupational health
OSH = Occupational safety and health
OEH = Occupational and environmental health

5.2.1.4 Analysis

Data gathered was transcribed and summarized. Thematic analysis was applied to analyze the data (Braun & Clarke, 2006). Emerging themes were identified across all regions. The purpose was to reveal potential parallels or inconsistencies in participant perceptions of the situation in their country. A thematic grid was produced through the following process and was subsequently used to develop the Delphi survey. Interview transcripts were reviewed in detail to familiarize the researcher to their content and then develop a set of 'open codes', specifically summarizing the content of short sections of the text in a few words. Transcripts were read repeatedly to identify the key themes and categories for coding. The collection of generated open codes was discussed and reflected upon by three other researchers who are credited for their support in the preamble, and subsequently grouped into broader categories established by consensus. The collection of categories was used to develop the initial coding frame, which was used to identify emergent themes. The template was viewed as a continuously evolving template and where information was found not to fit into the existing framework, the template was further refined and developed. Theoretical saturation was achieved once the final coding frame was developed and all relevant first- and second-order themes were identified. The researcher reviewed the collected emergent themes and examined relationships among

the way themes co-occurred. An independent researcher reviewed the emerging themes and adjustments were made in collaboration. Lastly, patterns, associations, concepts, and explanations in the data were identified and interpreted.

To ensure inter-rater reliability for the interviews, three other researchers reviewed the collected emergent themes, and the coded data. Consensus was reached through discussion. Once the patterns, associations, concepts, and explanations in the data were searched, and the new table established, an independent researcher examined the relationship between these occurring across the data set. The results were compared to the researcher's initial table. Discrepancies in coding and themes were discussed and addressed in the final thematic table.

5.2.2 Delphi surveys

5.2.2.1. Delphi procedure

Phase III: developing and distributing a Delphi survey conducted in two rounds: The Delphi procedure as suggested by Delbecq and collaborators (Delbecq, Van de Ven, & Gustafson, 1975) was applied (see also Chapter 4). The thematic grid obtained from the analysis of the interviews served to develop the Delphi questionnaire. The online questionnaire requested demographic and background information, and contained seven questions covering the understanding of psychosocial risks, most affected occupational sectors, prevention and intervention approaches, as well as gender and priority areas for action. Two independent researchers piloted the online survey and provided extensive feedback. Corrections and adjustments were subsequently made. An e-mail message explaining the purpose and providing an overview of the study was sent to all previously recruited experts providing a link to the first online Delphi questionnaire. Respondents were asked to rank their answers in the order of most important to least important.

Before the second round of the Delphi survey, the survey answers were analyzed using frequencies to identify consensus among experts. A choice of ten answers for each question was retained, which represented the highest results yielded from the first round study. These were used to design the

questionnaire for the second round of the Delphi study and respondents were asked to rank their answers to the same number of questions as in the first phase in the order of most important to least important with five choices per participant. The highest ten choices provided were prioritized and the graphs developed. Percentages were calculated. The results indicate trends as identified by the participants. Ethical issues were addressed as described in Chapter 4.

5.2.2.2 Delphi survey content

The Delphi survey which was conducted as a two-tiered investigation aimed at further exploring key issues identified in Phase II in order to complement the empirical exploratory data and to build consensus among experts. This method is a structured group interaction process that is directed in "rounds" of opinion collection, which is achieved by conducting a series of surveys using questionnaires (Turoff & Hiltz, 1996). Because the study involves experts, it is assumed that some reasonable quality information will be inputted, and because it is an iterative system, it is assumed that good quality knowledge will evolve. The goal of the Delphi process is to systematically facilitate communication of information via several stages and to define, in this case ten, priorities with respect to each question of the research area. The six survey questions that explored the issues further to achieve consensus are the following:

1. Considering the context of developing countries, what do you understand by the term psychosocial risk(s)?
2. Which occupational sectors do you think are most affected by the impact of psychosocial hazards and work-related stress in developing countries?
3. Please indicate which types of prevention and intervention approaches are applied to manage psychosocial risks in developing countries.
4. Which issues affect particularly the female workforce in developing countries?
5. What are the priority areas for action in addressing occupational health and safety in developing countries?
6. Which workplace issues and risks require urgent attention in developing countries?

In addition, the participants had an opportunity to provide general comments and to comment on the objectives of the project, which yielded encouragement and some food for thought.

5.2.2.3 Delphi sample

Of the previously 79 recruited individuals from developing countries, 74 individuals responded to the first online survey in December 2007. In February 2008, 53 of the experts responded to the second round of the survey. Participants covered multiple areas of expertise from the areas of psychiatry, social work, medicine, epidemiology, sociology, ergonomics, but the largest number had expertise in occupational health and psychology (refer to Table 5.2).

Table 5.2 Delphi participants

DELPHI II developing country composition by region	*Developing countries concerned*
Africa (AFR) : 9 (participants)	AFR: Zimbabwe (2); Angola; Tunisia; Benin/Senegal; Egypt; Morocco; Kenya; Nigeria
Americas (AMR) : 12	AMR: Mexico (2); Chile (3); Puerto Rico; Panama; Colombia (2); Brazil, Trinidad & Tobago (2)
Eastern-Mediterr. (EMR) : 5	EMR: Pakistan (2); Iran (3)
Europe (EUR) : 11	EUR: FYR Macedonia (2); Turkey (2); Bosnia-Herzegowina (3); Romania (2); Russia; Estonia
South-East Asia (SEAR) : 11	SEAR: Bangladesh (2); Nepal; Malaysia (2); India (4); Indonesia; Thailand
Western Pacific (WPR) : 5	WPR: Philippines (2); China (2); Viet Nam
	Total 53

Professional background (multiple choice possible): Psychiatry, Social work, Medicine, Psychology, Epidemiology, Occ Health, Sociology, Ergonomics; *Others:* environm. mgmt; OSH (hazard identification/risk assessm.); HR; work-org. psychology; environmental health, OH psychology; anthropology & development; org. behaviour/HR mgmt; social epidemiology; work physiology, occupational medicine

Published in Journal of Occupational Health: Kortum, Leka & Cox (2011)
OH = Occupational Health
OSH = Occupational Safety and Health

5.2.2.4 Analysis

The data collected through the first Delphi survey was analysed using frequencies to identify consensus among experts. This quantitative method allowed the application of online facilities for the development of online surveys which allowed for an innovative approach to group interaction that benefited the Delphi process (e.g., Cabaniss, 2001; Keil, Tiwana & Bush, 2002; Richards, 2000; Schmidt, 1995). The ten top responses for each question, on the basis of frequencies, were retained for the second round of the Delphi to provide a choice of five priorities for the second round of the Delphi. Once the answers were returned, the same procedure as the first time was applied through retaining the ten issues that obtained the highest frequencies. The results of the two rounds of the Delphi were compared with one another and discussed in the results section and in the form of graphs. Graphs were established for each of the six questions, whereby one focuses on the issues that affect all regions combined, and one which draws out the regional issues identified.

5.3 FINDINGS

The thematic analysis of the interviews resulted in the key themes listed in full in Annex I.2. For the interviews, tables without quotes are listed in the text. These key themes are separately discussed in the sub-sections below. The results from the Delphi survey are represented graphically in the respective sections in terms of a) main findings of Delphi I and II, and b) regional significance of the findings focusing on Delphi II, since the second round represents narrowed-down priority choices.

5.3.1 Findings of the expert semi-structured interviews

5.3.1.1 The nature of and concerns for psychosocial risks and work-related stress

In this section key findings from the interview questions 1 and 2 (understanding of work-related stress and psychosocial hazards), and question 3 (if these are of concern in participants' respective countries) are presented. Table 5.3 presents a summary of the themes identified.

Table 5.3 Understanding of psychosocial risks & work-related stress

Theme	*Descriptor*	*Participant country*
Work organization (1)	Lack of job control and decision authority	South Africa, Iran, Macedonia, Thailand, Namibia, Pakistan
	Work design	Nigeria, Trinidad & Tobago, Malaysia
	Work load/demands	China, Viet Nam, South Africa, Iran, Macedonia, Thailand, Namibia, Puerto Rico, Pakistan, Albania, India
	Work-home interface	India, Malaysia , Namibia, Nigeria, Iran, Tunisia, Puerto Rico
Work schedule (2)	Hours worked	Namibia, Thailand, China, Viet Nam, India, Macedonia
	Time pressure/speed	Puerto Rico, Thailand
	Shiftwork	Macedonia, China, Viet Nam, Chile
Workplace safety/hazards (3)	Poor physical conditions	Namibia, Zambia, Macedonia, Iran
	Working environment (poor)	Zambia, Pakistan, Macedonia, Thailand,

		Malaysia, Viet Nam, Namibia, Micronesia, Viet Nam, India
Relationships (4)	Psychological violence	Namibia, Nigeria, Trinidad & Tobago, Zambia, Viet Nam, South Africa
	Physical violence	Trinidad & Tobago, Nigeria
	Relationships/interpersonal conflict	Chile, Mexico, Thailand, China, Viet Nam, Puerto Rico, Trinidad & Tobago, India, Namibia
	Support (lack of)	Zambia, Macedonia, Thailand, China, Puerto Rico, Pakistan
Socio-economic conditions (5)	War, crime, poverty	Albania, India
	HIV/AIDS (absenteeism)	Namibia, Zambia, Nigeria
	Job insecurity & unemployment	Namibia, Mexico, Iran, Macedonia, India, Albania, Pakistan
	Social, political, economic, cultural, religious structures (existing & changing)	Iran, India, Malaysia, Viet Nam, F.S. of Micronesia, Albania, Puerto Rico
	Poor working conditions/precarious work/low employment	Namibia, Malaysia, Chile, Iran, Pakistan, Tunisia, Macedonia, Viet Nam
	Globalization (market competition, multi-nationals, delocalization of companies)	Puerto Rico, Iran, Tunisia, Macedonia, India

In general all respondents exposed a rich understanding of the concepts of work-related stress and psychosocial hazards. One key issue that emerged was that for many respondents psychosocial hazards and work-related stress

were interchangeable and no significant distinction was made with respect to the two concepts. Generally, respondents provided more information for psychosocial hazards than for work-related stress, and work-related stress was brought up more in connection with adverse health outcomes, whereas the potential for psychosocial risks to cause harm was also mentioned. However, for both issues, interviewees referred to issues of context and content of work presented in Table 1.2. Extra-work interferences or wider societal issues were more related to psychosocial hazards than to work-related stress.

The main themes are described by a number of sub-themes or descriptors. *Work organization* was a main theme including *job control and decision authority*, *work design*, *workload and demands*, and *work-home interface*. *Lack of job control and decision authority* were understood as psychosocial risks. Karasek's demand-control-support model was mentioned on several occasions in this context. The design of work was also understood as a psychosocial hazard. *Workload and demands* were supported by experts from six regions as psychosocial risks. Here is an example from Namibia:

> *'Quality of work decreases because often one person needs to carry the load of others, assume the work on top of their own'.*

The Pakistani participant described the experience of work-related stress as follows:

> *'Work-related stress is when there are high pressures and demands placed on the person.'*

The risk posed by the work-home interface was explained by the Indian participant:

> *'There are also social and cultural elements that feed into work-related stress; for example, in India the boundary between work and home life is very thin.'*

The Iranian expert added:

'…you find people who have stress in family life or at work and you see outcomes in the other. We found that most pressure comes from the work.'

Another main theme identified is *work schedule*. It includes the *hours worked* and *time pressure and speed including shiftwork*. *Hours worked* was expressed by the Namibian participant as:

'…misusing employees for working longer hours'.

This was anchored by participants from Thailand, China, Viet Nam, India and Macedonia. *Time pressure and speed* refer to basically having to complete tasks in high speed and in a short time. Lastly, *shiftwork* was mentioned by participants in four countries as a psychosocial hazard (Macedonia, China, Viet Nam and Chile).

The *workplace safety issues* and the relevant hazards could further be identified as a main theme. They were split into *poor physical conditions*, and a *generally poor working environment*. For example in Namibia:

'An example is the mines, the heat underground. There is heat stress…. It is pressures people face because of conditions at work. Contributory issues are the work environment…'

The Zambian participant defined a poor working environment as one which is not conducive for people to thrive.

Relationships were identified as a rich area and this theme includes *psychological harassment and physical violence, interpersonal conflict* and *lack of support*. *Psychological harassment* was mostly mentioned by the African participants (Namibia, Nigeria, Zambia, South Africa) as well as by Trinidad & Tobago and Viet Nam. *Physical violence* was also seen as a psychosocial risk, but was less prevalent and *relationships and interpersonal conflicts* were particularly mentioned by participants from the Americas, from South-East Asia and the Western-Pacific regions. The Puerto Rican participant mentioned:

'Relationships with other dynamics in the workplace are affected; there are difficulties with interpersonal relationships.'

This was confirmed by the Namibian expert who said that relationships can cause stress at work. The lack of support was also strongly seen as a psychosocial risk by all regions.

Lastly, the issues extra-mural to work include an array of *socio-economic conditions*. Mentioned were *war, crime, and poverty; HIV/AIDS* in the context of absenteeism; *job security and unemployment*; *social, political, economic, cultural, religious structures*; *poor working conditions coupled with precarious work and low employment*; and *issues of globalization*. With respect to Africa especially *HIV/AIDS* infection in the context of impact on work, such as absenteeism and the individual suffering, was the most prevalent psychosocial risk under this main theme.

Participants from five regions mentioned the problem of *job insecurity and unemployment*. For example, the Macedonian participant stressed the connection with prevailing social and political conditions:

'The country is in transition. The social and political system has changed. There is a high rate of unemployment. The working population is affected by numerous stressors.'

Or in Namibia :

'…40% of people are unemployed. You cannot just tell people you have a job, keep your mouth shut. There are real threats of losing one's job.'

In five of six regions, the problem of *changing and existing social, political, economic, cultural and religious structures* was mentioned as having the potential to have an additional impact on workers' health and their environment, such as political problems in Iran, the changing family relations in Malaysia, economic transition and the impact of multi-nationals in Viet Nam. The participant from Micronesia said:

'…the culture in my country socializes people to be strong, that is not to show any weakness, and to cope and not to get overwhelmed. Often issues,…. are ignored due to the expectations of society.'

An Indian participant added:

'Success in this culture is defined by economic status, educational status, and social status that feeds into pressure to achieve the work environment, which results in increased health and psychosocial problems.'

In terms of *generally poor working conditions*, *precarious work and low employment* the Namibian participant mentioned in particular with respect to the healthcare sector:

'…little is done about stress at work. Healthcare workers are overworked, they are leaving because of working conditions and benefits that don't come their way.'

The Iranian participant added:

'…managers can put more pressure on workers (due to high competition) in developing countries, provide low standards inside the job, since there are low standards outside the job.'

Lastly, globalization refers to global changes, high competition, delocalisations[9] of European companies. For example, in Tunisia:

'…Multi-national companies are exonerated of taxes; they produce for export and cannot sell in Tunisia. We see delocalisations of European companies in Tunisia.'

[9] In this context 'delocalisations' has been literally translated from the French language, meaning here: *displacement* or *moving from Europe to Tunisia*.

With respect to the question if these issues are of concern to workers' health, all participants responded that psychosocial risks are of concern and mentioned many of the issues summarized above and in Table 1.2 in that context as explanations. For example, the Malaysian participant explained:

> *'Yes, these are of concern and the issue of stress is high. First hazards are there. Second, they are higher in developing countries, in terms of cost, the work, stress is high.'*

More generally, participants stressed the lack of research data from developing countries to complement their experiences and knowledge from the scientific literature of industrialized countries.

5.3.1.2 Health outcomes

Since all respondents pointed out that there are concerns for workers' health, this section outlines experts' knowledge of the impact of psychosocial risks and work-related stress and their potential health impact. The themes that emerged and related to physical health outcomes include *heart and circulatory effects, gastro-intestinal problems, musculoskeletal disorders, headaches-migraines-fatigue, skin effects and respiratory symptoms, as well as disability and injury and other chronic diseases such as diabetes and cancers*. Responses related to *mental health* include *depression, anxiety and emotional problems, suicide or suicidal behaviours*, and *general mental disorders*. Adverse health outcomes include *unhealthy behaviours* such as *alcohol and drug abuse, and smoking*. Many experts stressed the interrelationship between psychological and physical health while emphasizing the complexity of the former. For example, a participant from India understood this interrelationship as follows:

> *'...Job stress is increasing, due to increased workload, increased job insecurity, and this is having an effect on workers' physical and psychological health. Psychosocial hazards can cause harm to a workers' physical and psychosomatic state, whereas physical hazards only cause somatic problems. Psychosocial hazards are more complex, and so they have the greater potential to harm. They can*

cause harm both to psychological and psychosomatic states. ....With traditional hazards you only have physical problems. A good psychological working environment can buffer the consequences of poor working conditions.'

A Namibian participant confirmed the notion of the interrelationships of physical and psychosocial risks and their impact on workers' health:

'Psychosocial hazards can have an impact on physical wellness. You cannot address the one without the other.'

Table 5.4 summarizes the health outcomes mentioned by participants.

Table 5.4 Health outcomes from exposure to psychosocial hazards & work-related stress

Themes	*Descriptor*	*Participant country*
Physical health (1)	Heart & circulatory diseases	Namibia, Nigeria, South Africa, Pakistan, Zambia, Tunisia, Viet Nam, Colombia, Mexico, Puerto Rico, Iran, Albania, Thailand, Malaysia, India, China, Micronesia
	Gastro intestinal	South Africa, Iran, Pakistan
	Musculoskeletal disorders	South Africa, Colombia, Tunisia Iran, Pakistan, Macedonia, Thailand, India, China, Puerto Rico
	Headaches/migraines	Namibia, South Africa, Zambia, Trinidad & Tobago, Macedonia
	Dermatological & respiratory symptoms	South Africa, Iran, Malaysia
	Disability/injuries	Thailand, Puerto Rico, Iran, Nigeria, Chile
	Other chronic diseases	Namibia, Thailand, Mexico, Iran, Albania, Malaysia, India, Micronesia, Iran, Colombia
Mental health (2)	Depression; anxiety; emotional problems	Namibia, Nigeria, South Africa, China, Zambia, Mexico, Trinidad & Tobago, Viet Nam, Iran, Pakistan, Macedonia, Thailand, Malaysia, India

	Fatigue/sleep problems (physical & mental)	Namibia, Tunisia, Pakistan, Zambia, Iran, Chile, Mexico
	Suicide/suicidal behaviours	Thailand, Namibia, Zambia, India
	Mental disorders (generally)	Chile, Colombia, Tunisia, Thailand
Adverse health behaviours (3)	Unhealthy behaviours (general)	Namibia, South Africa, Zambia, Iran, Nigeria, Colombia, India, Thailand, Chile

5.3.1.3 Key occupational sectors

In this section, selected findings concerning the occupational sectors most affected by psychosocial risks and work-related stress are presented based on the exploratory interviews. Applied was the sector classification which divides industrial economic sectors into primary, secondary, tertiary and quaternary sectors according to Clark's Sector Model (1950). These sectors can be differented as follows:

- *primary sector* (informal economy, mining, agriculture and forestry, handicraft, domestic work and oil);
- *secondary sector* (manufacturing, construction and transport);
- *tertiary sector* (tourism and catering, services, IT and telecommunication services, security forces, banking, and healthcare); and
- *quaternary sector* which includes intellectual activities (education)[10].

The interviews indicate that a strongly affected occupational sector is the unorganized informal economic sector. Traditionally this sector would include, to a large extent, agriculture, mining, construction, and others.

Concerning the mining sector, for example, the Zambian participant informed about psychosocial impact in the form of anxiety again stressing the

[10] The informal sector is also often referred to in the context of mining, agriculture, construction and other trades.

interrelationship between physical working conditions and psychosocial effects:

> *'...new mines are coming up and many are multi-nationals from Canada, Australia, South Africa, India, and so on. Some are good and some are in-between. There is very high anxiety in mines and danger of silicosis.'*

Participants added that multi-nationals use gaps in occupational health and safety legislation with the result of mining disasters. The Nigerian participant noted that informal sector workers are not even aware of basic physical concerns, let alone those that affect their mental health. The Pakistani participant stresses the precariousness of this sector and the vulnerable working populations:

> *'The majority of workers are women and children, who work long hours for very little money in poor working conditions, ...psychosocial hazards are very high.'*

The Indian participant confirmed for the agricultural sector:

> *'Many changes as consequences of modernization and globalization. The unorganized or informal sector is more affected, more prone to psychosocial risk; not aware of poor working conditions; no legislation that directly protects their health and safety; very stressful; very dangerous.'*

Manufacturing in the *secondary sector* is result-driven, with low salaries, monotonous work, little control and high demands, and it is marked by shiftwork in Namibia. The Tunisian interviewee emphasized the situation in this sector by saying:

> *'There are bad working conditions and many psychological and physical problems.'*

And in Iran the situation is similar, particularly with respect to environmental heat stress which exacerbates psychological pressures of an already taxing working environment:

> *'There is high pressure, high production, and heat problems due to the hot climate.'*

In the construction and transport sectors there are many accidents in Albania, and truck drivers in Namibia drive long distances through other African countries. Firstly, they are far away from their families, and secondly, the exposure to HIV/AIDS is high. These issues can negatively influence the psychological health of workers through dangers of accidents, exhaustion, isolation, in addition to exposure to HIV/AIDS infections. These will in turn jeopardize the health of the worker and his family, as well as put at risk his job through continued sequences of ill health. At the same time, this would instigate a cycle of poverty, which may turn out as a vicious cycle (see Figure 1.1). Although the link to psychosocial risks of HIV/AIDS infections may not at first sight be apparent, they represent a real risk in developing countries.

> *'Sex workers in developing countries gather where the money is. The transport sector is particularly exposed, but also other sectors where workers live and work at their workplace station'.*

Participants also mentioned the tertiary sector (services to the general population and to businesses) as being affected by psychosocial risks and work-related stress. Health professionals, call centre staff, police officers and security staff were mentioned as being strongly exposed to psychosocial risks and work-related stress. For example, in Mexico service sector work is linked to the following:

> *'There are work organizational problems in terms of demands, behaviour, appearance, interaction with clients.'*

The service sector including particularly call centres was characterized as monotonous, result-driven, and with high workloads and interaction with clients. Call centres were described by a Tunisian participant as:

'This is like Taylorism, the theory of work organization. They must talk for 6 hours a day. Clients are demanding, and the workers must stay correct. Stress is high.'

Banking personnel, as part of the service sector, experience a lot of pressures according to participants from Namibia, Tunisia, Colombia, India and Malaysia.

Healthcare professionals generally were described as being vulnerable and easily affected by various kinds of diseases. One participant mentioned that healthcare workers, in particular nurses, are aware that any wrong-doing results in loss of registration, which increases stress. Another participant underlined that healthcare workers are exposed to infectious diseases (hepatitis C, tuberculosis, HIV/AIDS, SARS, and bird flu) and that violence and harassment is a problem, mostly in mental health hospitals. For example, in Namibia the situation of healthcare workers was described as follows:

'They do shift work which produces stress; also people have high expectations of the health professionals who are overworked, have a high labour turnover, are understaffed, underpaid and the result is burnout.'

In addition, participants mentioned tourism as a high-risk occupation and the Zambian participant felt that:

'...multi-nationals set up lodges and hotels…and due to high unemployment people are desperate to be employed...the result is unconducive working conditions, low pay and no proper transport'.

Another area emerging from developing countries is the IT and telecommunications sector, which is characterized by high demands and pressures, and long working days as reported by an Indian interviewee. Also security forces experience high stress according to participants. In Colombia they are confronted with drugs and the Mafia and in Micronesia with violent situations, as well as shift work and time away from their family.

In the quaternary sector especially teachers encounter problems with discipline, violent outbursts and frustrations (Namibia), and are also exposed to ever-changing evolutions of teaching materials, multi-tasking, a high burden of job demands and a low decision-making level (Malaysia). Table 5.5 represents a summary of findings.

Table 5.5 Key hazardous occupational sectors

Themes	*Descriptors*	*Participant country*
Primary sector (1)	Informal economy	Nigeria, South Africa, Zambia, Colombia, Pakistan, India
	Mining	Namibia, Zambia, Chile, Iran, Pakistan, India
	Agriculture, forestry	Chile, Colombia, India, Pakistan
Secondary sector (2)	Manufacturing	Namibia, Zambia, Puerto Rico, Trinidad & Tobago, Thailand, Iran, Tunisia
	Construction & transport	Albania, Malaysia, Namibia
Tertiary sector (3)	Tourism/catering	Zambia, Trinidad & Tobago
	Services (including call centres)	Namibia, South Africa, Chile, Mexico, Puerto Rico, Iran, Tunisia, Thailand, India, Malaysia, China
	Security forces	Namibia, Nigeria, South Africa, Colombia, Tunisia, Thailand, Malaysia, Micronesia
	IT & telecommunications sector	India, Malaysia
	Banking	Namibia, Colombia, Tunisia, India, Malaysia
	Healthcare	Nigeria, Namibia, South Africa, Colombia, Puerto Rico, Trinidad

		& Tobago, Malaysia, Viet Nam, Micronesia
Quaternary sector (4)	Education services (including teachers)	Namibia, Colombia, Puerto Rico, Trinidad & Tobago, Malaysia

5.3.1.4 Different levels of intervention

In this section findings from the question about experts' awareness of legislation, policies and interventions that address psychosocial risks and issues related to work stress are presented. Different levels were chosen to summarize the information gathered. These include the national policy and legislation level, the organizational level interventions, as well as interventions at individual level.

5.3.1.4.1 National policy level including legislation

Occupational health and safety Acts or national laws were listed by all regions, except for Nigeria where the participant indicated lack of legislation by saying:

'There is no Labour Act in place as far as I know. There is a big lack.'

The lists of occupational diseases that were adopted from the ILO list were mentioned only for Colombia, Tunisia, Macedonia and Chile. They mainly serve compensation purposes.

In terms of national policies addressing psychosocial risks, Zambia and Chile reported not to have protective measures for psychosocial risks, but in Zambia the Health Act was mentioned as rehabilitation intervention and Chilean interviewees mentioned related employment conditions policies. In Africa, policies addressing psychosocial risks were reported to focus on the impact of, and dealing with, HIV/AIDS. These are national policies on HIV/AIDS, testing and voluntary counselling. *Affirmative action and discrimination laws* were mentioned by Namibian and Puerto Rican interviewees. *Employment and working conditions Acts* that include psychosocial risk factors were reported to exist in South Africa, Chile, China, Namibia, Viet Nam and Malaysia. *Policies*

that address violence (sexual, physical, psychological) were reported to exist in some countries. In Colombia, there is a law on mobbing that was developed with the involvement of the Ministry of Labour. India was reported to have governmental guidelines on sexual harassment, and Malaysia codes of practice to address violence and sexual and psychological harassment.

5.3.1.4.2 Organizational level interventions

Participants from Namibia, Nigeria, Viet Nam, and India felt that there are *protective measures* for psychosocial risks, but that they are restricted to multi-national companies and other large organizations. In Nigeria, there are examples of company policies (in Shell) that focus on sexual harassment, and Namibia has a policy on post-exposure prophylaxis for HIV/AIDS after rape. Positive answers about protective measures in place came from Colombia, Malaysia and South Africa. No protection was felt to be provided in Mexico, Puerto Rico, Iran, Tunisia, Macedonia, Thailand and Micronesia.

Other *primary prevention* approaches focused on the organizational level to include *organization-focused interventions to improve the work culture and organizational climate, special working arrangements* (including teleworking), *awareness-raising campaigns, participation in problem solving, active support provided by managers, and early identification of risk factors through application of the risk management cycle*. Although primary prevention approaches were mentioned for all regions, most countries did not state any substantial intervention at primary level. For example the participant from Zambia was not aware of any major programmes and whether primary prevention exists on HIV/AIDS.

The Indian participants explained that there are few interventions, and confirmed previous information, i.e., that they are mostly confined to well-organized and private sectors.

5.3.1.4.3 Individual level interventions

Hence, generally, although interventions are not very frequent, secondary interventions at individual level prevail while primary interventions at

organizational level were also mentioned for all regions. The individual-focused s*econdary prevention* approaches include mainly *stress management and wellness programmes, employee assistance programmes, relaxation opportunities, medical examinations, lifestyle issues,* but also *training programmes for managers or to enhance team work*. Often these interventions only focus on managers due to lack of further expertise like, for example, in Iran:

> *'…some factories have voluntary actions; they educate managers in stress management. The purpose is to increase productivity and concentrate only on managers and not the rest of the organization....Information is needed on what psychosocial issues are, and how to manage these.'*

To summarize and to view the situation realistically, the participant from Pakistan indicated that:

> *'...there is very little in terms of interventions... there is no research or training for occupational health specialists... basic human rights are perceived differently and are limited, ...and when human rights are not there, how can we talk about occupational health?'*

Table 5.6 summarizes the different levels of interventions reported by participants from different countries.

Table 5.6 Different levels of interventions

Themes	*Descriptors*	*Participant country & examples*
National policy level including legislation (1)	OSH employment & working conditions	Namibia (e.g., national policy on alcohol & drug abuse), South Africa (including stress audits under the OSH Act 1993), Zambia (Health Act attached to the Psychiatric Hospital and only dealing with psychosocial counselling), Malaysia (OSH management systems related to stress), Colombia (includes list that addresses occupational diseases caused by stress), China (OSH management approaches), Trinidad & Tobago, Iran, India, Thailand, Malaysia, Micronesia, Chile, Pakistan, Viet Nam, Tunisia, Macedonia
	Acts & related legislation including application of list of occupational diseases	
	Affirmative action/anti-discrimination laws/policies including sexual/physical/ psychological violence	Colombia, India, Malaysia, Nigeria, Namibia, Puerto Rico
	HIV/AIDS programmes including addressing alcohol & violence	South Africa, Namibia, Zambia
Organizational level interventions (2) (1^{ary} level interventions)	Awareness-raising, education and participation	Macedonia, Namibia, Thailand, India
	Working arrangements including rest times & training to release stress	Puerto Rico, Namibia, Mexico, Chile, Thailand, Viet Nam
Individual level interventions (3) (2^{ndary}	Stress management programmes	South Africa, Namibia, Puerto Rico, Trinidad & Tobago, Colombia, Mexico, Iran, Malaysia, Thailand, India

level interventions)		
	Wellbeing/wellness programmes focusing on lifestyle, mental & physical tools (yoga, spiritual raising, etc.)	South Africa, Namibia, Puerto Rico, Viet Nam, India
	Employee assistance programmes/counselling	Namibia, Trinidad & Tobago, India, Micronesia
	Health checkups	Mexico, India
	Various training programmes	Colombia, Mexico, Pakistan

5.3.1.5 Vulnerabilities of men and women

This section refers to the interview results based on the question if men and women are equally vulnerable to psychosocial risks and work-related stress. The interviews also asked what the main differences were, if this was not the case. Six main themes emerged. The first refers to *social role vulnerabilities*, the second to *sexual harassment on women*, the third to *gender and occupational sector*, the fourth to the *work-life interface*, the fifth on *gender and general discrimination*, particularly with respect to women's social and work positions, and lastly, the last to *strengths of each gender*.

5.3.1.5.1 Social role vulnerabilities

Due to a number of different reasons given by all regions, *women were described as being more vulnerable than men*. For example, women experience *higher exposure* to psychosocial risks. For example, the participant from Tunisia bluntly said:

> *'When the women get tired, they get fired. There is no unemployment benefit.'*

Some participants mentioned that also men have vulnerabilities due to social expectations and socially-enhanced behaviours, such as in the following examples:

> *'Men are also exposed to stress, but express it less and may act it out. Men are suffering (because of a new law on gender equality) because they don't know how to deal with this. They don't know their place any more.' (Namibia)*

> *'Men are vulnerable by the way they are brought up. They do not want to accept their vulnerability. Often we think they are not affected when they are, for example when using alcohol.' (South Africa)*

> *'...But men experience role overload, job insecurity, issues with career development, the need for achievement, and high competition.' (India)*

5.3.1.5.2 Sexual harassment

Sexual harassment was mentioned by four regions except for Europe and the Western-Pacific as a particular vulnerability affecting women. The Thai participants clarified:

> *'Also sexual harassment is happening more with women than men. That is why they are more vulnerable.'*

And the Pakistani participant confirmed:

> *'For women there are psychosocial hazards like sexual harassment'.*

5.3.1.5.3 Gender and occupational sector

In terms of *women's vulnerability in certain jobs and occupational sectors*, participants from all regions felt this was the case except for the European experts who did not mention it. For example, in Namibia women entered the mining industry, which exposed them to physical stress. Female-dominated jobs are most prevalent in the service sector, and the healthcare sector. The participant from Trinidad & Tobago alleged that:

> *'Gender imbalance will be reflected in the occupational sector that may be reflective of the vulnerability'.*

Primarily, women are in the service sector, and in export-processing zones, the maquiladora in Mexico. The Iranian participant mentioned:

> *'Women occupy simple and low rank service jobs and no managerial jobs'.*

Further typical sectors for women are in domestic services, but since societal roles are changing, the Micronesian participant added:

> *'Women roles in society are changing, women have to work in jobs traditionally dominated by men, and they have to balance work and home life. Women are more susceptible to work-related stress and psychosocial conditions.'*

In Tunisia women traditionally work in factories and in Pakistan in agriculture. In Malaysia they work as shift workers primarily and as industrial operations workers.

5.3.1.5.4 Work-home interface

For issues concerning the *work-home interface*, all regions mentioned that women are *multi-tasking* due to housework, child and elderly care, and work responsibilities. For example, the Puerto Rican participant informed:

> *'...a survey among women managers showed that women have more difficulties and feel they have higher pressures, more responsibility... Negative physical symptoms were significant such as upset stomach, backache, indigestions, heartburn, stomach cramps, dizziness, and fatigue.'*

The Pakistani expert added:

> *'In my country, 100% of domestic duties are that of the women, in addition to any additional responsibilities in the labour force.'*

5.3.1.5.5 Gender and general discrimination

Gender discrimination is an issue in all regions. In India, gender equality is tainted by situations such as this one:

> *'There is no legislation to protect women and gender rights…. Tools and machines are designed for men and there is discrimination by other male colleagues.'*

Generally women earn less than men, have less chances of being promoted, and often there is gender discrimination when women are in management positions. There is also lack of opportunity for women as the Albanian participant added:

'Young women go to Italy, Greece, Germany and work as prostitutes. Many others take drugs. In parliament there are 90% men, 10% women.'

...and the Pakistani participant stressed the lower level of education of women:

'I think that both men and women are affected, but I think that women are more vulnerable because they are less educated....women do not see much of the financial payoff (from working in the fields). Usually the husbands get the money from the harvest, so women are deprived. Lack of social support from management, and less pay.'

5.3.1.5.6 Gender strengths

In terms of *women's strengths*, it was felt by a South-African expert that:

'...The positive thing for women is that they have more and better networks and are more expressive. Men don't talk about problems.'

In India, women receive more support from superiors, and in China:

'…unlike women in western countries, women in China have greater opportunities for career advancement, get paid equal to that of men, have equal status in their jobs, and receive more benefits, for example they get 100% of their pay while on maternity leave.'

Men's strengths lie in higher salaries, higher positions, higher control, and often feelings of superiority towards women. For example, in Iran the situation is as follows:

'In terms of control, men want to have more control which produces different needs. There are possibilities for getting a job, but there are many jobs where only men can contribute.'

Lastly, particularly participants from Macedonia and Thailand deplored the lack of gender sensitivity in research studies:

'There is not much experience in that area. Research groups are divided into occupation, sector, but no gender factor is taken into account.' (Macedonia)

'... But there is no study for gender differences right now'. (Thailand)

Table 5.7 summarizes the vulnerabilities of women and men in relation to psychosocial risks and work-related stress.

Table 5.7 Vulnerability of women and men in relation to psychosocial risks and work-related stress

Themes	*Descriptors*	*Participant country*
Social role vulnerabilities (1)	Women are more vulnerable	*Namibia, Nigeria, South Africa, Chile, Colombia, Puerto Rico, Iran, Micronesia, Viet Nam, Tunisia, Thailand, Zambia, Albania, Malaysia*
	Men have vulnerabilities	*Namibia, South Africa, Albania*, *Mexico*, *India*
Sexual harassment (2)	Sexual harassment on women	*Trinidad & Tobago, Pakistan*, *Zambia, Namibia, Nigeria, Thailand, India*
Gender & occupational sector (3)	Women's vulnerability in certain occupational sectors	*Namibia, Trinidad & Tobago, Mexico, Iran, Thailand, Chile, Micronesia, Tunisia, Pakistan, Malaysia, Viet Nam, India*
Work home interface(4)	Women's triple burden	*Tunisia, Thailand, Malaysia, China, Viet Nam, Namibia, Nigeria, South Africa, Zambia, Chile, Colombia, Mexico, Puerto Rico, Pakistan, Macedonia, India*
Gender & general discrimination (5)	Social and work discrimination	*India, Pakistan, Iran, Tunisia, Thailand, China, Albania, Colombia, Namibia, Chile, South Africa*
Gender strengths (6)	Women's strengths	*South Africa, India, China*
	Men's strengths	*Namibia, Iran, Albania*

5.3.1.6 OSH priority areas

Participants were asked to list three priorities that should be addressed in their country with respect to workers' health and safety. The themes developed from the interviews are *monitoring and surveillance* to include *psychosocial risks*, in particular, and those programmes that address *all workplace hazards* in terms of monitoring. Another theme that emerged was *legislation, policy development and standards* to include the need for *a comprehensive approach* to addressing workplace risks. And the last theme refers to *capacity building in the area of education through national curricula.*

5.3.1.6.1 Monitoring and surveillance of psychosocial risks

Participants referred to risk assessment procedures that should include psychosocial risks, evaluation of effectiveness of interventions, and regular stress audits. For example, the South African participant felt:

> *'We need to address psychosocial issues at the workplace, for example, in terms of assertiveness, interventions on the individual, and do risk assessment on psychosocial hazards; such as monitoring organizations on work-related stress.'*

In terms of addressing all workplace hazards, the participant from Trinidad & Tobago thought of the following requirements:

> *'First we need to do an assessment but jointly with employees to address traditional and newly-emerging issues.'*

5.3.1.6.2 Legislation, policy development, standards

Requirements in the areas of *legislation, policy development and standards* were mentioned for many countries. For example, the Indian participant would like to have better working standards:

> *'We need to change and improve working conditions, make machines more safe, and improve safety systems. Many of these are old and need to be updated.'*

And in some countries, including Zambia, the enforcement of existing legislation would be required as a priority action:

> *'...there is a need for execution and enforcement of legislation, as company rules are not clear, and workers have a voice.'*

This was anchored by the participant from Trinidad & Tobago:

> *'Auditing is required and maintenance of the health and safety environment in general. Standards are needed to guide health and safety. The Government recognizes the need for legislation and compliance. Employees need to be protected. Need to provide resources to recognize that health and safety is as important to deal with.'*

In terms of a comprehensive legislative framework, particularly participants from Namibia, Iran and Micronesia thought it would be the way forward to include psychosocial risks and work-related stress into existing national frameworks.

5.3.1.6.3 Capacity building

Mainly interviewees from Pakistan and Thailand outlined the importance of education and training in occupational health and safety issues at vocational level, which they felt were lacking. For example the Pakistani participant emphasized the following important issues in this respect:

> *'Increase education and training for managers, people in the health system, and ministry of health. This would include discussion of the importance of psychosocial hazards and work-related stress, what they are, and how to recognize them. More education of individuals, at all different levels, in specific vocational psychology courses is needed, so that there are more educational resources within the country at different levels. We need to have research institutes at both national and provincial levels. These research institutes should be part of the university, so we can train and educate. There is a need for education.*

If I want to do a course in occupational health, I cannot. I have to go to the UK, but it is very expensive and there are not the resources.'

5.3.1.7 Priority health and safety workplace issues

A number of priority workplace issues were mentioned by participants that included the following:

- need for awareness raising and training,
- need to address psychosocial risks, work-related stress and behaviours,
- physical risks, and
- musculo-skeletal disorders (MSDs).

Awareness-raising and *training* was mentioned by participants from all regions. Below are two relevant quotes indicating a real need in this area:

'We should develop awareness among workers, this includes changing attitudes, sensitivity to observe problems in the work environment; increase awareness in health and safety concerns in managers and employees.' (India)

'We need capacity building and training, education on psychosocial issues, awareness raising, training for management.' (Nigeria)

Also participants from all regions indicated that it will be an urgent requirement at workplaces to *address psychosocial risks, work-related stress and behaviours*. Below are two relevant quotes to support this claim:

'We need to work on prevention of occupational diseases, including traditional and new and emerging; prevention of psychosocial hazards.' (Viet Nam)

'Alcohol and drug abuse including irresponsible behaviours are important. People drink over the weekend and are not effective on Monday morning.' (Namibia)

Physical risks are still very prevalent in workplaces in developing countries. Also here participants from all regions insisted that such hazards require urgent attention. The particular physical hazards referred to noise, silicosis, radiation, heat, cold, chemicals, many of which can cause occupational diseases, cancer and death.

Lastly, particularly interviewees from Iran, Puerto Rico and Macedonia alerted to a high prevalence of MSDs that have shown to be related to work stressors.

5.3.1.8 Comprehensive approach to address psychosocial and traditional workplace risks

This is a prominent theme, which has been referred to in the previous sections. Addressing workplace hazards jointly and equally was advocated by five regions (except Europe, who advocated addressing psychosocial hazards as a priority). Below are some relevant quotes that support the need for jointly and equally addressing traditional and emerging hazards:

> *'They are important to address because they can harm the business outcome. Should be addressed to a high extent because it is an ongoing process. It should however be addressed jointly with the traditional hazards.' (Zambia)*

> *'They have to be addressed jointly, because it affects well-being of employees. It may have some legal implications in terms of compensation claims. If you can address these jointly, experience from traditional hazards can inform the newly emerging hazards. The traditional environment may be feeding into the emerging ones.' (Trinidad & Tobago)*

> *'Psychosocial issues are not new or emerging hazards, as compared to traditional hazards, they have always been important. They are as important as traditional hazards.' (Iran)*

However participants also stressed that psychosocial hazards should be considered a priority. For example, the South African participant confirmed:

'Yes, they need to be addressed. They should be regarded as a priority. Hazards should be seen as an integrated approach.'

Participants from Chile, Mexico, Puerto Rico and Micronesia also felt the same. For example, the Chilean participant included its importance on the basis of psychosocial risks coming from several contexts in a person's life:

'Psychosocial factors are more important to address than traditional risk factors. This can come from occupational and non-occupational environments.'

In addition, the issue of recognizing psychosocial hazards was discussed:

'It is important to deal with psychosocial hazards, because people do not recognize them. They have no information. All other hazards need attention, but psychosocial hazards do not get this attention and all is associated with the traditional hazards'. (Puerto Rico)

5.3.1.9 Barriers to addressing causes and solutions

From the interview results, a new rich theme could be derived which provides explanations for barriers and opportunities to address psychosocial risks and work-related stress. By far the largest theme identified was the *lack of understanding of psychosocial hazards*. This theme includes the following sub-themes: a*) lack of visibility, statistics, and definitions;* b) *stigma and recognition; and* c) *a higher focus on traditional as opposed to psychosocial hazards.* The second theme is *lack of research methodology* to include the *lack of methodology and application*. The third theme identified is *lack of regulation*. This theme includes issues of regulation and enforcement. Lastly, the fourth theme is *lack of action and support systems* which encompasses basically *lack of policies, human resources and high-level interest*.

With respect to the first sub-theme of *lack of visibility, statistics and definitions*, the Namibian participant felt:

'There is a problem with wrong assessment by nurses of the problem. There are no indicators of what is going on in the country. There are no figures available. Psychosocial issues are ill-defined currently. No connection is made between chronic conditions and stress. Physical illness is more accepted as being more serious, as it is more visible. They do not see that one relates to the other. Violence happens in the community, but they do not see that it has repercussions at the workplace.'

The Zambian participant felt that the lack of visibility and understanding was due to the definition:

'Psychosocial hazards are kind of mental, inside the person leading to absence and low productivity. Psychosocial is more difficult to define than the traditional hazards'.

Iran anchors this issue by this comment:

'You can see the physical outcomes of traditional hazards, but not the psychological hazards.'

Other barriers refer to ignoring the psychological dimension, the lack of awareness, concern and interest, as well as quantification.

As concerns *stigma and recognition* issues, for example the Zambian participant underlines as a barrier that stigma is still attached to mental illness and to using mental health services. This is anchored by the Indian participant who said:

'Mental illness is not recognized. Burnout needs treatment, otherwise this cannot work'.

For the *higher focus on traditional hazards*, most participants indicate that this is currently still the case and, therefore, a barrier to action in addressing psychosocial hazards. For example, the Thai participant emphasized:

'Reality is that Thailand is still struggling with traditional hazards. Thailand is starting just now with addressing psychosocial hazards at work. There are more concerns for poor living conditions, physical hazards, etc.'

This is also the case in China and other countries:

'These issues emerged because the government only pays attention to traditional hazards and pays no attention to psychosocial risks.'

And sometimes like in India, basic physical protection is not even provided:

'For traditional hazards they stress the workplace must be safe, clean, and hygienic, but this is often even not implemented or enforced.'

For the *lack of methodology and its application*, participants referred to the difficulty to measure stress levels, the assessment and impact of psychosocial risks, as well as the fragmentation of research. For example, the Thai expert explains the problem and also provides information on action taken by the Government of Thailand:

'Research just addresses the broad topic and there is no specific question. Research is fragmented, not well-designed and cannot be used for policy development. The Social Policy Office from the Ministry of Labour put a research priority on psychosocial hazards.'

The *lack of action and support systems* was mentioned by a fair number of participants who felt like the Pakistani participant that…:

'The problem is they are not being addressed. We are lacking in human resources. The reason for this is the lack of resources. They don't want to invest in people. There is no legislation or no systems in place to protect workers. Workers are not represented in legislation for government.'

The Nigerian participant expressed workers' vulnerabilities as follows:

'No workplace policies exist that address that problem. Mostly multi-nationals don't encourage unionism, so there are no programmes, and in turn workers cannot complain. They can be hired and fired at any time.'

Also the Colombian participant felt there is lack of protection and workers' vulnerabilities:

'There is legislation that addresses occupational diseases caused by stress. There is a 2006 law on mobbing, but the claimant is mostly fired afterwards…..'

Several participants mentioned the lack of resources, both human and financial, to address the issue. Lastly, the participant from South Africa refers to the complications of the informal sector, by far the largest sector in all developing countries:

'The informal sector is big: 30-50%. Legislation cannot be enforced in the informal sector. Psychosocial hazards are not addressed.'

Table 5.8 summarizes the barriers to addressing causes of, and solutions to, psychosocial risks at work.

Table 5.8 Barriers to addressing causes and solutions

Themes	*Descriptors*	*Participants*
Lack of understanding (1)	Visibility, statistics, definition (lack of)	*Namibia, Zambia, Puerto Rico, Macedonia, Iran, Thailand, Malaysia, Iran, South Africa, Colombia,Pakistan, Trinidad & Tobago, Micronesia, India*
	Stigma & recognition	*India, Namibia, Zambia*
	Higher focus on traditional hazards (as opposed to psychosocial risks)	*Thailand, China,Viet Nam, Zambia, Chile, Trinidad & Tobago, Pakistan, India*
Lack of research methodology (2)	Methodology and research (lack of)	*South Africa, Trinidad & Tobago, Iran, Thailand*

Lack of regulation (3)	Issues of regulation and enforcement	*India, Micronesia, Chile*
Lack of support systems and action (4)	Action & support systems (lack of)	*Pakistan, Namibia, Nigeria, Zambia, Chile, Colombia, Trinidad & Tobago, Mexico, China, Viet Nam, Micronesia, South Africa, Iran*

Having presented the findings from the expert semi-structured interviews, the following sections proceed to present the findings from the Delphi surveys.

5.3.2 Findings from the Delphi surveys

5.3.2.1 The nature of and concerns for psychosocial risks and work-related stress

In this section, key findings from the Delphi survey question about experts' understanding of psychosocial risks are presented. Based on the results obtained, Figure 5.1 graphically presents the participants' understanding of psychosocial risks, and reiterates issues of work content and context as obtained from the interviews. The Delphi results are closer to the status of research in industrialized countries. As concerns work content the priorities identified pertain to time pressure and high job demands (36%[11] & 64%[12]); discrepancies between abilities, skills, job demands and expectations (38% & 60%); poor management practices (36% & 55%); lack of participation in decision-making (33% & 53%). There is high consensus on job insecurity (42% & 51%), which has been identified as a global psychosocial risk. Precarious employment (that is related to job insecurity) has resulted in relatively high consensus (22% & 34%) as well. Furthermore, high consensus has been reached on a perceived imbalance on abilities, resources and support (28% & 34%) as a psychosocial risk. Interpersonal relationships (24% & 38%) present psychosocial risks, and with less pronounced consensus also poor physical conditions (27% & 55%). Lastly, lack of control resulted in 30% for the first and 66% for the second round of the Delphi study.

[11] Results from first Delphi round
[12] Results from second Delphi round

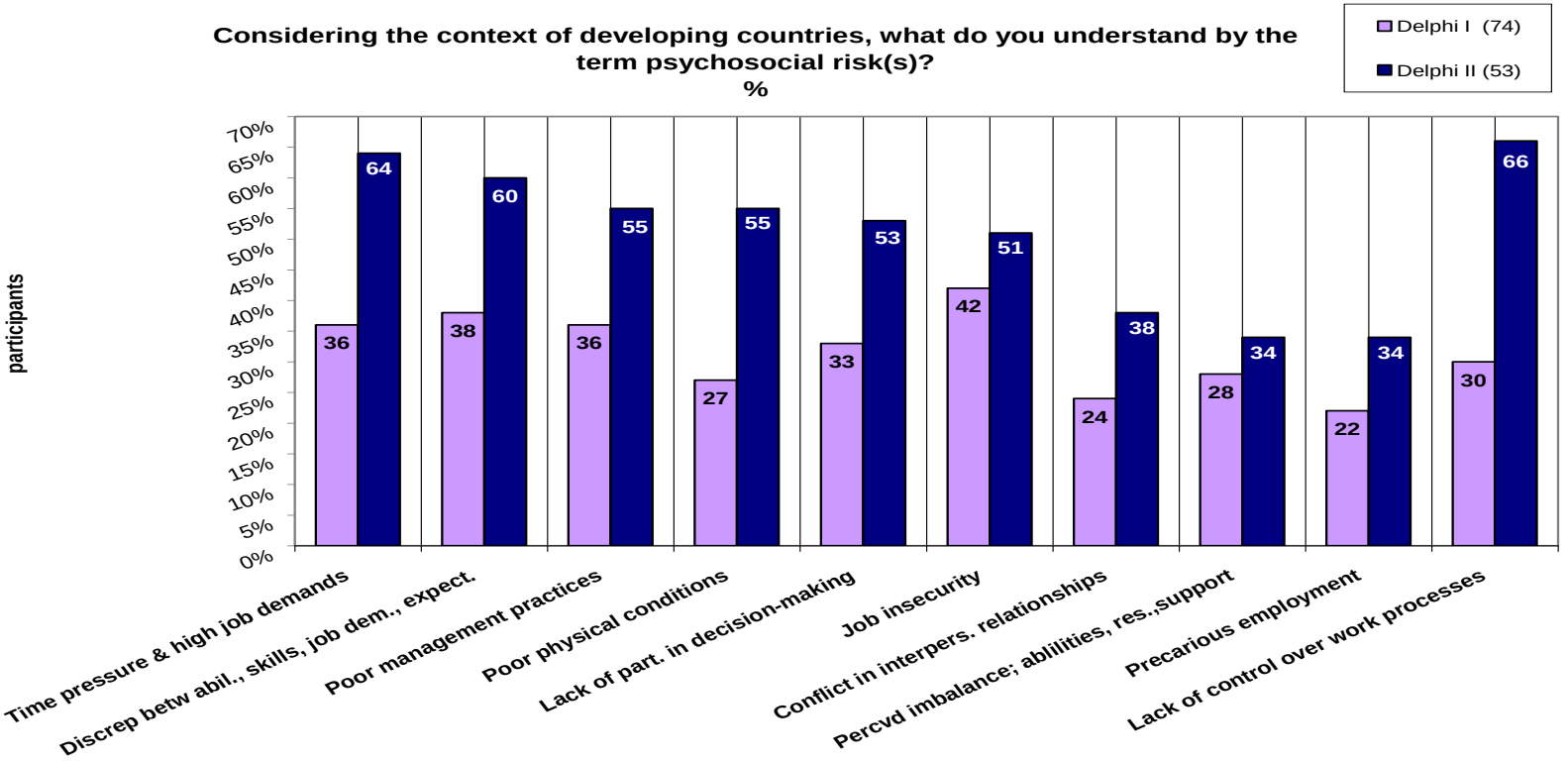


Figure 5.1 Understanding the term psychosocial risks(s)

Figure 5.2 presents answers divided into the six regions. Only results which reached 50% or more were taken into consideration for a better understanding of the most prevalent issues.

In the African region, participants identified psychosocial risks as being particularly related to *lack of control over work processes* (56%), *high job insecurity* (56%), and *time pressure and high job demands* (56%).

In the Americas, the same perception prevails of *lack of control over work processes* (92%), but to a higher extent. At the same time, *time pressure and high job demands* (67%) were highly rated as risks, followed by *discrepancies between abilities, skills, job demands and expectations* (50%), *poor management practices* (50%), and *lack of participation in decision-making* (50%).

The highest perceived psychosocial risks in the Eastern Mediterranean region are *lack of participation in decision-making* (100%) and *discrepancies between abilities, skills, job demands and expectations* (100%). Participants also mentioned *poor management practices* (80%) and *poor physical conditions* (80%) and *perceived imbalance between abilities, resources and support* (80%). Other issues felt to be psychosocial risks were *job insecurity (60%), conflict in interpersonal relationships* (60%), *time pressure and job demands* (60%).

The psychosocial risk which the European participants rated highest was *lack of participation in decision-making* (63%). *Time pressure and high job demands* reached 50% and *discrepancies between abilities, skills, job demands and expectations* also 50%.

In the South-East Asian region, *discrepancies between abilities, skills, job demands and expectations* (82%) were rated highest followed by *lack of participation in decision-making* (70%), *time pressure and high job demands* (70%), *poor management practices* (70%), *lack of control over work processes* (70%), and *job insecurity* (55%).

Poor management practices (80%) and *time pressure and high job demands* (80%) are strongly understood as a psychosocial risk in the Western-Pacific.

Further mentioned were *lack of control over work processes* (60%), and *job insecurity* (60%), and *conflict in interpersonal relationships* (60%).

Table 5.9 outlines the main results listed above. Only results of 50% or higher are taken into consideration in this analysis.

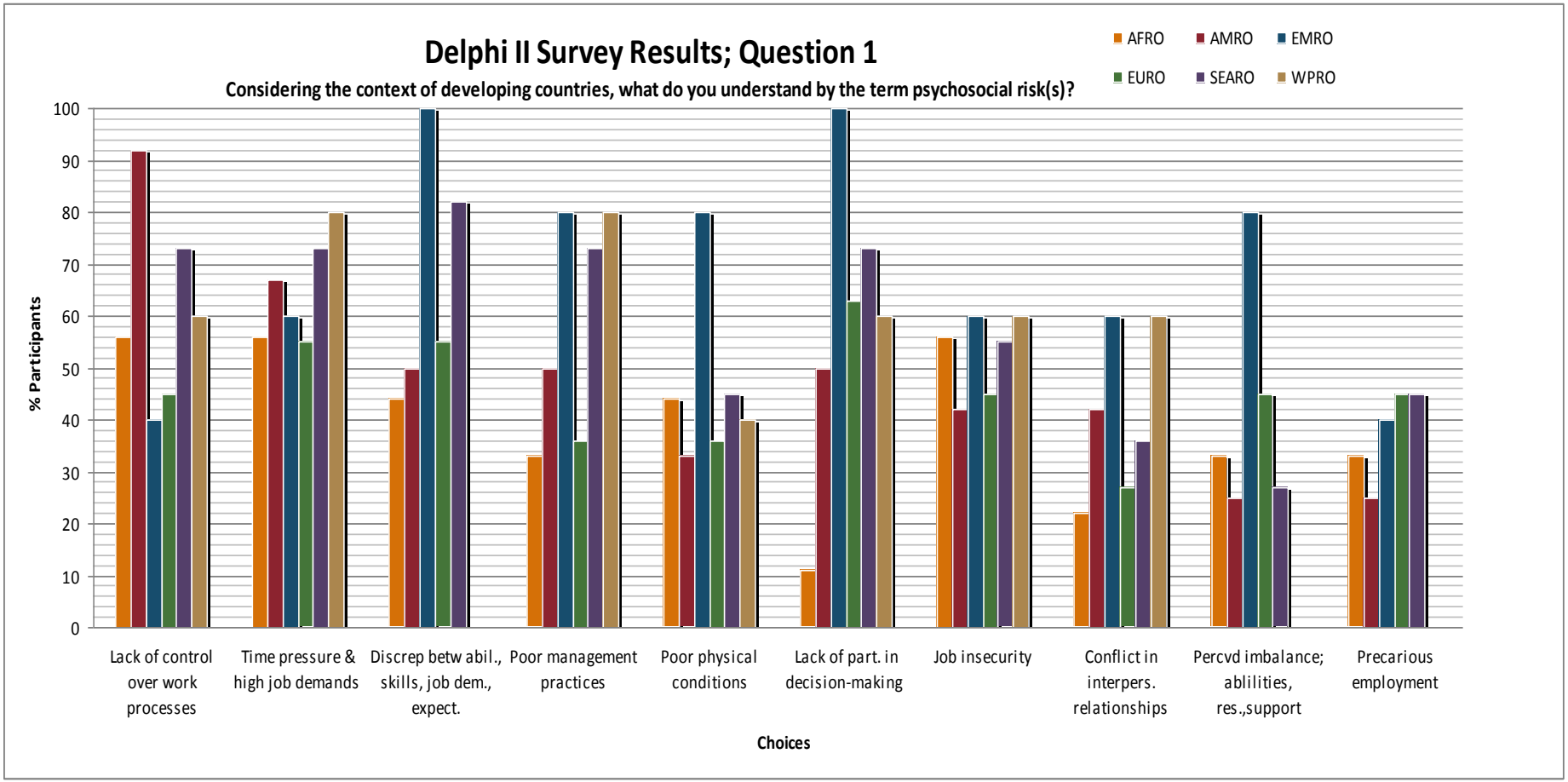


Figure 5.2 Understanding of psychosocial risks by region

Table 5.9 Understanding of psychosocial risks by region (> 49%)

Psychosocial risks	*Africa*	*Americas*	*E. Medit.*	*Europe*	*SE Asia*	*W.Pacific*
	%	*%*	*%*	*%*	*%*	*%*
Lack of control over work processes	56	92	X	50	70	60
Time pressure & high job demands	56	67	60	50	70	80
Discrepancies between abilities, skills, job demands. expectations	X	50	100	50	82	X
Poor management practices	X	50	80	X	70	80
Poor physical conditions	X	X	80	X	X	X
Lack of participation in decision-making	X	50	100	63	70	X
Job insecurity	56	X	60	X	55	60
Conflict in interpersonal relationships	X	X	60	X	X	60
Perceived imbalance abilities, resources, support	X	X	80	50	X	X
Precarious employment	X	X	X	X	X	X

5.3.2.2 Key occupational sectors

In this section, main findings concerning the most affected occupational sectors by psychosocial risks and work-related stress are presented based on the findings from the two Delphi rounds.

Figure 5.3 outlines the occupational sectors most affected. The Delphi findings show that the informal sector was one of ten priority occupational sectors that require attention (42% & 60%) as well as agriculture (30% & 40%), and mining (26% & 43%). The secondary sector covered construction (34% & 55%) and the manufacturing and industrial professions (50% & 74%). The tertiary sector includes as priority occupational sectors healthcare professionals who were the most affected (62% & 74%). Education and teaching received quite high frequencies and very high consensus (57% & 51%). Police, security forces, and law enforcement had close consensus (47% & 45%), and equally did the service sector (42% & 40%). Catering and hospitality was the least stressful sector according to participants (27% & 19%).

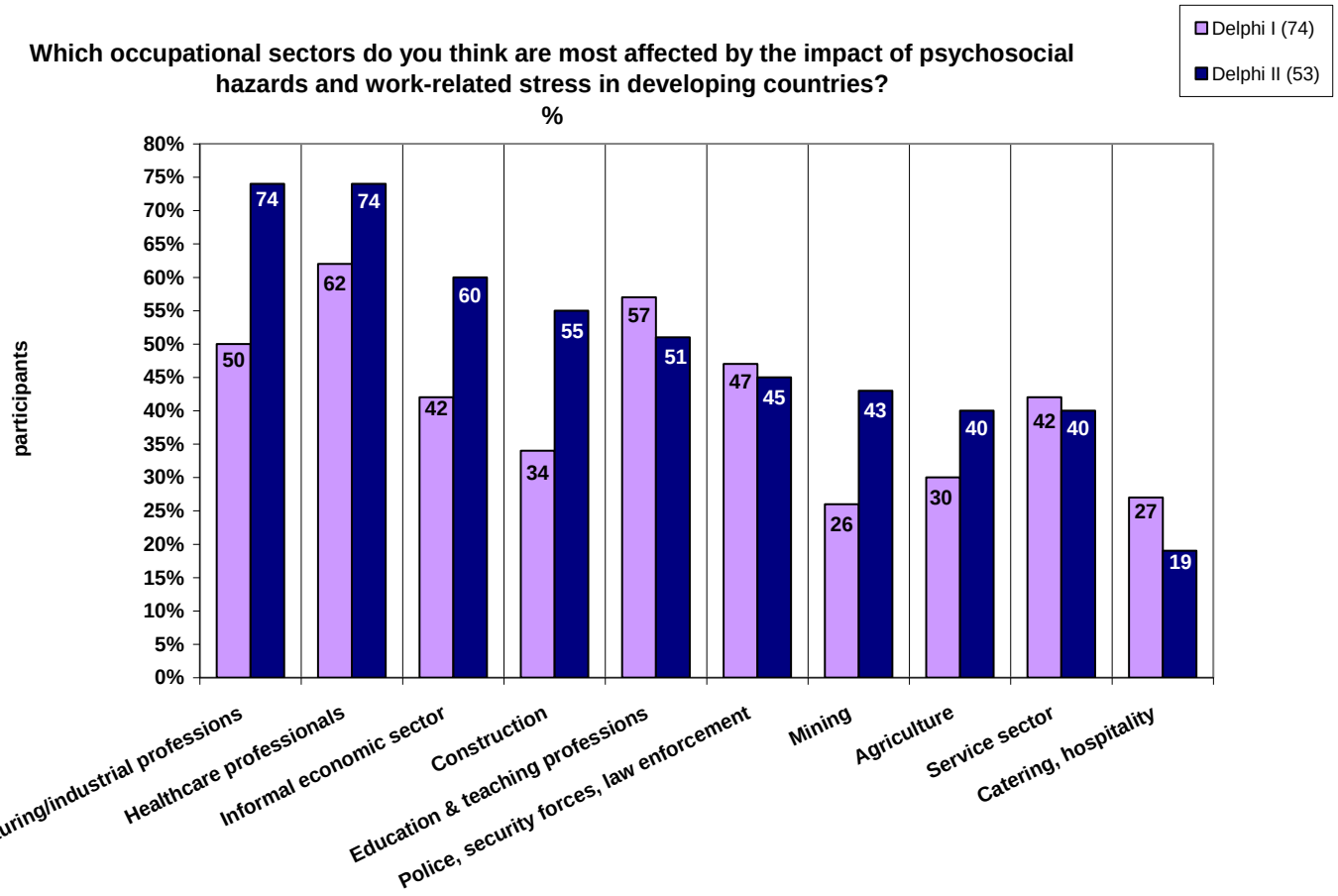


Figure 5.3 Key occupational sectors

Figure 5.4 presents regional answers for the six regions. The Figure presents key findings that have been obtained from experts' knowledge about the sectors most affected by psychosocial risks and work-related stress.

The African participants felt that the following sectors were most affected by psychosocial risks and work-related stress:

- primary sector: construction (56%), informal economic sector (56%), and
- tertiary sector: education and teaching (56%).

Participants from the Americas saw the following sectors as most affected:

- Primary sector: informal economic sector (58%); agriculture (58%), mining (50%)
- Secondary sector: manufacturing (100%)
- Tertiary sector: healthcare (67%).

The participants from the Eastern-Mediterranean chose the following sectors as high-risk sectors:

- Primary sector: healthcare (100%); informal economic sector (80%); agriculture (60%); mining (60%)
- Secondary sector: construction (100%)
- Quaternary sector: education and training (60%).

In Europe, participants felt the following were high-risk sectors:

- Primary sector: informal economic sector (62%)
- Secondary sector: construction (82%); manufacturing (62%)
- Tertiary sector: healthcare (82%)
- Quaternary sector: education and training (55%).

South-East Asian participants chose the following sectors as most affected:

- Primary sector: informal educational sector (62%)
- Secondary sector: construction (55%); manufacturing (73%)
- Tertiary sector: healthcare (82%); service sector (55%)
- Quaternary sector: educational and training (55%).

In the Western-Pacific region, participants identified the following sectors:

- Primary sector: mining (0)
- Secondary sector: manufacturing (60%)

- Tertiary sector: healthcare (80%); service sector (80%); police & security (60%).

Table 5.10 outlines the main results listed above. Only results of 50% or higher are taken into consideration.

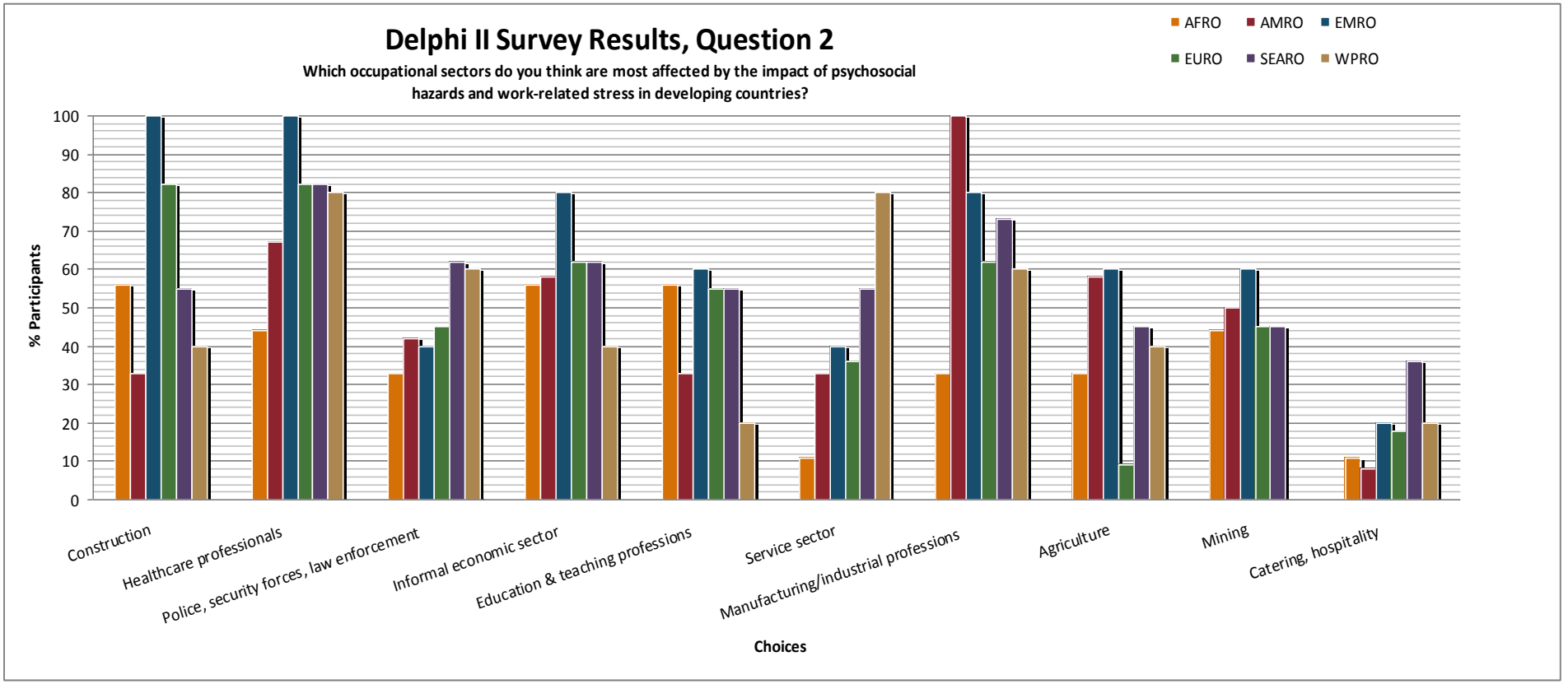


Figure 5.4 Key occupational sectors by region

Table 5.10 Key occupational sectors by region (> 49%)

Occupational sectors	*Africa*	*Americas*	*E. Medit.*	*Europe*	*SE Asia %*	*W.Pacific*
	%	*%*	*%*	*%*		*%*
Informal economic sector	56	58	80	62	62	X
Agriculture	X	58	60	X	X	X
Mining	X	50	60	X	X	0
Construction	56	X	100	82	55	X
Healthcare	X	67	100	82	82	80
Police, security forces	X	X	X	X	X	60
Services	X	X	X	X	55	80
Manufacturing	X	100	80	62	73	60
Education	56	X	60	55	55	X

5.3.2.3 Different levels of interventions

In this section findings from the question about experts' awareness of legislation, policies and interventions that address psychosocial risks are presented based on the findings from the Delphi surveys.

The Delphi results indicate that secondary interventions were favoured. Figure 5.5 shows seven intervention methods at secondary level. At primary level four interventions were mentioned. Those interventions that are located at primary level include awareness-raising activities (54% & 58%); work redesign (42% & 43%); preventive management training (30% & 43%), and comprehensive occupational health and safety policy (39% & 57%). None of the interviewees mentioned such a comprehensive policy as being in place.

Secondary level includes health promotion programmes (62% & 77%); teamwork (61% & 66%) (although this could also be considered primary prevention with more ample explanation about the contents of the exercise); preventative health check-ups (58% & 62%); problem solving and communication training (53% & 49%); stress management training (50% & 53%); time management training (42% & 47%), and spiritual raising events in some Asian communities (39% & 34%).

The visual presentation of the primary and secondary level interventions can be seen in Figure 5.5.

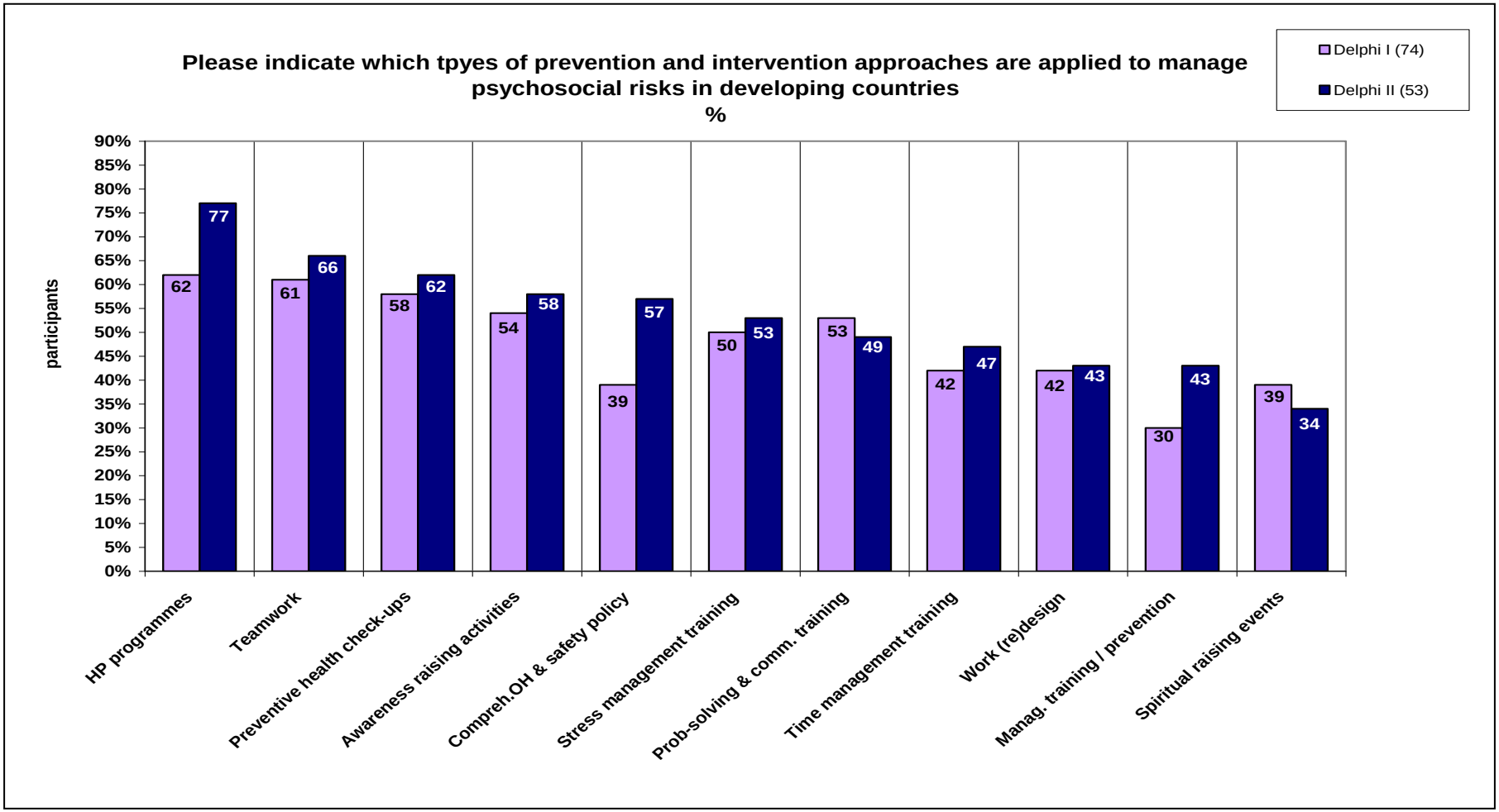


Figure 5.5 Primary and secondary intervention levels

Experts from Africa indicated that the most prevalent prevention and intervention approaches applied are preventive *health checkups* (56%), and *health promotion programmes* (78%).

According to participants, the most prevalent approaches in the Americas were *teamwork* (58%) followed by *stress management* (50%) and *time management training* (50%) and *health promotion programmes* (50%).

The Eastern Mediterranean prioritized *preventive health checkups* (100%) and *comprehensive occupational health and safety policies* (100%). These were followed by *problem solving and communication training* (80%), *stress management training* (80%), *health promotion programmes* (60%), *management training and prevention* (60%), *teamwork* (60%), and *work redesign* (60%).

In Europe, *health promotion programmes* (82%), *preventive health checkups* (73%), *work (re)design* (64%), *awareness-raising activities* (64%), *comprehensive occupational health and safety policies* (64%) were favoured, *teamwork* (55%) and *management training and prevention* (55%).

South-East Asia prioritized *health promotion programmes* (100%), *teamwork* (91%), *problem solving and communication training* (82%), *preventive health check-ups* (73%), *comprehensive occupational health and safety policies* and *stress management training* (73%), and *awareness-raising activities* (73%). Other issues are *work (re)design* (64%), *stress management training (*64%), and *spiritual-raising events* (64%) followed by *time management training* (56%) and *management training and prevention* (55%).

Lastly, in the Western Pacific approaches such as *awareness-raising activities* (80%), *preventive health check-ups* (80%), and *health promotion programmes* (60%), *teamwork* (60%), a *comprehensive occupational health and safety policy* (60%), and *stress management training* (60%) were mentioned.

Figure 5.6 and Table 5.11 outline the regionally preferred priority interventions at primary and secondary level applied in developing countries according to experts.

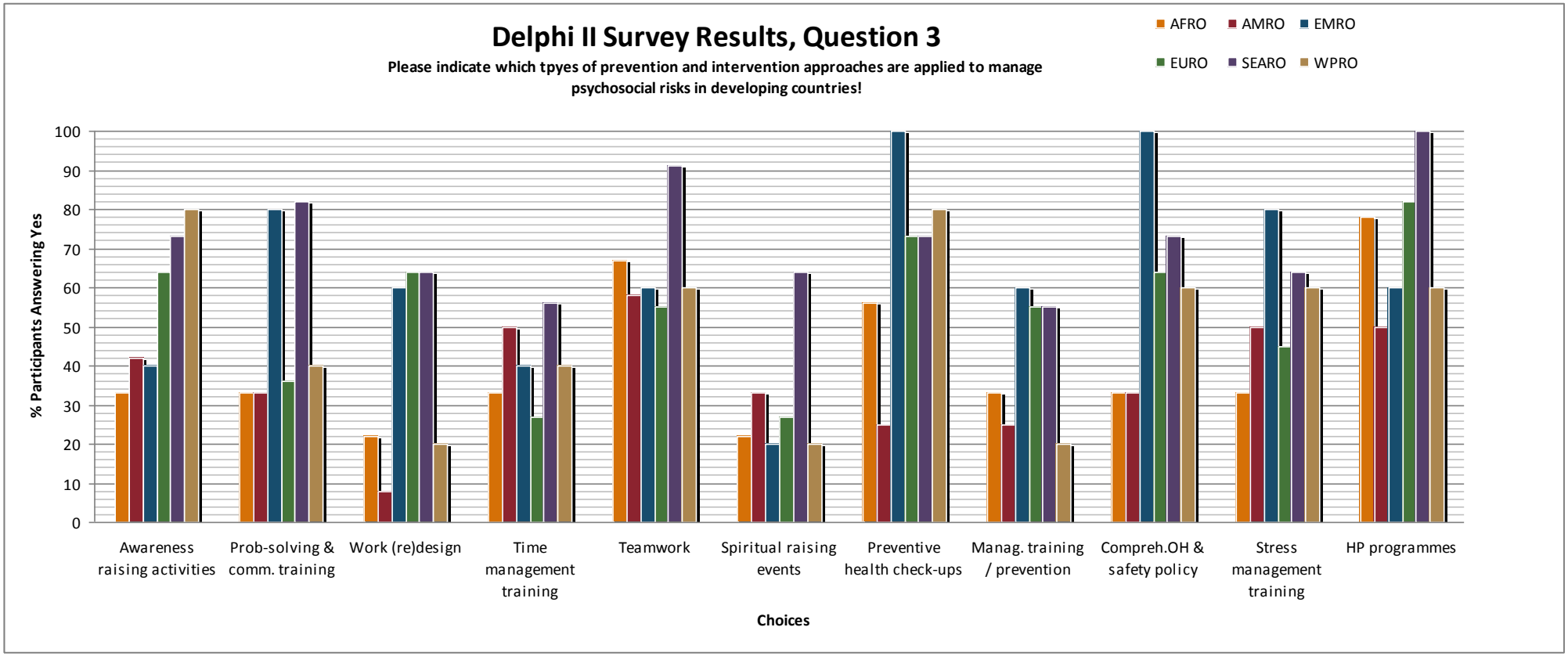


Figure 5.6 Primary and secondary intervention levels by region

Table 5.11 Interventions and prevention approaches (> 49%)

Interventions	*Africa*	*Americas*	*E. Medit.*	*Europe*	*SE Asia*	*W.Pacific*
	%	*%*	*%*	*%*	*%*	*%*
Awareness-raising activities	X	X	X	64	73	80
Problem-solving & communication training	X	X	80	X	82	X
Work (re)design	X	X	60	64	64	X
Time management training	X	50	X	X	56	X
Teamwork	67	58	60	55	91	60
Spiritual raising events	X	X	X	X	64	X
Preventive health check-ups	56	X	100	73	73	80
Management training & prevention	X	X	60	55	55	X
Comprehensive OH safety policy	X	X	100	64	73	60
Stress management training	X	50	80	X	64	60
Health promotion programmes	78	50	60	82	100	60

5.3.2.4 Vulnerabilities of men and women

This section refers to the Delphi results based on the question if men and women are equally vulnerable to psychosocial risks and work-related stress.

The highest prevalence of issues affecting the female workforce pertains to work, family, social responsibilities and multi-tasking (66% & 94%). Particularly in the second, narrower, round the issue was highly prioritized. Sexual harassment (50% & 51%) found highest consensus in both rounds. 66% in the second and 42% of experts in the first round perceived that male-dominated societies particularly affect women. Vulnerability due to maternity-related leave reached equally close consensus (45% & 57%), and also issues of inequality in general (41% & 53%). 34% in the first and 53% in the second round found that lower pay for equal work was an issue. Lower frequencies but close consensus was obtained for gender segregation (24 % & 36%), working in rural areas (19% & 34%), competition with men (24% & 28%), and lastly, lack of legislation against discrimination (19% & 28%) were part of women's vulnerabilities.

Figure 5.7 visually presents the issues affecting the female workforce.

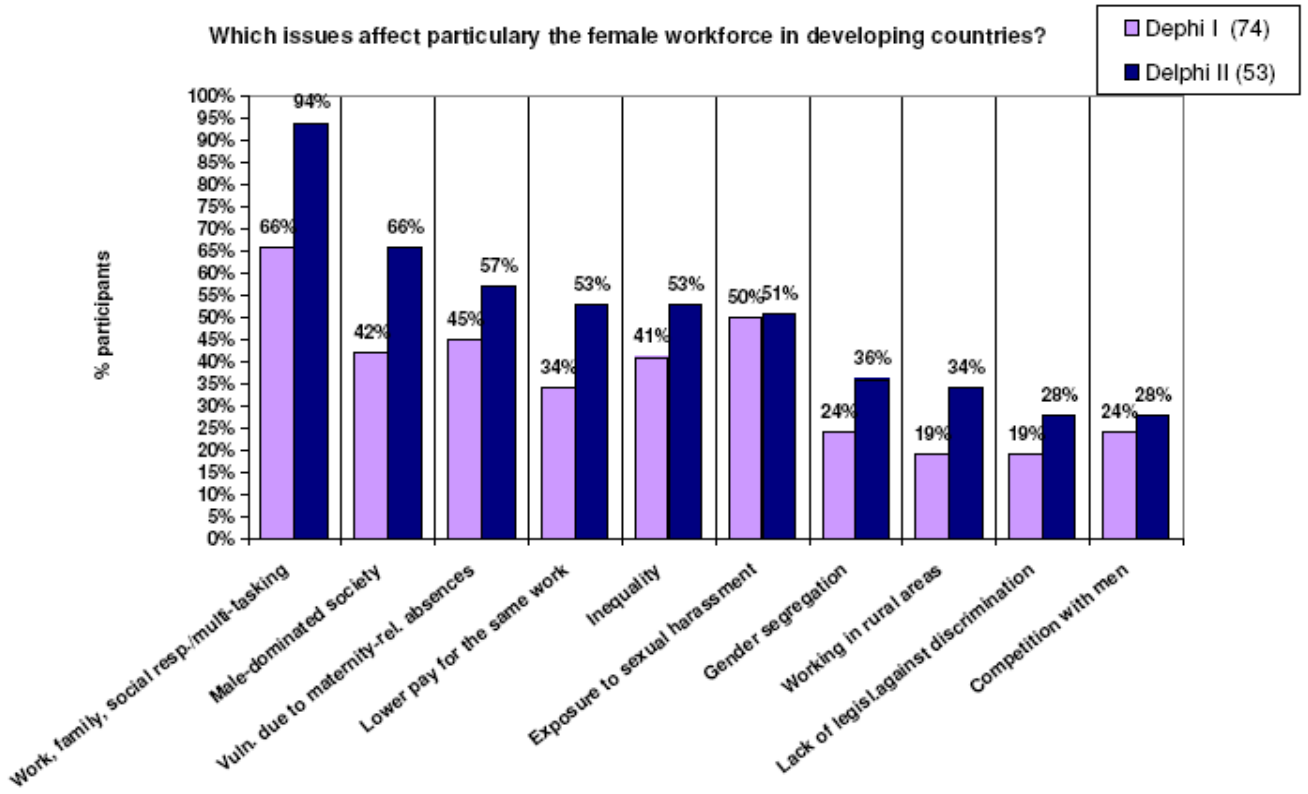


Figure 5.7 Issues affecting the female workforce

The regional distribution of the Delphi results is presented in Figure 5.8.

Participants from all regions agree on the importance of *work, family, social responsibility and multi-tasking* affecting the female workforce. The South-East Asians and the Eastern-Mediterraneans agree at 100%. They are closely followed by the Europeans (91%), the Americas (86%), the Western-Pacific (80%), and lastly the Africans (56%).

The African participants felt that *competition with men for higher status jobs* was a non-issue.

Participants from the Americas highly rated *vulnerability due to maternity-related absences* (58%), *inequality* (58%), and *male-dominated society* (67%).

Eastern-Mediterranean participants considered a *male-dominated society* (80%) and *gender segregation* (80%) as most important issues of all regions. Other important issues mentioned were *lower pay than men for the same work* (80%), *and working in rural areas* (80%). Women's main vulnerabilities were furthermore *exposure to sexual harassment* (60%), and *vulnerability due to maternity-related absences* (60%). The European participants rated high the *lower pay than men for the same work* (91%), followed by *exposure to sexual harassment* (64%), a *male-dominated society* (64%), *inequality* (64%), and *competition with men for higher status jobs* (55%).

The *male-dominated society* was important for most regions, but the South-East Asians felt this was the most prevalent issue compared to the other regions (82%). *Exposure to sexual harassment* followed (73%) and was equally rated as *vulnerability due to maternity-related absences* (73%) and *inequality* reached 64%.

The Western Pacific participants felt that women mostly had to struggle with *vulnerability due to maternity-related absences* (80%), *competition with men for higher status jobs* (60%) and a *male-dominated society* (60%). Several issues do not affect the workforce according to participants, such as *working in rural areas, lack of legislation against discrimination,* and *inequality*.

Below in Figure 5.8 and Table 5.12, main issues affecting the female workforce are highlighted across regions.

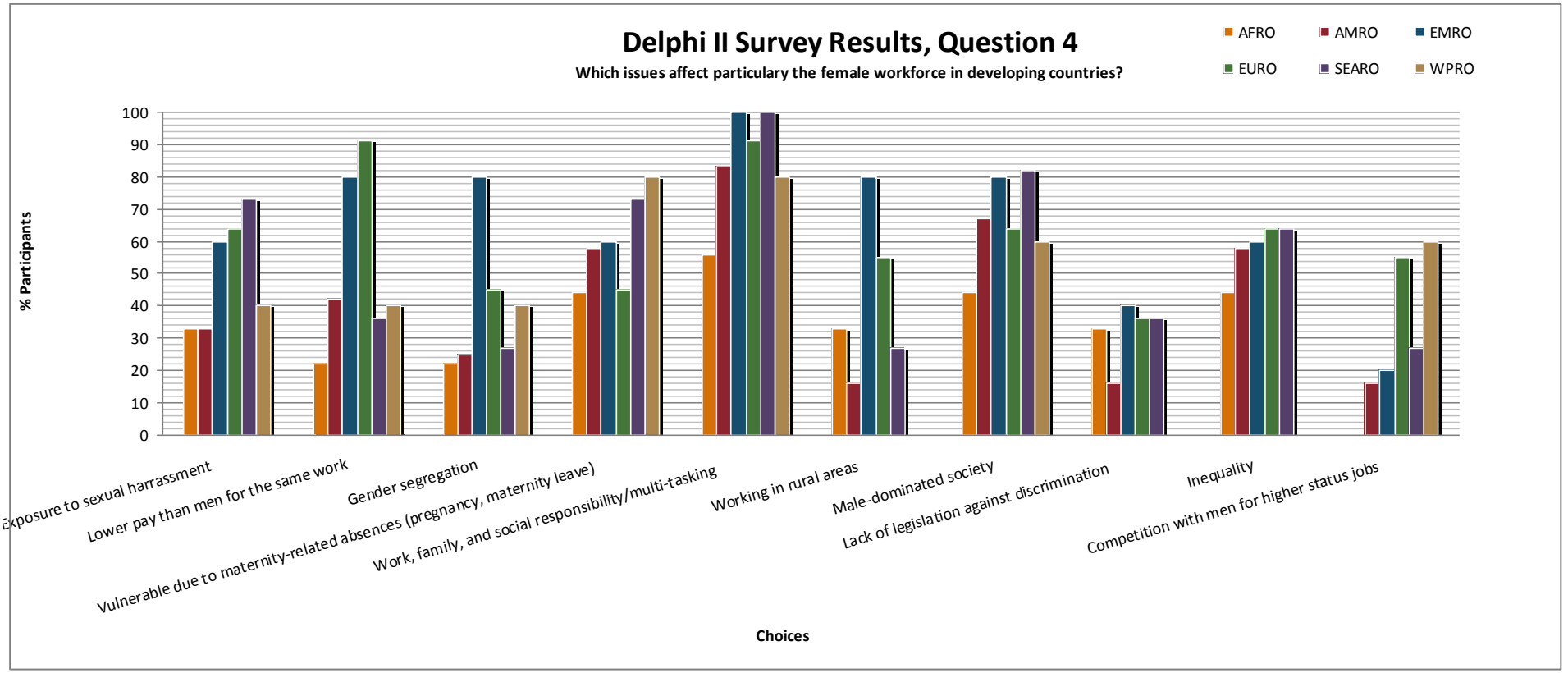


Figure 5.8 Issues affecting the female workforce by region

Table 5.12 Issues affecting the female workforce by region (> 49%)

Female workforce	*Africa* %	*Americas* %	*E. Med. %*	*Europe* %	*SE Asia* %	*W.Pacific %*
Exposure to sexual harassment	X	X	60	64	73	X
Lower pay than men for the same work	X	X	80	91	X	X
Gender segregation	X	X	80	X	X	X
Vulnerable due to maternity-related absences (pregnancy, maternity leave)	X	58	60	X	73	80
Work, family, and social responsibility/multi-tasking	56	83	100	91	100	80
Working in rural areas	X		80	55	X	0
Male-dominated society	X	67	80	64	82	60
Lack of legislation against discrimination	X	X	X	X	X	0
Inequality	X	58	60	64	64	0
Competition with men for higher status jobs	0	X	X	55	X	60

5.3.2.5 Priorities for action

The Delphi probed participants on the priority areas for health and safety in experts' respective countries and the particular workplace risks that require urgent attention.

5.3.2.5.1 OSH priority areas

Highest importance and consensus has been accorded by participants to *capacity building* (65% & 57%). All other nine priorities reached higher frequencies in the second Delphi round. The following are the ratings for these: *monitoring, surveillance of psychosocial risks and work-related stress* (28% & 64%); *creating a safety culture* (28% & 55%); *improving healthcare including primary healthcare* (20% & 53%); *developing health and safety standards* (28% & 49%); *developing a comprehensive legislatory framework to include the information sector* (26% & 47%); *workers' health surveillance systems* (26% & 47%); *developing occupational health services* (30% & 40%); *developing policy and legislation* (28% & 43%); *implementing and enforcing legislation to address workplace health and safety issues* (20% & 45%).

These are presented in Figure 5.9.

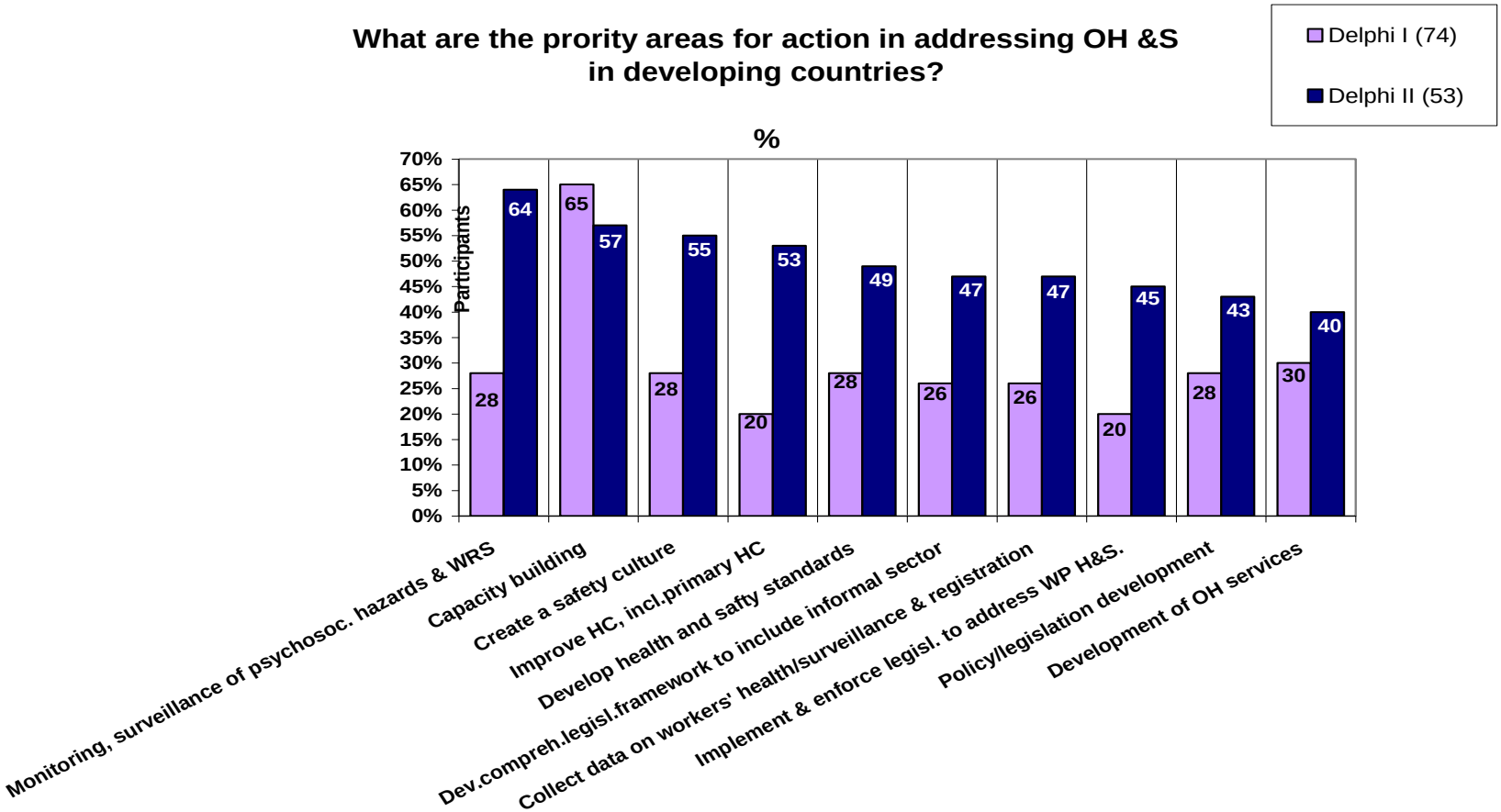


Figure 5.9 OHS priority areas

With respect to Figure 5.10, the country graph, the African participants informed that *monitoring and surveillance of psychosocial risks and work-related stress* (67%) were most important. The following issues received equally 56% of importance: *developing a comprehensive legislatory framework to include the informal sector*, *creating a safety culture, developing health and safety standards, and improving healthcare including primary healthcare*. *T*he *development of occupational health services* was a non-issue.

For participants from the Americas *monitoring and surveillance of psychosocial risks and work-related stress* (83%) was also most important. 67% of importance was allotted to the following OHS priorities: *collecting data on workers' health including surveillance and registration*, and *creating a safety culture*. *Development of a comprehensive legislatory framework to include the informal sector, capacity building* and *improving healthcare including primary healthcare* reached 50% of importance.

The *development of a comprehensive legislatory framework that also includes the informal sector* is particularly important for the Eastern-Mediterranean (100%), such as is *creating a safety culture*, *improving healthcare including primary healthcare*, *implementing and enforcing legislation to address workplace health and safety issues* (100%). 80% of importance was allotted to *collecting data on workers' surveillance and registration* and *creating a safety culture*. 60% of importance was allotted to *capacity building*, *development of occupational health services*, *monitoring and surveillance of psychosocial risks and work-related stress, developing health and safety standards,* and *improving healthcare including primary healthcare*.

The European sample opted for *developing health and safety standards* (73%), followed by *improving healthcare including primary healthcare* (64%) and *implementation and enforcement of legislation to address workplace health and safety* (64%). This was followed by *creating a safety culture* (56%), and *creating occupational health services* (56%).

South-East Asian participants rated the need for *capacity building* highest (91%). Then followed m*onitoring and surveillance of psychosocial risks and work-related stress* (82%), *collecting data on workers' health* (73%),

developing health and safety standards (73%), *improving healthcare including primary healthcare* (64%), *implementing and enforcing legislation to address workplace health and safety (64%),* and *developing occupational health services* (64%).

The Western-Pacific sample gave highest priority to *monitoring and surveillance of psychosocial risks and work-related stress* (80%), *followed by the development of policy and legislation* (60%) and *capacity building* (60%). *Improving healthcare including primary healthcare* was a non-issue.

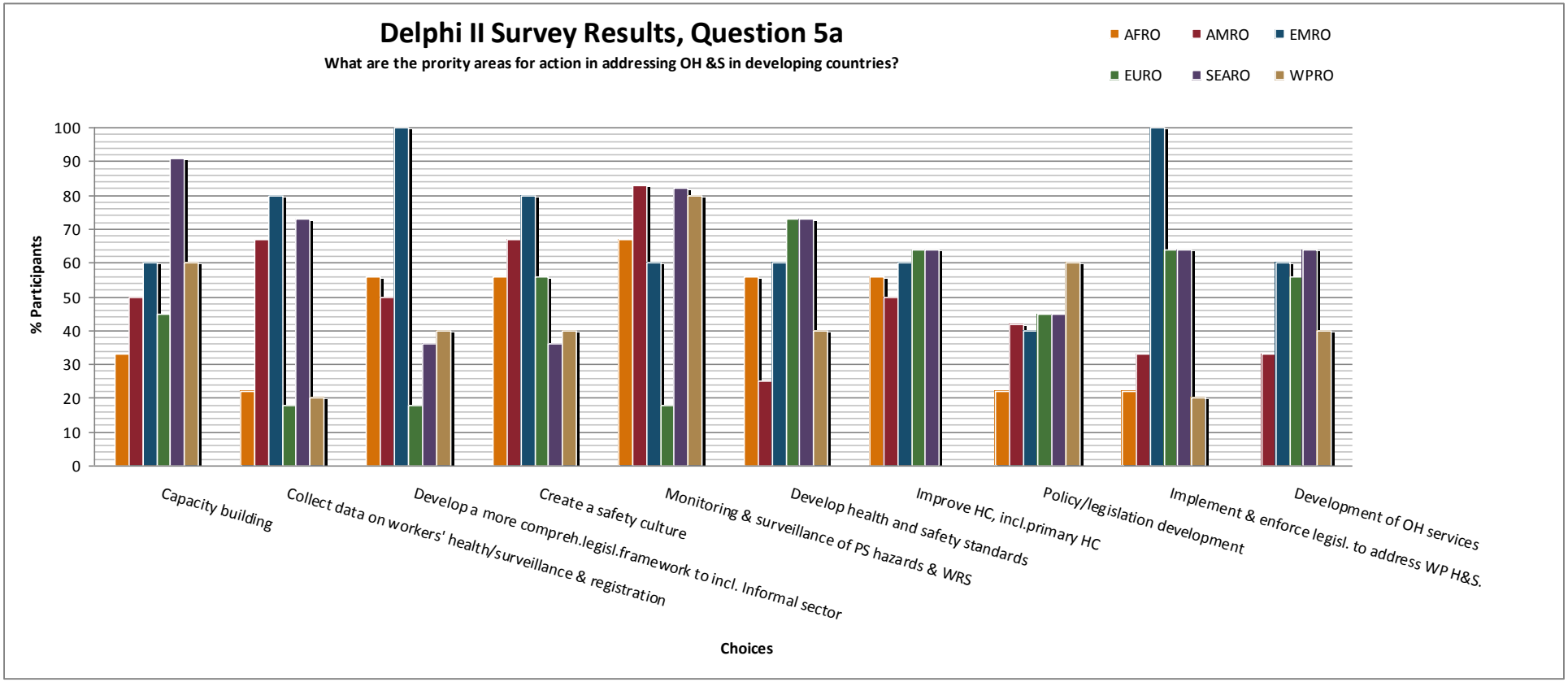


Figure 5.10 OHS priority areas by region

5.3.2.5.2 Workplace priority areas

Priorities concerning urgent workplace issues and occupational risks that need to be addressed in developing countries are listed in Figure 5.11. Workplace issues and occupational risks that reached very close consensus and that were reported as the ones requiring most urgent attention were *injury and accident prevention* (82% & 83%) followed by *psychosocial risks* (69% & 68%), *work-related stress* (59% & 62%), and *violence and harassment at work* (47% & 53%). Other issues of importance identified are *infectious diseases* (50% & 53%) with high consensus, *chemicals* (34% & 51%), and again with very close consensus *musculo-skeletal disorders* (53% & 49%). *Substance abuse and risky behaviours* found total consent between participants (47% & 47%). *Noise* (22% & 23%), and *biological agents* (14% & /11%) were also mentioned as part of the workplace priorities.

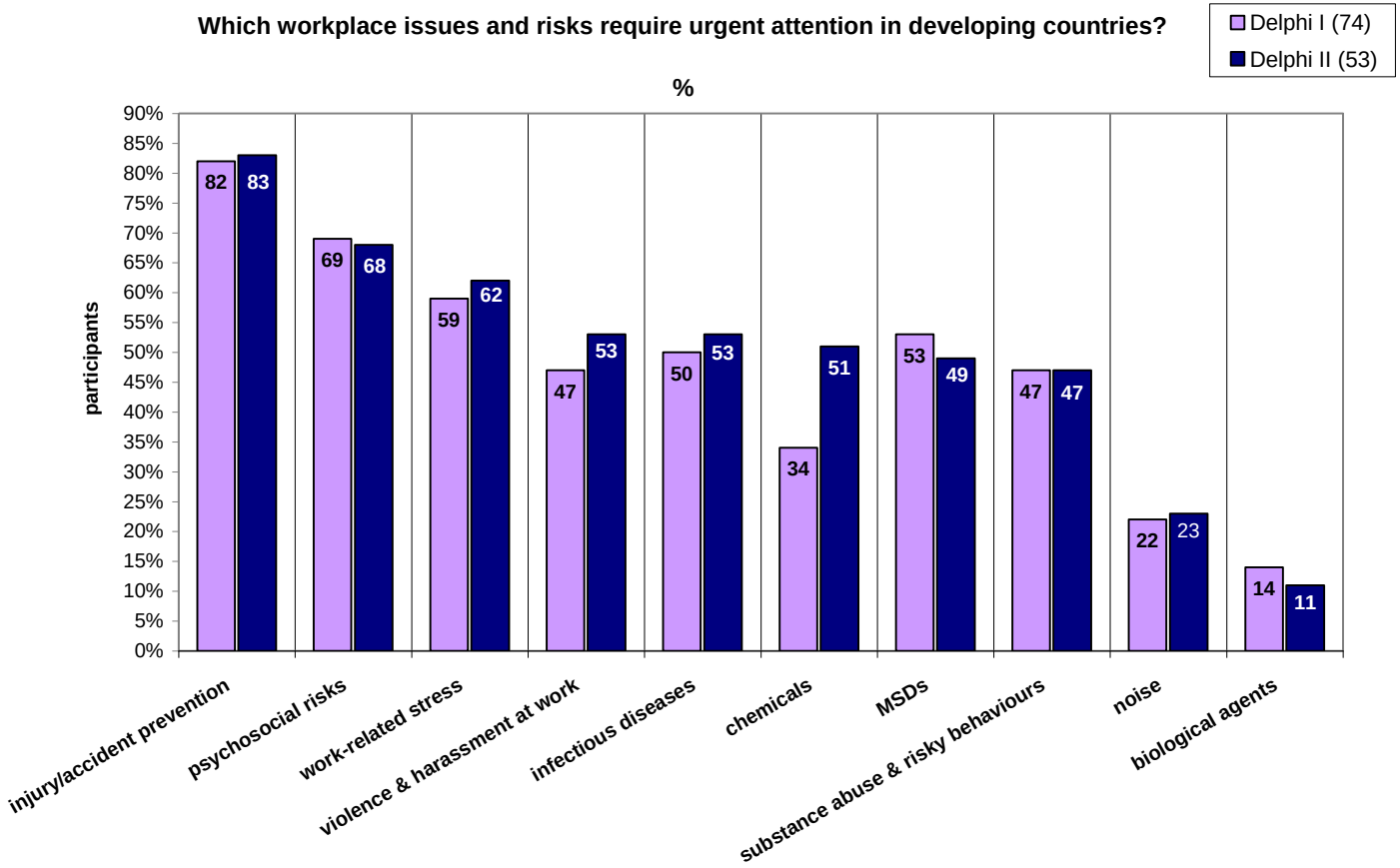


Figure 5.11 Workplace priority areas

Figure 5.12 presents participants' choices per region of the most urgent workplace issues and risks that require addressing.

For the African participants three high priorities were *infectious diseases* (78%), *injury and accident prevention* (67%), and *substance abuse and risky behaviours* (67%). *Work-related stress* was felt to be important by 56% of the participants. *Noise, MSDs* and *biological agents* were non-issues or those that were not prioritized by any participant.

The participants from the Americas rated high *injury and accident prevention* (100%) followed by *psychosocial risks* (88%), *and equally work-related stress* (50%), *substance abuse and risky behaviours* (50%), *chemicals* (50%), *infectious diseases* (50%), and *musculo-skeletal disorders* (50%).

The issues rated highest by the Eastern Mediterranean participants were *violence and harassment at work* (100%), *MSDs* (100%), and *substance abuse and risky behaviours* (100%). *Work-related stress* obtained 80% of participants' votes for importance, followed by *psychosocial risks* (60%), *injury and accident prevention* (60%), *chemicals* (60%), *infectious diseases* (60%), and *noise* (60%).

European participants rated highest *work-related stress* (91%) followed by *injury and accident prevention* (64%), *psychosocial risks* (54%), and *MSDs* (54%).

The South-East Asian participants perceived *injury and accident prevention*, *work-related stress* and *psychosocial risks* equally high (86%). Other urgent workplace issues included *violence and harassment at work* (56%), *chemicals* (56%) and *infectious diseases* (56%). *Substance abuse and risky behaviours* were not prioritized.

Lastly, the Western Pacific participants rated highest *psychosocial risks* (100%), *injury and accident prevention* (82%), and *work-related stress* (73%). This was followed by *chemicals* (64%) and *MSDs* (64%), *infectious diseases* (64%), and *violence and harassment at work* (54%).

Table 5.13 outlines OSH priorities and the workplace priority issues by regions for those priorities that reached 50% or above.

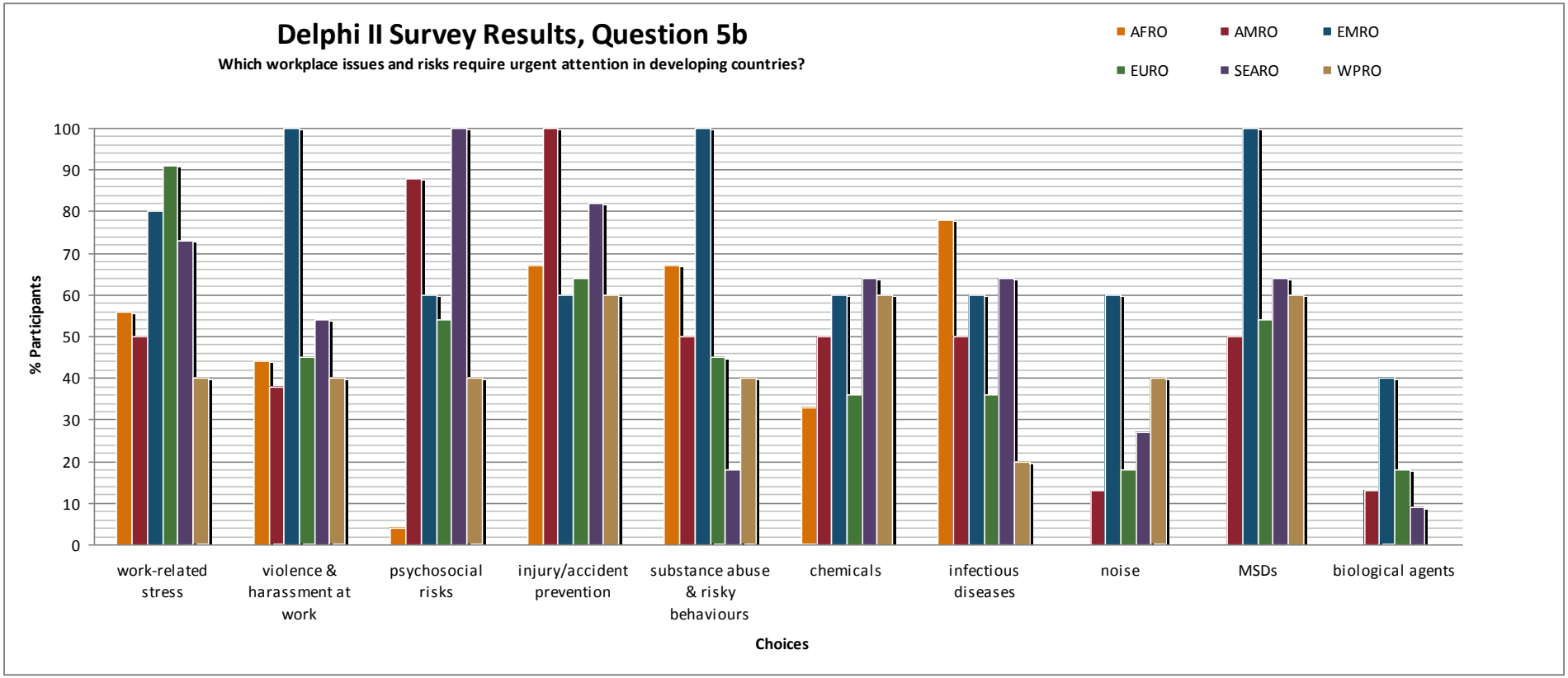


Figure 5.12 Workplace priority areas by region

Table 5.13 OSH priority areas and workplace issues for urgent action by region

OSH priority areas	*Africa*	*Americas*	*E. Medit.*	*Europe*	*SE Asia*	*W.Pacific*
	%	*%*	*%*	*%*	*%*	*%*
Capacity building	X	50	60	X	91	60
Collect data on workers' health/surveillance & registration	X	67	80	X	73	X
Develop a more comprehensive legislatory framework to include the Informal sector	56	50	100	X	X	X
Create a safety culture	56	67	80	56	X	X
Monitoring & surveillance of psychosocial risks & work-related stress	67	83	60	X	82	80
Develop health and safety standards	56	X	60	73	73	X
Improve healthcare, including primary healthcare	56	50	60	64	64	0
Policy/legislation development	X	X	X	X	X	60
Implement & enforce legislation to address workplace health and safety	X	X	100	64	64	X
Development of occupational health services	0	X	60	56	64	X

Workplace issues	*Africa*	*Americas*	*E. Medit.*	*Europe*	*SE Asia %*	*W.Pacific*
	%	*%*	*%*	*%*		*%*
Work-related stress	56	50	80	91	73	X
Violence & harassment at work	X	X	100	X	54	X
Psychosocial risks	X	88	60	54	100	X
Injury/accident prevention	67	100	60	64	82	60
Substance abuse & risky behaviours	67	50	100	X	X	X
Chemicals	X	50	60	X	64	60
Infectious diseases	78	50	60	X	64	X
Noise	0	X	60	X	X	X
MSDs	0	50	100	54	64	60
Biological agents	0	X	X	X	X	0

5.4 ADDITIONAL COMMENTS FROM PARTICIPANTS

In the Delphi surveys, participants were provided with the opportunity to voice any concerns or make comments which they felt were particularly important to mention or to reiterate. Below a number of issues are presented with respect to additional socio-political concerns in developing countries. In addition, comments were provided in relation to the difficulties of prioritizing issues.

5.4.1 The socio-political context

A participant from the European region was positive about the global approach of the study:

> *'I very much appreciate your work, especially your approach to gain information across countries and professions. Currently there is a lack of cooperation across countries.'*

Another participant perceived that working conditions required improving and that the array of opportunities is large:

> *'Poor working conditions still being an opportunity area in our country. Exploitation, children work, women discrimination and other practices still being common.'*

With respect to corruption, a participant deplored:

> *'Corrupt governments in developing countries impede professionals and academics that are genuinely interested in promoting safety and health at work to move forward.'*

Unemployment, lack of education and brain drain issues are major aspects to consider when discussing the situation in developing countries according to one participant:

> *'Because widespread unemployment is a major issue, most young employees are willing to overlook the significant psychosocial risks they*

may face at work just to make sure they are able to earn a living. The majority of the indigenous work-force get low-skilled jobs for lack of sufficient education and/or qualifications, the majority of the highly-skilled job posts are occupied by few nationals, and yet more foreign nationals who are more involved in highly lucrative industries such as the oil and gas sector. The reason for this discrepancy may be due to the "brain drain" phenomenon whereby young graduates are recruited overseas to developed countries with better and organised societies in spite of the fact that they are relatively low-paid for their qualification. These are some of the on-going psycho-social issues of significance in developing countries.'

In many places around the world like in Kenya, the situation is changing rapidly:

'The developing countries have other confounding factors as what is happening in Kenya currently, which include: Tribalism, nepotism, and ethnic cleansing. These are matters which have emerged in Kenya now in workplaces and they are adding psychological stress. They were not prominent while completing the Delphi last year.'

The participant from Zimbabwe reported a similar picture, but wonders how the topic of psychosocial risks fits into his world:

'In a country where the economic base of the county has been totally eroded, the population have no health or social security some of the choices given in this survey would be seen as beyond all possible expectations. At the very basis of any health, safety and wellbeing approach there must be personal security and the possibility for survival. When the country is destroying itself and people are being killed for their beliefs - bullying seems a minor problem.'

5.4.2 Additional considerations

Additional relevant and selected comments by participants alluded to issues of prioritization of risks and that one should keep in mind that one country can have very diverse conditions and policies.

The Namibian participant felt:

> *'It is difficult to make a national impression in the absence of a nation-wide study. Enterprises are different and one company might have programmes in place while another enterprise does not. The nature of the enterprise also affects the situation of psychosocial issues in the workplace.'*

And an Indian participant referred to the multi-factoriality of psychosocial risks:

> *'In a developing country like India, the risks and conditions are so many and closely related, that it is difficult to prioritize the risks and the solutions.'*

The participant from Estonia perceived the diversity in the country to provide an inaccurate picture of the situation:

> *'There may be great differences in preventive policies and the results achieved in different organizations in one country. The answers may not be quite accurate - some enterprises are better in care for their employees, some unhappily worse.'*

Some issues which were difficult to address directly with this research are however part of the reality of people in developing countries. These include problems of child labour and exploitation, discrimination, corrupt governments which hamper efforts to address the issues at hand, the brain drain due to bad working and employment conditions, but also desolate issues such as tribalism and ethnic cleansing as the world has exposed in recent history, for example, in some parts of Africa. In other countries like Zimbabwe there is no economic basis left and people struggle to survive. Then we cannot ignore conditions of high and devastating HIV/AIDS infections in Africa (although other continents are affected, Africa seems currently worst affected), and the lack of policies to address these.

5.5 DISCUSSION

The array of psychosocial risks identified is large. Although they are for the most part closely related to current research from industrialized countries, they also go beyond. Table 5.14 below outlines the main themes across the interviews and the Delphi surveys.

Table 5.14 Main themes identified in the interviews and Delphi surveys for psychosocial risks and work-related stress

Main theme	*Sub-themes*
Work organization	*Lack of control over work processes, work load/demands, lack of participation in decision-making, work-home interface*
Work schedule	*Time constraints/speed; time pressure; shiftwork; hours worked*
Workplace safety/risks	*Poor physical conditions; physical/physiological risks*
Relationships	*Relationships/interpersonal conflict; support (lack of); psychological violence; physical violence*
Socio-economic conflict/conditions	*Job insecurity or precarious work; low employment or unemployment; political, economic, cultural and/or religious structures (enabling versus disabling); processes of globalization*

The work-organizational issues (lack of control over work processes and workload/demands) all directly refer back to the control-demand model and its impact on health. The model holds that the impact of the burden results from lack of control an individual has over the complex physiological coordination required in response to increasing demands (Dollard & Karasek, 2010). As discussed before, Karasek (2008) states in his stress-disequilibrium theory that physiological coordination has been pushed to extremes because of long-term exposure to stressors in the global economy. Diminished capacity for physiological coordination is the social implication, which eventually leads to chronic disease.

In addition, the lack of participation in decision-making has been recognized as a psychosocial risk also in developing countries (e.g., Panhwar & Memon,

2007). In fact, participation of workers and their representatives has been identified as a key success factor for many of the effective physical work environment interventions mentioned above, and many of the health promotion interventions (WHO, 2010). Involvement of workers is one of the most important and critical aspects of a healthy workplace (Grawitch, Ledford, Ballard & Barber, 2009).

In this context, it is interesting to review the results with respect to the regional understanding and perceptions of psychosocial risks and work-related stress. *Lack of control over work processes* was felt to be important by all regions by Delphi participants, but least by the Eastern-Mediterranean participants and most by the participants from the Americas. One reason for this discrepancy may be the less hierarchical and sometimes more participatory approach of the latter region. The interview results offer a different regional distribution as participants from the Americas did not mention this particular risk at all. However, Iran and Pakistan from the Eastern-Mediterranean region did mention this risk, as well as Africans and South-East Europeans, emphasizing also the importance of control in developing countries.

Lack of participation in decision-making was important in all regions, but least in Africa and the Western-Pacific. The Eastern-Mediterranean participants felt this issue to be of utmost importance and as a highly recognized psychosocial risk that can potentially contribute to work-related stress. One explanation may be that in some Eastern-Mediterranean developing countries, participants live in highly hierarchical social structures, which penetrate the workplaces (in particular Iran). Therefore, participants from this region may place more importance on this particular psychosocial risk.

The *work-home interface* is strongly tainted by social and cultural circumstances. Mostly women are affected by the conflicts and burdens that these two worlds inflict on them. In fact, both genders experience conflict, however, they are different types of conflict. For example, men appear to be spending as much time in child care activities in Canada as women. However, men's chores do not usually extend to home chores, which still appear to be perceived by many as 'women's work'. In addition, men and women find different aspects of an organization's culture as being particularly problematic,

from the perspective of work interfering with family, and there are different root causes for the two genders for family interference with work (Duxbury & Higgins, 2009). The situation in developing countries is undoubtedly much different and women are much more likely to work in the informal sector, and to work from their homes, while often simultaneously caring for children and performing the usual 'women's work' of cooking and housework (Messing & Östlin , 2006).

Work schedule including working hours, speed and working arrangements such as shiftwork were mentioned by a large number of participants as constituting a psychosocial risk in developing countries. Particularly those workers active in the export-processing zones (EPZs) work long hours (e.g., Glick, 2006). One, probably not extreme example for the developing world, is the example of Honduras where women work 15 hours a day, 7 days a week due to the socioeconomic precariousness experienced by these women in the garment industry (EPZs) (Heymann, 2006). Smyre (1992) found that women work longer hours, up to three times that of men. So far no more recent research states new and better conditions for women worldwide. In the Delphi surveys primarily Western-Pacific participants mentioned this prevalent risk, but also countries like Viet Nam, the Philippines and China are known for their sweatshop culture, long working hours and precarious working and employment conditions. So are also Thailand, India and others who listed this risk in the interviews.

Interestingly, *poor physical conditions* and *a poor working environment* were perceived less as a psychosocial risk by participants, except for the Eastern-Mediterranean participants who understood this as the most important psychosocial risk. It could be that still many participants lack knowledge about the impact and potential detrimental outcome of physical risks on psychological, and not only physical, health. At the same time, the interview responses to the health outcomes from exposure to psychosocial risks and work-related stress show an in-depth understanding of the impact on physical and well as mental health of exposed workers, as well as the interrelationship between these. Table 1.2 outlines psychosocial risks including those emanating from the physical working environment. These included unsafe procedures, no or limited information available to protect oneself, and risk of

injury or death. The interrelationship between physical and psychosocial risks and the understanding of this interrelationship was supported by the findings. The issue has been discussed several times in this dissertation and is indeed an important eye opener to the understanding of mental health impact from physical risks.

In the literature, for example, Cox, Griffiths & Rial-Gonzalez (2000) conceptualized the complex mechanisms of psycho-physiological pathways for physical risks which directly result in harm to the physical, psychological and social health of workers, in addition to impact on organizational health. Practice on the other hand still shows that psychosocial risks are not part of the package of occupational health national strategies due to a lack of understanding of this interrelationship and the lack in knowledge of effective approaches and interventions to address these.

Interpersonal relationships achieved less pronounced consensus when comparing the two Delphi round results although it was high in the second round (55%). However, all regions felt that interpersonal relationships were important psychosocial risks and the Eastern-Mediterranean and the Western-Pacific participants perceived these highest. Participants from all regions mentioned social support as an important moderating factor. Closely related to conflict in interpersonal relationships are outbreaks into psychological and physical violence and lack of support as informed by the interviews. For example, Rospenda (2002) could demonstrate that interpersonal relationships are a significant antecedent of the stress process when they are characterized by behaviour that is harassing or abusive. Also the famous 1986 Ottawa Charter, which is a key document that was generated at WHO's First International Conference on Health Promotion, is generally credited with introducing the concept of health promotion as it is used today:

> *'The process of enabling people to increase control over, and to improve, their health.'*

It further legitimized the need for intersectoral collaboration, and introduced the "settings approach." This included the workplace as one of the key settings for health promotion, as well as suggesting the workplace as one area where

a supportive environment for health must be created (WHO, 2010). Positive interpersonal relationships would sustain such a supportive environment.

A topic less discussed in the literature, but referred to is the inclusion in analysis and planning of interventions strategies of prevailing *socio-economic conditions* which may pose extra-mural risks to workers' mental and physical health and safety as well as to that of their families (e.g., Cox & Griffiths, 2010; Dollard & Karasek, 2010). The main issues according to participants include *lack of job insecurity*, *precarious work*, *unemployment, political, economic, cultural and/or religious structures (enabling versus disabling), and processes of globalization*. *Job security* and *precarious employment* are closely related although participants rated the risk of job insecurity higher (above 50%). This was particularly the case for African, Eastern-Mediterranean, South-East Asian and Western Pacific participants. This does not seem surprising given that effects of globalization and the emergence of new and insecure sectors and working arrangements are global and are not restricted to industrialized countries. These two risks were mentioned as being the most prevalent psychosocial risks leading to work-related stress and disease by the European Agency for Health & Safety at Work (2007). Those working continually in precarious employment are at higher risk for mental and physical ailments, including musculoskeletal disorders, and risk of death from smoking-related cancers and alcohol abuse (Benach et al., 2007), as well as increased cardiac mortality among workers having to deal with significant downsizing (more than 18% of the workforce) (Vahtera, 2004).

Unemployment has been studied widely, and although work is good for physical and mental health when compared to worklessness, or unemployment (Waddell & Burton, 2006), involuntary job loss can also worsen mental health (Mandal & Roe, 2008). Research also shows that employment needs to be adequate in order not to have a negative impact on workers' mental health. Dooley, Prause and Ham-Rowbottom (2000) found results that confirmed that both unemployment and inadequate employment, such as for example precarious employment or underemployment, affect mental health. They also invite greater efforts to monitor the extent and impact of underemployment (Dooley, Prause & Ham-Rawbottom, 2000).

Although the expression of further socio-political and economic, as well as logistics issues was restricted through the nature of the Delphi survey, the space for comments that was provided to participants yielded important additional information and confirmed what was extracted from the interviews. The interviewees mentioned issues that greatly affect the health of workers in terms of economic level and status, educational and social status, the changing family relations and lack of support, and the changing roles which the social system cannot accommodate rapidly enough. Some of these issues were discussed previously in relation to women's changing roles and increasing participation in the labour market. However, their prior tasks do not diminish and they face many burdens (e.g., Duxbury & Higgins, 2001; Manuh 1998).

Clearly many populations have to struggle with changes and high societal expectations to cope and to adapt, which often requires them to abandon their traditional ways of life. For many this results in stressful situations, which cannot be separated out from work, but the causes lie in life in general which includes work. Even less controllable for these populations are processes of globalization and the impact on people's lives due to high market competition (working faster and more under increasingly bad conditions), and delocalisation of companies to developing countries, where products are solely destined for export. One example mentioned were the Export-Processing Zones which can be found in most developing countries (e.g., Frey, 2003; Glick, 2006).

These issues represent the key to our understanding of the kinds of psychosocial risks and work-related stress that affect the workforce in developing countries. This distinguishes them from workers in industrialized countries who enjoy better employment and working conditions, as well as stronger legislation, policies and rights to protect themselves from abuse (with exceptions for low-skilled migrants working in the informal economy).

For the workforce in developing countries such conditions represent the real life contexts which in turn influence the nature of the workplace environment, the working and employment conditions, the extent to which exposure to risks at work is addressed or not addressed, and the health status of workers. The

wider national economic and political situation influences these as well, but through interventions at the workplace, also the national level can be influenced in turn and to the better. Caring for workers, for their health, their families and the community will invariably have a positive impact on the individual, the business and the national situation.

To plan interventions, participants were asked about the occupational sectors most exposed to psychosocial risks and work-related stress. Clearly the highest exposure is found in the healthcare sector (strongly in the Eastern-Mediterranean region and in Europe) and the manufacturing and industrial professions (also for example, Panhwar & Memon, 2007; Stilwell, 2001; WHO, 2004). Women are strongly represented in the healthcare sector and nurses are a major occupational group under pressure worldwide. A Chinese NEXT study by Jin and colleagues (2011, in press) proposed that an unfavourable psychosocial work environment predicts intention to leave in Chinese nurses and that improvements in the psychosocial work environment may be helpful to retain the nursing workforce. In the manufacturing sector in the Americas the maquiladora industries reached a level of 100% for high exposure as judged by participants. Research in the maquiladora sector, or also called the Export-Processing Zones in other regions, confirms the large working population of women and children in often atrocious working and employment conditions (e.g., Fuentes & Ehrenreich, 1994; Gutierrez, 2000; Hualde, 2004; ILO, 1988; Loewenson, 2001). This kind of approach to the manufacturing sector exists in many developing regions, but it is less the case in Africa, possibly because multi-nationals and local firms are still struggling due to lack of infrastructure, technology and logistics systems (e.g., Nuwayhid, 2004).

Very highly-rated risks were identified in the informal economic sector by all participants, but least in the Western-Pacific region. We do not know much about this sector due to its volatility and lack of research. However, many of the other sectors, such as construction, manufacturing, mining, catering and many more may at times form large parts of the informal economic sector in a number of developing (and for that matter also industrialized) countries. The lack of any kind of protection exposes the workforce to high exposure to mental and physical hazards. For example, mining in Namibia now also employs the female workforce exposing them to physical and psychological

stress. Mining and agriculture received less attention by participants from a regional perspective, although both are large and dangerous businesses in many countries.

Recent catastrophic events in mines in China and Chile (2010) brought home the generally dangerous working conditions. One plausible reason for lower importance of these high-risk sectors may be that they are less related to the formal than the informal economic sector in the participants' countries studied. This conclusion was drawn from the Pakistani interviewee who mentioned that agriculture and the informal sector as well as the manufacturing sector make up 90% of the labour market and workers are unprotected. Hence there seems to be a large overlap between the denomination of formal and informal in these sectors and participants do not always clearly express the boarders between these.

On the other hand, construction received high importance except for the Americas and the Western Pacific, which may be explained by the better-reported fatality rates caused by accidents and lack of basic protection. However, generally surveillance systems lack in developing countries and occupational diseases are underreported (e.g., Azaroff, Levenstein & Wegman, 2002).

The service sector is particularly affected in the South-East Asian and Western-Pacific regions that have a high amount of call centre agencies, IT development, and other local and outsourced services. Ministries of Health start to recognize the pressures and have, for example, together with the national occupational health services devised a policy to protect call centre staff (Estrella-Gust, 2008). Estrella-Gust (2008) indicates that this rapidly expanding industry also has to deal with concerns of women, especially working mothers, as well as with work issues of young workers. The recommendations of the study lead to the integration of major psychosocial concerns in the existing technical guidelines on health and safety for workers in contact centres, in training and in information dissemination programmes in the Philippines. This is an encouraging example of an intervention and time will show if enforcement to protect workers can be successful.

In general, the literature concurs with the findings of the most affected and high-risk occupational sectors situated across the sector classification. In summary, these were healthcare workers, manufacturing and industrial professions, construction, and the informal economic sector (see Figure 5.3).

Participants provided other examples on existing legislation, policies and interventions, including voluntary actions, at different levels of interventions. They mentioned that some traditional occupational health and safety legislation also includes mental health provisions, however, often it was mentioned that these were not enforced. Generally, mostly psychosocial risks have not been addressed in legislation, but rather in voluntary actions or company policies.

Whereas primary prevention approaches seem more geared towards national and/or organizational action, secondary interventions are primarily focused on the individual. Action at organizational level can build conditions that are conducive to healthy production (Dollard & Karasek, 2010), and so certainly also do interventions at national level. The policy level is most important for raising awareness and provides a basis for enforcement. However, so far policy-making in the area of psychosocial risks has not been known to be part of the global agenda (CSDH, 2008).

Secondary interventions include general health promotion programmes, teamwork, preventive health check-ups, awareness-raising campaigns, stress management training and communication and problem solving training, and others. These seem to be pre-dominant in application. Developing a comprehensive policy framework was one of the priorities listed to address psychosocial risks together with traditional hazards to ensure workers' health and safety. This represents a primary intervention approach. In the Delphi survey, participants stated that this was already practice applied in terms of intervention. Although it may be encouraging to see that such comprehensive policies do already exist in reality, none of the interviewees mentioned such a comprehensive policy as being in place. It seems that this issue was regarded as one of the priorities required to address psychosocial risks together with traditional hazards to ensure workers' health and safety. This may indicate that it is rather a priority than an existing intervention. For example, from the

regional distribution, health promotion is the top approach to interventions for particularly Africa, the Americas, Europe, and South-East Asia. Stress management seems most highly valued by the Eastern-Mediterraneans although all regions apply this intervention. In particular, the Eastern-Mediterranean and South-East Asian participants believed that they apply comprehensive occupational health and safety policies. As indicated above, it is not entirely clear at this point, if this indication was with respect to existing interventions or required or desired interventions, because the Eastern-Mediterranean also listed as one of their occupational health and safety priorities the need for the development of a more comprehensive legislatory framework to include the informal sector. We may have come up against a language barrier in this instance.

Overall, it appears that participants in this study exhibited similar – and at times encouraging – levels of awareness and understanding of interventions (and most acknowledged that there is a pressing need for more research), although some interviewees considered questionnaires, surveys and legislation to be interventions when in practice these are better considered as informational frameworks on which interventions can develop or improve (Briner, 1996).

Another highly favoured approach was the conduct of preventive health check-ups. These check-ups are easy to undertake for employers and at the same time may provide an opportunity to shift the responsibility for workers' health to the individual and away from the employer. The Eastern-Mediterranean and the Western-Pacific were highest on this intervention, but Europe and South-East Asia were closely following.

Lastly, the Western-Pacific participants listed teamwork exercises as highest of all regions, as well as problem-solving and communication. Also the Eastern-Mediterranean was high on the latter intervention. Awareness-raising activities seem also to be very highly applied approaches in these two regions.

Particularly the comments obtained through the interviews have some important and general implications. Firstly, they suggest that interventions are – on a global scale – still limited, or at least very inconsistent. Secondly, where

interventions do exist, they tend primarily to focus on the individual, and on one level (usually secondary), rather than a priori take a comprehensive approach. This raises some concern over how effectively psychosocial risks and work-related stress are actually being addressed, given that participants expressed a need for basic information about psychosocial risks in their countries.

A very basic but important issue raised in respect to addressing psychosocial risks and work-related stress was mentioned by the participant from Pakistan during the Delphi exercise. The expert commented that without human rights there cannot be occupational health, because occupational health, traditional and emerging, is a basic human rights issue and, therefore, largely based on ethical values, in particular in developing countries and for the largest unprotected working population. In fact, the right to work is the first of the specific rights recognized in the *International Covenant on Economic, Social and Cultural Rights* which was recognized in 1966 and entered into force in 1976.

Information on *gender differences* and similarities with respect to vulnerabilities to psychosocial risks was provided from a large number of countries. Although men have vulnerabilities in terms of societal expectations and stronger work positions, women were felt to be much more vulnerable particularly with regard to the double or triple burden they have to face during their daily lives while juggling with home responsibilities, which can include caring for children and/or the elderly, and looking after household chores, as well those responsibilities related to a job. Multi-responsibilities and multi–tasking were mostly reported in the Eastern-Mediterranean and South-East Asia with 100% votes. Both regions were also highest on the issue of male-dominated society.

Besides and given that the Eastern-Mediterranean region is still largely a rural society, working in rural areas for women was rated as the highest issue affecting women in all regions. Historically, work in rural areas mostly took the form of traditional farming and was characterized by a very low level of productivity. Women may have to choose between self-employment, which pays less but allows them to combine work with family care, and waged work,

which may pay more but conflicts with their family responsibilities and the social restrictions placed on women's mobility (e.g., Beneira, 2001; Chen, Sebstad & O'Connell, 1999). For example, a survey in Morocco (Eastern-Mediterranean region) in 1997-1998 showed that 85 per cent of women said they needed the permission of their husband or guardian to leave the house (World Bank, 2004).

Striking consensus was obtained in the Delphi surveys on exposure to sexual harassment, and the interviewees also mentioned across four regions women's vulnerability due to sexual harassment. Largely, women are still being discriminated against in education and at the workplace on a global scale but less so now in industrialized countries. Currently, women are among those who have the poorest social and economic status in many countries of the world, and the weakest control over directing resources towards their needs (Loewenson, 1999), and they have also suffered particularly badly from an increase in assembly line, low-quality and precarious jobs (Loewenson, 2001).

Through a World Bank study, King and Hill (1993) found that the level of female education was low in the poorest countries and the gender gap largest in these countries. A more recent study by Schulz and colleagues (2006) looked at the impact of discrimination against women and found that everyday encounters with discrimination are causally associated with poor mental and physical health outcomes in a sample of African American women. The authors added that this association holds above and beyond the effects of income and education, which again emphasizes the effect on health of social structures or constructs which do usually not spare the workplace environment. Discrimination of women is, therefore, still prevalent although the Charter of the United Nations was the first international agreement to proclaim gender equality as a fundamental human right. The 1979 UN convention on the elimination of all forms of discrimination against women has also been ratified by 160 countries. Ratification should be followed by enforcement which may not be the case in every country.

Given the breadth of occupational health and safety and the diverse points of entry, participants proposed *priorities for action and workplace issues and*

risks that required to be addressed urgently. Priority areas that were found important to address in occupational health and safety in general, focused on *monitoring and surveillance of various occupational hazards*, on *legislation, policy development and standards* including comprehensive occupational health and safety legal frameworks and, lastly, *capacity building* including education.

Occupational health and safety still relates mostly to physical injuries and illnesses, particularly in developing countries. However, the importance of mental health and psychosocial issues emerged from this study, although it could be shown that currently effective approaches to address these are not in place, but that knowledge about what is required exists. This move might be related to the shift in focus from a more 'traditional' approach to the work environment to a more 'holistic' understanding of health and well-being and the changing world of work (Cox, 2003). Participants generally felt that a comprehensive approach to traditional and emerging psychosocial occupational risks would be preferred. They proposed to either address these jointly, equally, or to address psychosocial risks as a priority, but still jointly with traditional hazards. This is an approach that is strongly advocated by the WHO through its Healthy Workplaces Initiative (WHO, 2010a).

Capacity building is a priority in all developing countries, in particular with respect to building the required infrastructure (Nuwayhid, 2004). So is also dealing with infectious diseases in many regions of the world, in particular HIV/AIDS. Additional priorities that do not come as a surprise include improving healthcare, health and safety standards, the development of occupational health services and policy and legislation, as well as their enforcement, which all too often lacks. Participants also felt that a comprehensive legislatory framework that includes the informal sector, better data collection and the creation of a safety culture would be an important priority that needs to be addressed by policy makers.

The prioritization exercise which was possible through the Delphi surveys, provided the information for an adapted table of priorities in industrialized and developing countries. Such a table that was comparing industrialized with developing country priorities was originally proposed by Rantanen and

colleagues (2004). Its priorities for developing countries were dangerous sector work (agriculture, mining, construction, forestry), transfer of hazardous technologies, accidents, chemicals, etc. For industrialized countries, stress and the ageing workforce were top priorities.

Below is the adapted and proposed Table 5.15 based on the results of this study. Clearly, this study confirms the hazardous occupational sectors, however, the newly-established developing country column focuses here on action-oriented objectives that need urgent tackling.

Table 5.15 Priorities in industrialized and developing countries a decade later

Priorities in developing countries	*Priorities in industrialized countries*
Injury/accident prevention	Stress
Monitoring and surveillance of psychosocial risks, work-related stress, violence & harassment at work; substance abuse and risky behaviours	Ageing workforce
Capacity building	Right to know, informed consent, transparency
Infectious diseases	Chemicals, particularly high production volume chemicals (HPV), & new chemicals
Musculo-skeletal disorders	Ergonomics, manual handling
Chemicals, noise, and biological agents	Allergies
Safety culture and health & safety standards	Indoor air
Comprehensive health & safety legislatory & policy framework to include the informal sector & enforcement	New technologies
OH services & improvement of healthcare, incl. primary healthcare	Occupational health services
Registration, surveillance and data collection on workers' health	Management and safety culture

Clearly the importance to address injuries and accidents still prevails in developing countries. However, the importance ascribed to addressing psychosocial risks, work-related stress, violence and harassment at work and substance abuse and risky behaviours only seven years later, shows that

these issues are coming to a higher level of concern. Businesses and policy makers realize that they require addressing for the sake of workers' health, businesses, public health, and national economies at large. Unhealthy behaviours related to psychosocial risks and stress at work, that were mostly mentioned were substance abuse, as well as smoking. Alcohol is the most commonly used substance in most regions of the world, although prevalence varies.

A number of *barriers* for addressing psychosocial risks could be extracted from the interview data, as well as potential solutions. Those mentioned include lack of visibility, statistics and definitions, stigma to mental health and recognition, the stronger focus on traditional hazards, and lack of methodology and research, of regulation and effective action.

Participants proposed that the research community should improve networking and exchange experiences and knowledge. A number of intervention tools from industrialized contexts are available and could be redefined and refined. Stimulation of research in developing countries would improve statistics and generally available data for action by employers, worker representatives and policy-makers. This research made clear that experts knew what the barriers and the potential solutions might be.

However, the actors that inherently have the power to affect change need to become the champions for this cause and for that understand its impact and importance. And although many employers seem to fear unionization, employers can also be the solution to the problem. In particular, multinational enterprises can heighten their global reputation through targeted action and addressing less visible but real risks. They have the power to facilitate change and improvement. And as much as employers are powerful agents for change, also policy makers are part of the solution and important actors in the awareness-raising and legislatory process.

Some topical limits of this research were clearly outlined by additional comments such as the vast problems of child labour and exploitation. Indeed currently some 126 million children aged 5–17 are believed to be engaged in hazardous work (UNICEF, 2006). Another challenging issue is represented by

the devastating score of HIV/AIDS infections in Africa (e.g., WHO, 2004). With a focus on the workplace, however, interventions can be devised effectively.

5.6 CONCLUSION

Globally, psychosocial risks and work-related stress are still ill-understood and, therefore, generally not prioritized by policy makers in developing countries. Extensive awareness-raising and information dissemination, as well as grass-root level research will be required to address this particular barrier. Lack of policy making, enforcement, skills to address new forms of work, lack of resources, and lack of action are all linked to the former. Even industrialized countries are not yet ready to fully address psychosocial risks as the PRIMA-EF European-wide survey confirmed that psychosocial issues still experienced low prioritization, particularly for employers and governments, and that trade unions deplore the lack of awareness (Leka & Cox, 2008). This indicates that also in industrialized countries an extensive amount of work is ahead and that the more advanced European approach can only inform that of developing countries given that the priorities differ and contexts are not the same and rather diverse.

On the one hand, similarities between industrialized and developing countries were visible throughout the answers provided concerning the understanding of psychosocial risks and work-related stress, which throughout referred to the main components of Karasek and Theorell's model. These included reference to work content and context and state that the priority psychosocial risks are to be expected in jobs characterized by high job demands, low control and low worksite support.

On the other hand, findings enhance the differences in circumstances to which individuals in developing countries are exposed to. Context seems to play an important role in determining perception, attribution and behaviour, and the cause and control of outcomes is determined by external circumstances. These have been referred to as macro socio-economic issues such as the labour market, high unemployment, job insecurity, global changes and high competition.

Many interventions applied in industrialized countries also seem to exist in the developing country context. Although such interventions would capture workers' exposure in the content and context of work, the macroeconomic and political issues would be more difficult to address and clearly require different strategies and political forces. Therefore, the paradigm for understanding psychosocial risks and work-related stress in developing countries goes beyond the workplace per se and socio-political and economic considerations play key roles, for understanding this area of research and practice.

Given the parallels provided through this era of globalization and the changing nature of work, there is hardly any doubt that developing countries experience at least similar health outcomes from exposure to psychosocial risks as those we find in the industrialized world. At most they are amplified given the export of hazardous machinery and work practices, the less advantageous working conditions and often hazardous jobs and without any protection to workers' physical or psychological health. The results of the interviews confirm the existence of health outcomes as we know them from the industrialized country literature, even if they cannot be quantified at this stage. In addition, many in the vast informal economic sector are fully unprotected and lack safety nets.

Nuwayhid (2004) underlined that even if research in industrialized countries indicates the scale of problems associated with psychosocial risks and work-related stress, occupational health is not necessarily a priority for countries currently undergoing transition, or countries where broader social, economic or political challenges demand urgent attention. This unfortunately contributes to the hampering of funding opportunities and resources without which it may hardly be possible to develop and implement appropriate, evidence-based interventions.

The fact that psychosocial risks remain neglected, particularly in comparison to traditional hazards, is serious as it may be problematic for the well-being of millions of workers worldwide. The implication of this may be that there is an ever-present need for information sharing between industrialized and developing countries, conducting context-specific research where possible, and joining of efforts to build capacity in these countries to tackle occupational

hazards in a holistic manner including all health and safety issues. The issue needs to move onto the agenda of policy makers to effect considerable impact.

The confirmation of issues or the complementarities of the results obtained from both the interviews and the Delphi surveys was very encouraging. The beneficial marriage of qualitative and quantitative research could be demonstrated in this way. Another strengths was the multi-disciplinarity across world regions of engaged experts to obtain a less biased picture of the situations in their countries.

The limitations of the two studies mostly pertain to the low number of participants, however, as mentioned in the methodology chapter (Chapter 4), results would most probably not differ extensively if we have 100 or 1000 participants (Stone & Campbell, 1984). Another identified limitation was the reported inability of experts to prioritize issues given the complex situation that is evident in their countries. To address this issue further, that last study in this research sought to further explore in-depth some of the key findings from the interviews and the Delphi surveys with a view to moving the area forward by identifying clear priorities in policy and practice.

CHAPTER 6 : IN-DEPTH EXPLORATION OF KEY ISSUES

6.1 INTRODUCTION

Chapter 5 outlined the conception and the results of the interviews and the Delphi surveys. The third study of this research which builds on the findings of the interviews and the Delphi surveys, focused on the in-depth exploration of some of the key issues that were identified through the previous studies by multi-disciplinary experts, such as:

- the need to consider macro-economic, social and political issues including processes and effects of globalization and the relevance of social determinants of health,
- the vulnerability of informal economic sector workers including migrants,
- the need to develop and enforce legislation and policies at different levels and the current lack of these,
- the urgent need to expand the understanding of psychosocial hazards on the basis of a broader paradigm covering macro issues as well as existing barriers and proposed solutions to move forward.

These issues were further explored through focus groups that involve the use of in-depth group discussions. The central aim of conducting the focus groups following the interviews and the Delphi surveys was to obtain confirmation, or opinions to the contrary, on the data previously collected and analysed (see Chapter 5), or to identify new issues . In fact, the main body of the results of the focus groups could be framed according to the themes and sub-themes obtained through the interviews in particular, as well as the Delphi issues prioritized by experts.

Chapter 2 outlined the nature of psychosocial risks as they have been studied in industrialized country contexts. The summary of psychosocial risks divided into work content and work context was presented in Chapter 1 and listed in Table 1.2. The understanding of multi-disciplinary experts of psychosocial risks is pivotal for this research, because on the one hand these risks are

situated at micro-level, and on the other hand they either are influenced and shaped by, or ignored because of, issues occurring at the macro level of a country, not at least due to other prevailing priorities.

Issues at macro level are potentially influenced by processes of globalization, which is broadly regarded

> *'an increase in the impact on human activities of forces that span national boundaries. These activities can be economic, social, cultural, political, technical, or even biological, as in the case of disease' (Goldin & Reinert, 2007).*

While direct investment in countries may result in the creation of jobs, promotion of competition and enhanced education and training of host country workers, it can also result in inferior working conditions and exploitation of the local workforce (Reinert & Goldin, 2007).

Besides processes of globalization, macro issues are also influenced by national policy strategies that address job security, vulnerabilities of particular worker populations such as migrants, and the issue of poverty. This is also related to precarious work which is most established in the informal sector. This is the largest economic sector in developing countries and which forms a high proportion of total employment (ILO, 2000). Employment conditions are closely linked to material deprivation and have a strong effect on chronic diseases and mental health via several psychosocial factors, life-style behaviours, and direct physio-pathological changes (CSDH, 2007). In addition to prevailing situations of poverty in the informal sector, enforcement and compliance with safety and health standards are unknown in many developing countries (Muchiri, 2003). Migrant workers who are found to work primarily in the informal economic sector are the most vulnerable.

Clearly we find a global social gradient with stronger emphasis on developing country contexts due to larger vulnerable populations. Evidence-based findings link social determinants such as social status, stress, early life, social exclusion, work, unemployment, social support, addiction, food and transport, to health in its broad sense (Wilkinson & Marmot, 1998). In this context,

Raphael framed the determinants (2008) to include the concerns of the broader circles beyond the individual by which they are in turn influenced and enabled or disabled, as follows:

> *'Social determinants of health are the economic and social conditions that shape the health of individuals, communities, and jurisdictions as a whole. ...They are about the quantity and quality of a variety of resources that a society makes available to its members'.*

As discussed, although the social determinants of health address a broad area, the WHO Commission on Social Determinants of Health recommended that, while occupational health and safety policies remain of critical importance, the evidence strongly suggests that there is a need to expand the remit of occupational health and safety to include work-related stress and harmful behaviours (CSDH, 2008). Although the concept is evolving in the literature, we still lack comprehensive models addressing the work and social context.

The struggle to address these is ongoing, since the majority of developing countries lack the proper political mechanisms to translate scientific findings into effective policies. Obviously, there is lack of governmental interest, lack of solid research, in addition to weak enforcement of health and safety regulations (Nuwayhid, 2004).

In addition, there is a dire need for interventions at international level in order not to increase the vulnerability of certain populations (Voyi, 2006). Efforts are ongoing led by the WHO and the ILO to provide guidance, tools, codes of practice and adherence to international conventions. However, these organizations have no enforcing power. This needs to be incited by national governments themselves. For that they need to be provided with the facts and tools to propose policies including interventions at different levels.

According to Marmot (2008), the greatest impact should arise through targeting more distal causes, which once again underlines the importance of action at national policy level to buffer the negative health impact and other effects on the most vulnerable working populations. To gain further

understanding on these issues as also highlighted by the previous stages of this research, the final study used a series of focus groups with developing country experts to explore them deeper. The methods section will explain the procedure, the sample, and the analysis undertaken for the focus groups.

6.2 METHOD

6.2.1 Procedure

Four focus groups that lasted between 1.5-3 hours were conducted at the following international conferences:

- American Psychological Association & National Institute of Occupational Safety & Health (APA/NIOSH), Work, Stress & Health, Washington, USA, March 2008
- Korean Occupational Safety & Health Association (KOSHA), World Congress, Seoul, South Korea, June 2008
- International Commission on Occupational Health – Scientific Committee for Work Organization and Psychosocial Factors (ICOH/WOPS), Quebec, Canada, September 2008
- European Academy for Occupational Health Psychology (EAOHP), Valencia, Spain, November 2008.

Participants were invited to participate in the focus groups through the conference programmes. Targeted were particularly all representatives from developing countries, with a focus on those participants from low income countries. However, other participants who were interested in the topic and had personal experience of the developing country context, were not excluded and contributed to the discussion.

First, the facilitator introduced the topic and the Delphi priorities through a presentation including the background to the topic, the rationale, the process and the results of the Delphi surveys in figurative graphs. The results pertaining to the following questions were presented to experts:

1. Considering the context of developing countries, what do you understand by the term psychosocial risk(s)?

2. Which occupational sectors are most affected by work-related stress emanating from psychosocial risks at work?
3. Please indicate which types of prevention and intervention approaches are applied, to your knowledge, to manage psychosocial risks in developing countries?

Secondly, the issues presented were opened up for discussion through, and were guided by, three lead questions:

1. Do you generally agree?
2. Are there *particular* issues of those presented here that are *more relevant* to developing countries?
3. Are there are *any other issues* that are *relevant*?

Participants were thanked for attending the focus group session. The facilitator amply introduced the topic and put participants at ease. They were informed that the sessions were audio taped to preserve the most important issues discussed. Confidentiality of the statements was assured by the facilitator. The participants signed consent forms for participation in the research. At the end of the session they were thanked again for their participation and were informed that a summary of the results would be made available to anyone interested at the end of the study (for further information on ethical issues, see Chapter 4).

6.2.2 Sampling

The total number of active discussants amounted to 38 individuals. Table 6.1 outlines the participants' demographics and professional background.

Table 6.1 Focus group active discussants' demographic data[13]

Sex	*Primary country or country of origin*	*Secondary country or developing country best known*	*Professional background*	*No.*
F	Australia	India	Occ Psychologist	2
F	Australia	East Timor	Occ Psychologist	1
F	Australia	Malaysia	Ergonomist	1
F	Chile		OH expert	1
M	China		Occ Health Medicine	1
F	China		OH expert	2
M	China		OH expert	1
F	Colombia		OH expert	2
M	Colombia		OH expert	1
F, M	Egypt		OH expert	2
F	Germany	Global view	Occ Psychologist	1
M	Germany	India	Occ Health Medicine	1
F	Hong Kong	China	Occ Psychologist	1
M	India		Occ Psychologist	1
F	India		OSH expert	1
M	Mexico		OH Expert	4
M	Japan	n/a	OH Expert	1
M	Nigeria		OH Expert	1
M	Panama		OH Medicine	1
F	Peru		OH Expert	1
F	Philippines		OSH expert ; Minister of Labour	2
F	Poland	Russian Federation	OH Expert	1
M	Portugal	n/a	Occ Psychologist	1

[13] Annex III.2 presents active discussants' demographic data divided into the four focus groups

F	Serbia		Occ Psychologist	1
F	South Korea	n/a	Occ Health Medicine	1
F	Taiwan	China	OH expert	1
F	Turkey		OSH expert	1
F	UK	Malaysia	Occ Psychologist	1
F	Ukraine		Psych Therapist	1
F	USA	African country	Occ Psychologist	2
			Total	39

6.2.3 Analysis

Data obtained was analysed using framework analysis that includes key stages as described by Krueger (1994) and Ritchie and Spencer (1994). The analytical framework was developed through themes and sub-themes obtained from the thematic analysis of the interviews and the Delphi procedure, which in fact provided a suitable framework for overlapping themes with the findings of the focus groups, which could then complement and expand the information. The researcher reviewed the collected emergent themes and examined relationships among the way themes co-occurred. An independent researcher reviewed the emerging themes and adjustments were made in collaboration. Lastly, patterns, associations, frequencies, and explanations in the data were identified and interpreted. The main themes identified were a) psychosocial risks (Table 6.4) whereby the sub-themes included work content and context; b) key occupational sectors (Table 6.5) with sub-themes relating to the four different sectors (primary, secondary, tertiary and quaternary); c) levels of intervention with sub-themes focusing on individual intervention levels; and d) macro-economic, social and political issues (Table 6.6) that included three sub-themes relating to socio-economic conditions and social determinants of health, globalization and legislation.

The central aim of data analysis is to reduce data (Robson, 1993), and framework analysis as described by Spencer (1994) is an analytical process which involves a number of distinct though highly interconnected stages. The five key stages include: familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation. Framework analysis allows

themes to develop both from the research questions and from the narratives of research participants.

The thematic framework was identified by the previous research stages, in particular the thematic analysis of the interviews. The indexing stage involved highlighting and singling out relevant quotes which could be sorted into the themes. During the next stage, charting, the quotes were lifted from the original context and re-arranged with other similar quotes and under the newly-developed thematic content by electronic cut and paste. Different categories were given a proper colour and passages received a code so that they could be traced back to their origin given that the data analysis at hand is based on four focus groups undertaken at different times and in different places. Krueger (1994) suggested criteria for interpretation. More recently, Rabiee (2004) confirmed the following interpretative steps outlined in Table 6.2 and which were followed in this study.

Table 6.2 Interpretative steps for focus group analysis

Data interpretation	*Explanation*
WORDS	Thinking about both the actual words used by the participants Their meanings Determine the degree of similarity between these responses
CONTEXT	Consider that responses were triggered by a stimulus (question asked by the moderator or a comment from another participant) Finding the triggering stimulus and interpret the comment in light of that environment Consider the tone and intensity of the oral comment
INTERNAL CONSISTENCY	Participants in focus groups change and sometimes even reverse their positions after interaction with others The researcher typically traces the flow of the conversation to determine clues that might explain the change

FREQUENCY OR EXTENSIVENESS	Some topics are discussed more by participants (extensiveness) Some comments are made more often (frequency) than others These topics could be more important or of special interest to participants
INTENSITY	Occasionally participants talk about a topic with a special intensity or depth of feeling Sometimes participants will use words that connote intensity or tell you directly about their strength of feeling Intensity is communicated not only in the transcripts but also by the voice tone, speed, and emphasis on certain words
SPECIFICITY	Responses that are specific and based on experiences should be given more weight than responses that are vague and impersonal To what degree can the respondent provide details when asked a follow up probe? Greater attention is often placed on responses that are in the first person as opposed to hypothetical third person answers
FINDING BIG IDEAS	Take a distance from the discussion and step back for a while Jot down the most important findings

Concrete examples outlining the five stages of the analytical method of the framework analysis as described by Spencer (1994) are listed in Table 6.3 below.

Table 6.3 Five stages of framework analysis and examples

Descriptions of each stage	*Examples of the current study*
FAMILIARIZATION	
Repeated reading of transcripts in conjunction with the observation and summary notes; start listing key ideas and recurrent themes.	Emergence of ideas and concepts based on the thematic framework that was devised based on the previously developed thematic analysis from the interviews.
IDENTIFYING A THEMATIC FRAMEWORK	
Identification of a thematic framework by writing notes in the text margins recognizing key issues with respect to the questions derived from the aims and objectives of the study; included were pertinent recurring issues raised by the respondents including views or experiences. Development of a detailed index of the data, which labels the data into manageable chunks for subsequent retrieval and exploration.	The five major themes that were emerged include psychosocial risks, key occupational sectors, interventions, macro-economic, social and political issues, barriers and solutions. Each theme was allotted a statement. All themes identified, were previously developed through the thematic framework, the previous stages of the research, and refined and further completed with the input from the focus groups.
INDEXING	
The indexing stage involved applying the thematic framework to all the data by highlighting (colour coding) and singling out relevant quotes which could be sorted into themes that developed from answers to the questions asked and other related and relevant topics. Those single passages of text that encompassed a large number of different themes were	The approach taken was manually and relevant text passages were highlighted with different colours. Examples from a focus group transcript would be as follows for different sub-themes which then again fit into different themes previously identified through the methodologies applied earlier in the study: *Psychosocial risks:* *There are a lot of questions about gender equality in the workplace (PS4g)- it is also [believed that you are unable] to talk about*

recorded in the margin of the transcript

*psychosocial risk in developing countries especially from sub-Saharan Africa, without looking at this issue, sexual harassment, because it is the common unpleasant experience that people report or that is known [as] common (PS2s)***. (***Nigeria (M). Sexual harassment (PS2s), Gender equality (lack of) (PS4g)***)***

*Globalization***:**

You know you can't go to work, all of a sudden because of issue of globalization introduced, the programme that threaten your work and the way the way you work, so these are issues that you know should be considered. ((M) Nigeria), Globalization (M1)

(refer to Annex III.3 for more examples)

CHARTING

During the next, the charting stage, the quotes were lifted from the original context and re-arranged with other similar quotes and under the newly-developed thematic content by electronic cut and paste. Different categories were now given a proper and consistent colour and passages received a code so that they could be traced back to their origin given that the data analysis at hand is based on four focus groups undertaken at different times and in different places.

The quotes were then transferred to a table which visualized the themes (including the respective codes) and passages for easy reference (see Annex III.3).

Examples from one of the major themes – *macro economic, social and political issues*, sub-theme *socio economic conditions*, issues: *poverty & life stress:*

1. *I think from what I have seen in developing countries, is more stress about work, working relations, the [precarious nature of work], having work the next day, erm and getting a payment, and not being you know chased around and I think that is for instance, if we look at the agricultural sector, the stress is not that you have a deadline necessarily, the stress is, 'will it rain tomorrow, or will it rain next week, or will it rain too much next week so I'll lose my harvest?' Can I get it to the markets, and what do I get paid for [my produce]?*
2. *So my concern is, you know, where do we start? Do we start on those in the big companies who have better resources or do we start in the environment where people don't have this access, and the major*

psychological stressor is the need to feed their families.

3. *We all know that the food prices at the moment are going up and down… so I think that that kind of general life stress or I would almost say there is a group of stress factors more related to governance and society in general, not having health insurance. We all know that health, erm health events so to say, for the family are financially draining the families when the kids are sick. We know that a lot of people are taking on credit or selling their assets, just to pay the hospital if there is an accident, if the children are sick, etc. And that kind of stress I think is absolutely predominant over anything which can happen at the workplace if you are lucky to have work. So I think we have to, in a way look at these kinds of life stress factors, maybe more and how it relates to work. I think we have to position work and having work a little bit differently in developing countries or in very low income situations; completely differently than how we position it in, in industrializing countries with high income.*

The suggested criteria by Krueger (1994) were followed to interpret the data (see Table 6.1). There was a need to apply analytical skills to identify associations between quotes to find explanations for findings, and to develop links between the data as a whole.

The process of mapping and interpretation is influenced by the original research objectives as well as by the themes that have emerged from the data themselves.

The barriers and solutions evolved during the focus groups and were added to the evolving thematic framework.

Example of repeated comments on a specific issue, i.e. authorities/employers don't act (lack of political decisions :

Egypt: That only works if you've got a government that will enforce and encourage these multinationals to do it. I've worked with multinationals that, you have backhanders… it doesn't trickle down to the people who don't have the awareness, the education, erm there is only that one tier that gets all that, the rest don't get it. So it's working with governments as well and I think, it might work with some multinationals, the trickledown effect, but I don't think it will work with all multinationals. We just have to go and see how those less educated, less aware are being treated and what they are doing.

Mexico: It seems from the work system point of view, there are no interventions, there is no prevention. That's the problem. It's a more complex problem that is ignored. There is no intention from the authorities to do something, but there is no prevention, is the answer.

Chile: My colleague from Chile wants to add to that. For her, the changes that you are speaking about have to do with political decisions and political interests.

Australia: Absolutely

(for more examples see Annex III.3)

6.3 RESULTS

Tables 6.4 to 6.6 below outline the main themes and sub-themes extracted through framework analysis of the four focus groups.

6.3.1 General understanding of psychosocial risks

Participants discussed their understanding of the term psychosocial risk(s). The themes and sub-themes are listed in detail in Annex III.3. A summary of all themes and sub-themes is listed in Table 6.4.

Table 6.4 Psychosocial risks - themes and sub-themes

Main theme/Topic	*Themes*	*Sub-themes*
Psychosocial risks	Work content	Work demands & control including *resources (lack of)*
		Work schedule
	Work context	*Leadership (poor), gender equality (lack of) and* *fairness (lack of)* as part of organizational culture
		Advancement & sustainability (career)
		Salary (low)
		Physical working environment
		Interpersonal relationships (poor), social support (poor), and violence (sexual, psychological physical)

The sub-themes, i.e., the specific psychosocial risks, were distributed evenly across the discussion and largely confirmed the previous findings from the interviews and the Delphi surveys. Mentioned frequently was lack of resources, which are part of the context of work, as well as work schedule. This important recurring issue was explained in more detail for Mexico where workers often face situations where resources to do the job are lacking:

> *'We have found another also, lack of resources for doing the jobs. You know, tools, materials, these are common stressors in Mexico. For example, reports and you can find them in any model, so the lack [of] resources should be considered.'*

Issues that were added to the discussion are listed under work context as *poor leadership and fairness. Leadership* and *fairness* are part of the organizational culture of an enterprise and, therefore, important for the overall atmosphere. In Nigeria participants reported poor leadership as a psychosocial risk and in Egypt lack of fairness to meet people's ends, for example, in terms of pay and resources of lower educated staff in multinational enterprises:

> *'I worked with a multinational company in Egypt setting up occupational health. And what I found is a lot of the psychosocial stressors can be removed by actually people having resources, fair pay and lower hours. So my concern is, you know, where do we start? Where do we start? Do we start on those in the big companies who have better resources or do we start in the environment where people don't have this access, and the major psychological stressor is the need to feed their families... And I found in the multinationals in quite a few countries, they tend to treat the people who are well educated, been to university or have more education better than they treat their drivers, their security guards, their catering staff who are on low pay and long hours..'(Nigeria)*

> *'... we found that our preliminary results showed that leadership by [a source] has been reported by both male and female workers, especially in medium scale enterprises in Nigeria.'*

The next section outlines the key occupational sectors where psychosocial risks and work-related stress were reported to be found.

6.3.2 Key occupational sectors

Participants discussed which occupational sectors they felt were particularly affected by psychosocial risks and work-related stress in their countries or the developing countries known to them. As previously, these could be divided into four main categories that encompass the primary, secondary, tertiary and quaternary sector and those professions which are mostly exposed to psychosocial risks in these four main sectors. Participants confirmed previous

findings that the informal sector within the primary sector is at risk. The frequency, intensity and consistency were stronger for the focus groups. In addition, one new sector introduced was international transport, and in the context discussed in particular the airplane crews that are presently under high pressure due to cuts, low-price strategies and reorganizations. All other results could confirm findings obtained from the previous methods. Below is the summary table that outlines the sectors included in the discussion.

Table 6.5 Key occupational sectors - themes and sub-themes

Main theme/Topic	*Themes*	*Sub-themes*
Sectors	Primary sector	Oil and gas industries (part. African region)
		Informal economic sector, particularly migrant domestic workers
		Construction
		Mining
	Secondary sector	International transport workers
		Garment sector/ manufacturing
	Tertiary sector	Service sector including call centres, banks, government offices, catering, hospitality, hotel management
	Quaternary sector	Teachers, psychologists

During the discussions, a stronger emphasis than previously was put on the informal economic sector, which could be expanded very satisfactorily through the focus group discussions with additional important information. For example, the Philippino expert particularly mentioned migrants including domestic workers active in the informal economic sector:

> *'I believe it has not been mentioned there [about] our migrant workers. They are facing different types of stress, or psychosocial risks, especially the domestic helpers. It's very common among the Asian countries that are migrating to other countries. This is a concern in the*

Philippines, because we have so many migrant workers…There are so many risks that they are facing, like sexual harassment and repetitive work and even discrimination. '

In India, particularly the construction and mining sectors are largely situated in the informal economic sector and workers are exposed to stress:

'Regarding the stress… the construction area, mining and the [informal sector], these are the major occupational areas in our country, where the people, majority of the people feel stress.'

In addition, the garment or manufacturing sector in India is also largely situated in the informal sector and women usually work in these unprotected and low-pay jobs. An Australian researcher who worked extensively in India described their situation as follows:

'There are also challenges of that for let's say a group of women in a self-help group for example, that may still have to work long hours and we did some interviews with some women that were stitching garments for international markets I suppose, and they were working long hours and they suffered a lot of eye problems as a result of actually not having access to glasses.'

A participant who worked on a global study mentioned that the *transport sector*, which is situated within the formal economy, is particularly affected but also that there are good opportunities in this sector to further strengthen occupational health and safety provisions:

'We are doing a global study on health effects or health in workers, which is a highly globalized industry and the international transport workers federation is doing a big campaign against job stress and fatigue at the moment. So there is quite a bit of interest in that industry and they have already kind of grown structures and they are interested in promoting health and safety issues in that area.'

Experts confirmed the high exposure to psychosocial and other workplace risks in the focus groups.

6.3.3 Level of intervention

Participants were asked to indicate what types of prevention and intervention approaches are applied to manage psychosocial risks in developing countries. The quotes lifted refer to the types of intervention approaches applied at the secondary level. A stronger focus than obtained through previous methods in terms of frequency, intensity and consistency was with respect to spiritual-raising events as an individual coping strategy.

The Chinese participant explained that *spiritual-raising* is a strategy for psychological well-being and self-help. The Nigerian participant added that there is a practice of *praying* as an intervention to counter-act psychosocial risks, as well as gaining social support. He said:

> *'Spirituality is in efforts because people readily surrender…. It is typical in every workplace to find workers spending the first 10-15 minutes of the morning to pray because he or she does not know what to expect from the work... and just believe that he or she has to go to work [and] whatever comes out of it that they should surrender to God. Social support is prevention, and common intervention approaches. Sometimes where you have problems [that occur] when we are in the workplace, people seek information from others, and also find ways of overcoming such problems. So social support is one approach or strategy.'*

Also very frequently and extensively discussed were medical health check-ups, which sparked a lively discussion on their effectiveness. It seems health check-ups are necessary for employer compensation purposes or protection from litigation for that matter, but not necessarily to protect the workers. This may be the reason why a number of countries apply *medical health check-ups* including India, the Philippines and Japan. Some doubted the efficiency of *medical health check-ups*:

'I think the intervention approaches are maybe different from the disease or health effects… I think in physical health, erm the focus may be on the development of health checkups, as a secondary prevention. In [the] case of mental health, I don't think health checkups are effective, because we can only understand the erm [physical symptoms]…' (Japan)

This was anchored by the German discussant with another argument about their non-effectiveness:

'So I think the health checkups are very beloved, everybody likes them. The workers like them, the management likes them, the doctor likes them, but they are actually not effective.'

The practice to address work-related stress through *stress prevention programmes*, *smoking cessation programmes,* and *lifestyle interventions* confirmed previous findings that showed a lack of primary level interventions.

6.3.4 Macro-economic, social and political issues

A number of macro issues could be identified that could be divided into socio-economic conditions including social determinants of health, globalization and legislation. Two overarching topics evolved. One relates to the need to develop a new research and practice framework or paradigm to address workers' health in a fashion that combines work, socio-economic and political spheres for research purposes and to develop effective action at workplaces, the community level and at national level. The other refers to the logic of dichotomising developing and industrializing countries instead of focusing on in-country divergence.

Although many of the sub-themes identified were also obtained in previous findings, some received extensive discussions and were mentioned very frequently by a high number of experts during the focus group discussions. These were particularly poverty and life stress in the context of prevailing

socio-economic conditions, and unprotected workers, or particularly migrants, in the informal sector. The lack of skills by migrants in the informal sector is a new issue discussed by study participants within the context of vulnerabilities and the power of the consumer.

The main themes and sub-themes are outlined in Table 6.6 below.

Table 6.6 Macro-economic, social & political issues - themes & sub-themes

Main theme/Topic	*Themes*	*Sub-themes*
Macro-economic, social & political issues	Socio-economic conditions	job security (low)
		education
		skills (lack concerning *new forms of work*)
		extra-organizational issues
		poverty & life stress
		welfare provisions
		economic, social and job conditions
	Globalization	threat to employment through globalization processes
		migrants (unprotected in informal work)
	Legislation	enforcement (lack of)
		local level policy focus (lacking)
Overarching topics	➡➡➡Need for a new research and practice framework/paradigm	
	➡➡➡Dichotomy developing/industrialized country	

A strong focus under the theme socio-economic conditions focused on *poverty and life stress*. This sub-theme of socio-economic conditions received extensive discussion and frequent mention. For example, the participant with insight into the Indian context explained the day-to-day conditions that small farmers are exposed to:

‘I think from what I have seen in developing countries is more stress about work, working relations, the [precarious nature of work], having work the next day, erm and getting a payment, and not being you know chased around and I think that is for instance, if we look at the agricultural sector, the stress is not that you have a deadline necessarily, the stress is, 'will it rain tomorrow, or will it rain next week, or will it rain too much next week so I'll lose my harvest?' Can I get it to the markets, and what do I get paid for [my produce]?’

A related quote from the Indian context:

'We all know that the food prices at the moment are going up and down… so I think that that kind of general life stress or I would almost say there is a group of stress factors more related to governance and society in general, not having health insurance. We all know that health, erm health events so to say, for the family are financially draining the families when the kids are sick. We know that a lot of people are taking on credit or selling their assets, just to pay the hospital if there is an accident, if the children are sick, etc. And that kind of stress I think is absolutely predominant over anything which can happen at the workplace if you are lucky to have work. So I think we have to, in a way look at these kinds of life stress factors, maybe more and how it relates to work.'

In addition, economic working conditions are sometimes sub-standard so that in some countries people require two jobs, one formal and one informal, to survive and feed the family:

‘In Mexico, there is another thing that we must say. Sometimes, the same people who work in official work have another work.’

There is not only low pay so that people have to work in more than one job, there are also questions of skills and the lack of these due to new forms of work, which relates back to education and the social gradient discussed in

relation to the social determinants of health. The Australian participant with expertise in the Malaysian context commented:

> *'I think this question [understanding of psychosocial risks] has a concentration on the so called social determinants of health that are maybe hidden in this. These additional factors are more related to job and economic conditions, or working conditions within the framework of the so-called social determinants of health.'*

The Colombian participant related this to vulnerabilities of migrants that lack the required skills:

> *'Erm I think in the developing countries we have very important issue. [We are in transition, coming from an agricultural age and moving towards an industrial one]. So we have people working, people in both situations… migrating from country to the city, and in that case I think we need to focus and these people that have to migrate have to often face a new situation where they may not have the abilities to, or the educational level that they need to do this work, and that I think puts them at a very high risk situation for stress.'*

Discussants referred also to migrants with respect to informal employment in the context of globalization. For example, the Mexican participant mentioned the following while alluding to the situation in the United States where we find a large number of Mexican migrants[14]:

> *'...migrants or immigrant workers in countries… they are, they do not have the social security rights, for example in the US. This is such a great problem. They are not supposed to make any complaints. They*

[14] …and as I am writing this, the BBC announces that President Obama calls for acknowledgement and protection of migrants living in the USA and for a smart way forward as migrants can make valuable contributions to the American economy (11.5.2011)

are not supposed to apply for any workers' compensation, protection or any right, and so this is a big framework, so I am not really reducing the meaning of [the issues already highlighted in the Delphis] but I am just commenting on additional factors that exist in developing countries, essentially related to for example language. In addition there are the problems that migrants experience; not having the local rights, local protection, legal protection. So these are confounding factors that may be bigger than the working conditions.'

The discussant from the United States responded directly with a comment that actually the consumers have the power in this globalized world as they can dictate such treatment of migrants:

'Yes, a most interesting point brought up about employers and that we still have these kinds of conditions that produce these you know employers that are still very ruthless and as long as we have this kind of mentality, these sort of problems are going to be here forever. What I think we should be looking at as well is what makes people become unscrupulous employers? You know, why are they that way? Because we live in a globalized world now and you know, we can buy our products but where are they made? We want it quick and we want it perfect and we want it looking good and we are western societies that thrive on fashion and a lot of this stuff is made in China or in Mexico, you know. So in a way it's kind of our fault and I think we need to recognize that.'

In addition to previous sub-themes, the Nigerian and Peruvian discussants both mentioned extra-organizational issues, including transport and the lack of it so that people have difficulties getting to work, as well as the socio-economic context where people live, which is often far from work and sub-standard. This, according to the Peruvian discussant, could include basic but vital issues such as worker access to potable water. Welfare conditions, and essentially the lack of these, were particularly mentioned by the Philippino discussant.

Enforced legislation and policies at national and local levels are key to addressing sub-standard working and employment conditions. An amalgam of globalization and legislatory issues particularly with respect to migrant workers were discussed, such as:

> *'So it seems like, your example of the migrant workers, you know this is a globalization process. This is something we have maybe more in developed countries that have infrastructure; they have policies and experts in place. Yet there are unacknowledged sectors that are left out of the picture and in order to really kind of deal with them, we need to have you know a local, not just a national level policy focus.' (Mexico)*

Participants underlined the need for a framework that goes beyond the workplace and that also addresses the prevailing social situation. Interestingly, this is also an issue in the context of an industrialized country with a vulnerable minority population:

> *'And I think perhaps that the important thing to remember when you are dealing with countries other than places like Australia or the more developed parts of places like Australia, is that the work/non-work divide is quite different in Melbourne than it is in an Aboriginal community in central Australia and so dealing with issues about psychosocial stress at work can't, in the same way as it perhaps can in an office in Melbourne, be divorced from the work/non-work issues. That's perhaps the useful differentiation to think about, is that you can't improve psychosocial factors at work in those communities, without also addressing the complete social situation, and even more important perhaps is to think about integrating those strategies in disadvantaged lower income communities, than in places like Melbourne or Sydney.'*

The German expert with in-depth knowledge in India made a related point:

> *'I think we have to position work and having work a little bit differently in developing countries or in very low income situations; completely*

differently than how we position it in, in industrializing countries with high income. I think that maybe we need a new framework in a way.'

As to the challenging discussion on the logic of the dichotomy of developing and industrialized countries, the Mexican participant tried to strengthen the rationale that identifying within-country differences may be a better way forward:

'[In] developed countries and developing countries, it is still useful to look at the countries and the internal distribution of the workers and employment and also poverty. Maybe most countries have this developed in their own country's profile… and this kind of different distribution is used to divide the world into two worlds.'

From another focus group, also a Mexican participant independently insisted that the division between developing and industrialized countries needs to be avoided because informal economic sector workers require attention everywhere in the world:

'I think the first step is to avoid this kind of division. Underserved groups that are found in developing countries, may be found also in the United States for example, which is not exactly a developing country… We should make a change from the internal national profiles and the informal workers and workers in the informal sector really deserve attention in countries all over the world. They are found in all countries, so maybe a thought could be to correctly address underserved workers worldwide, not exactly divided by country, but divided by social scale or section of the labour force…'

This section is very rich with information and also re-confirms issues of the previous sections. This is a summary to sensibly relate the key issues. The argument for a new paradigm or framework for addressing psychosocial hazards and work-related stress was under discussion by a fair number of participants. Matters such as social circumstances, poverty, life stressors, double employment, etc. that address the basic survival of workers and their families were evoked as being crucial for studying the developing country

context with the perspective to address psychosocial risks and improving their working and living conditions. In developing countries, workers flow into cities and encounter job profiles for which they do not have the education or skills. They are inadvertently exposed to health and safety risks having to accept sub-standard employment. Informal sector workers, which include a large number of migrants, sometimes lack basic needs, such as water, and do not have insurance or welfare provisions to protect themselves and their families. The vulnerabilities of informal sector workers were discussed with passion and with a call to addressing these more. The consumers were said to play a vital role in this process, as well local and national level policy development to include all sectors. One last key issue that emerged was the discussion around the logic or non-logic of dichotomizing developing and industrialized countries given that many industrialized countries have vulnerable populations that live in dire situations.

6.3.5 Barriers, solutions and a way forward

Participants actively pointed out barriers to addressing causes and potential solutions for psychosocial risks. They also suggested a way forward for future action. The comments could be divided into four themes that encompass a number of suggestions for improvement, as well as barriers to addressing psychosocial risks. These are divided into key barriers, solutions and suggestions for the way forward (Table 6.7). In particular those issues that are bolded in Table 6.7 were elicited at high frequency, intensity and consistency during the discussions and emphasize the importance of many issues that go beyond the micro-cosmos of the workplace and the need to address the distal causes. They are discussed below.

Table 6.7 Barriers, solutions and a way forward

Focus group findings/regions
KEY BARRIERS:
Authorities/employers don't act (lack of political decisions & enforcement) *(Africa, Americas, South-East Asia, Western-Pacific)*
Basic needs are not addressed *(Americas)*
Improvements don't reach ordinary workers *(Africa, Americas, Europe, South-East Asia)*

SOLUTIONS**:**

Employers can facilitate *(Americas)*

Networking (learn about grey literature from emerging economies) *(Americas, South-East Asia, Western-Pacific)*

Use the experts available *(Americas)*

Strengthen legislation (global view) *(see also interviews & Delphis)*

Involve workers/communities *(Africa, South-East Asia)*

Interventions/tools (redefine/refine approaches) *(Africa, Americas, Europe, Eastern-Mediterranean, South-East Asia, Western-Pacific)*

Multi-nationals want to save their image *(South-East Asia)*

Undertake research *(Americas, Europe, South-East Asia, Western Pacific)*

Establish health statistics *(Africa, Americas)*

Raise awareness & educate on rights *(Africa, Americas, Eastern-Mediterranean, Western-Pacific)*

WAY FORWARD: *(Americas, Europe, Eastern-Mediterranean, South-East Asia, Western-Pacific)*

Focus research on specific sectors

Consider differences within & between countries including respect for traditional ways of creating livelihoods

Need for higher focus on prevention in H&S in general *(see also interviews & Delphis)*

Focus on comprehensive OHS policies *(see also interviews & Delphis)*

Focus on the causes of diseases

Establish cost-benefit studies of interventions

6.3.5.1 Key barriers

Discussants thought one main barrier is that *authorities and employers don't act* and that there is a profound *lack of political decision-making and enforcement.* The participant from Mexico expressed frustration at the lack of prevention methods, which also ensues lack of intention to act by the authorities. The Chilean participant reacted to this statement as follows:

'...the changes that you are speaking about have to do with political decisions and political interests.'

This was anchored with '*absolutely'* by two participants and emphasized by another:

'For instance health promotion programmes are not applied in Nigeria. Stress management training is rarely applied in Nigeria. Management training prevention programmes [are] not applied. Comprehensive occupational health and safety policies, even if they have them in the department of health, or whatever, there is nothing to show that it exists or that they are enforced. And that is why the owner of the organizations themselves are not really bothered.'

One of the reasons for lack of employer action was described as fear of unionization. Once people understand the situation and their rights, employers may feel threatened. This lack of action was also supported with the claim that diagnoses are done, but that no action follows. In addition, it was said that the *basic needs of workers are not addressed*. Also when improvements are made, they usually do not reach the ordinary workers exposed to workplace hazards.

6.3.5.2 Solutions

Discussants felt it very important to enhance global networking. *Networking* was discussed by a number of different discussants at high frequency. Excerpts are listed below:

'...So I would be very interested in seeing how the knowledge, 1) is developed, and then 2) how it's disseminated. And we need to think about you know, who we give the information to or who we work with to develop the information so that it is useful, so that it's not just us that do the intervention. It could be a network or something that takes the information that is understandable because they've helped develop it and then do something with it.' (Australia)

'…I think that would be good if there was something like that, where we can actually say, well actually this area is doing a study in this and this is what they are finding. You can go on it and share information with each other. And I have found this really useful…I've been able to keep in touch with what's going on and know what's happening in those fields rather than keep losing touch of it because I'm not getting the information from the popular journals.' (Egypt)

It was proposed, thereafter, to build a repository. And the previous Australian with knowledge in India accentuated that the work with unions and the international community would be beneficial for this process:

'It is important to work with the unions as much as possible because they have all the networks among the workers and I can understand the need for you know scientific information, so working collaboratively would be a really good way forward…. We need something international to help us national worksites so we can get better information about comparative conditions.'

Generally, participants indicated that they have *experts available* who could intervene, however, due to the key barriers outlined in Table 6.7 they are currently underused. Another need for input of experts, research and knowledge was to strengthen legislation in developing countries. Throughout, participants stressed that *workers and/or communities* should be *involved* in the process. In this context, *raising awareness and educating workers on their rights* is an important issue that was reiterated in terms of dissemination of information materials.

Additionally, participants felt that existing *interventions and tools* were not adapted to developing country contexts and maybe generally not effective and approaches require redefining and refining. Participants commented as follows:

'Exactly, the problem is that maybe also the intervention focus has been [inadequate]. That's why we need to improve that.' (Mexico)

'I think we should have a look at the instruments we're having. If it is actually appropriate even to talk about stress in developing countries. If we look at construction workers in India as you mentioned, this is a migrant labour force, they are living on the streets, the children virtually sleep on the roads and sometimes they are rolled over by a truck or something. Erm there is virtually nothing; they are surviving from day to day. They don't even know what to eat every day. Erm I think our tools we have developed in that sense are completely inappropriate to measure that. Erm they are happy to have a job at all so they can buy rice in the evening to eat something. And if the supervisor is yelling at them, they don't care, because they are happy to have a job and to get the rice in the evening… In a way I think we need to develop other instruments or different words, or different categories to talk about that.' (India)

The Australian participant reacted to this sarcastically:

'And we'd much rather train people and raise awareness than do that.'

Experience from the Indian context was that *multi-nationals want to save their image* and, therefore, they may be open to pressure to improve working conditions. *Research* should be *undertaken* to address the gap, including the development of *health statistics* that deliver the evidence. The Colombian participant mentioned in this context:

'… the big problem is that in our countries, Colombia is one big example of this, no official statistics of health problems, which are the result of work situations.'

6.3.5.3 Way forward

The discussions on the way forward were filled with ideas, such as the need to *focus research on specific sectors*. The discussion on *considering differences and common elements between and within countries*, in particular, was very rich and elicited a number of thoughts and approaches to studying the diverse working populations. Given that the study at hand applied a global approach,

participants thought of ways for them to better be able to use results and to make more concrete interventions within their country contexts, such as the one below:

> *'I am sure that African situations, some parts of Africa are totally different from South African situations. So in those cases I think, we need to have enough flexibility to count these differences and don't let them go or pass without knowledge.' (Colombia)*

> *'I think again it has to be country specific when you implement because every country has different problems. One risk may be higher in one country than another.' (Egypt)*

6.4 DISCUSSION

Lively discussions of the focus groups provided a large number of themes and sub-themes to consider macro-economic, social and political issues including globalization and legislation; issues that address the vulnerability of informal economic sector workers and migrants; those that stress the need to develop and enforce legislation and policies and the current lack of these; the practice of interventions at individual level; the context and content of psychosocial risks including an overview of the general understanding of psychosocial risks, as well as an emphasis on existing barriers, solutions and ideas for the way forward. Some of the issues raised had a confirming character of the interview and Delphi survey findings, and some issues focused on additional perspectives as outlined in the results section. New issues also referred to the need for an extended framework to address psychosocial risks in developing countries, as well as a conceptual discussion about dichotomizing developing and industrialized countries rather than looking in one country for diversity and vulnerabilities.

Subsequently, the key issues that emerged pointed out and confirmed that macro economic, social and political problems need to be addressed in parallel to psychosocial risks at work and beyond. The macro problems referred to issues that were mentioned before in interviews and the Delphi surveys, however, new aspects within these themes came to light. The value

of the focus groups lies in the fact that these issues could be discussed much more in-depth and participants could elaborate on them, such as the vulnerabilities of informal sector workers in the face of globalization, dire situations of poverty and sub-standard working conditions, threats to job security through globalization as well as the development or enforcement of legislation. That poverty and sub-standard working conditions have a negative effect on workers and their families in developing countries has be shown graphically in Figure 6.1, which extends the cycle of poverty (Figure 1.1) through inclusion of additional aspects from the previous discussions.

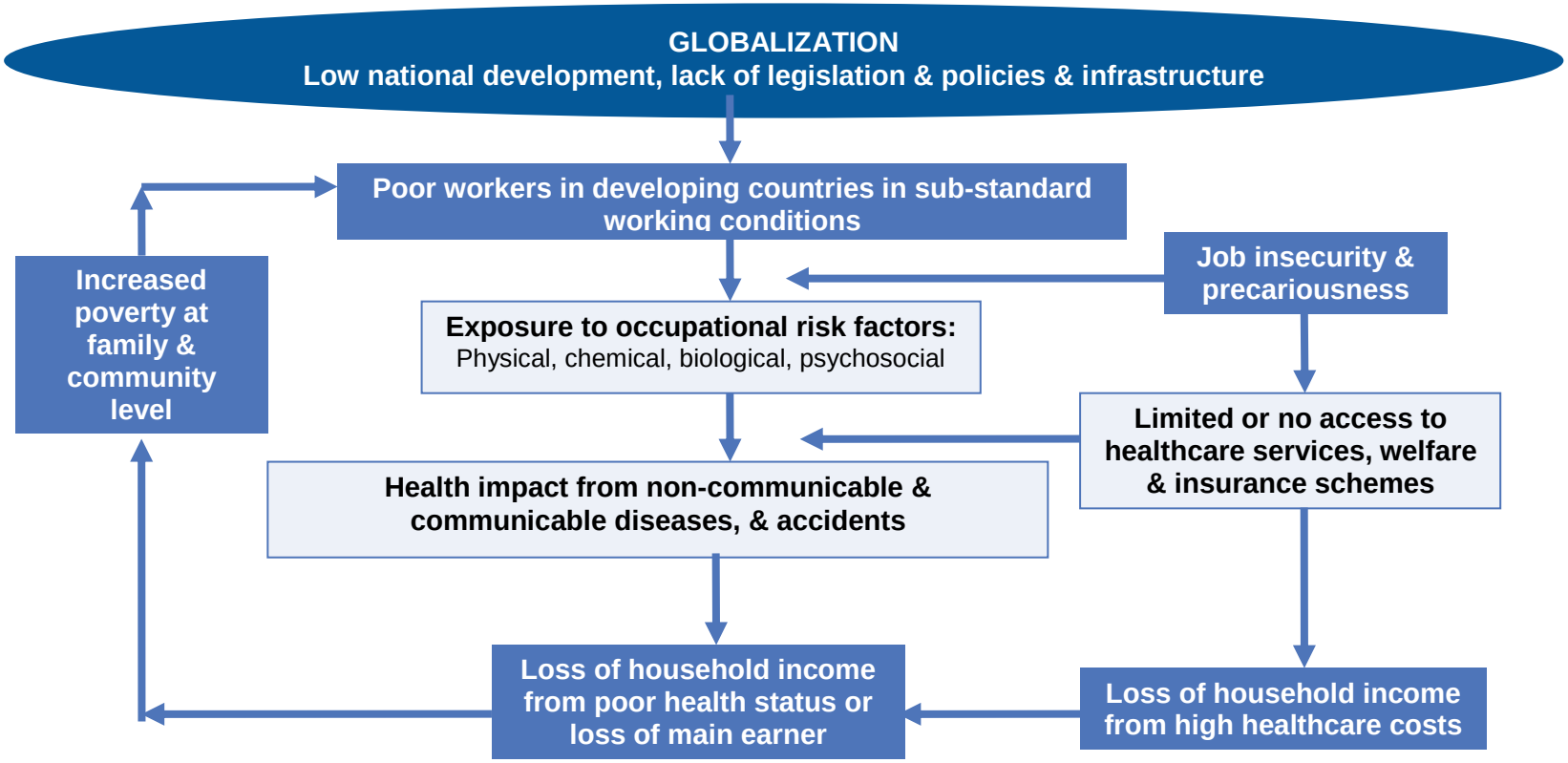


Figure 6.1 The link between poverty and sub-standard working conditions in developing countries

This is an important issue, since poverty and inequality have increased in many parts of the world (WHO, 2001) and only 5% to 10% of workers in developing countries and 20% to 50% of those in industrialized countries have access to adequate occupational health services (WHO, 1995). Hence the repercussions are felt beyond developing country contexts, although they are amplified through existing conditions in developing countries.

Another macro issue discussed and also included in Figure 6.1 is *lack of enforcement of legislation*, where it exists, which is a common problem in many developing countries (e.g., (Jeyaratnam, 2002; Levy, 1996;). Governments may not see the need to enforce legislation, because it would, on the one hand, limit the installation of multi-nationals in their countries, and, on the other hand, require a large overhaul of law and rules, which may not be a desired choice in many countries. Also as Nuwayhid (2004) stated, the whole backbone to implementing occupational health and safety structures is largely missing because of lacking of adequate national infrastructures.

Undoubtedly, *macro issues such as job insecurity due to processes of globalization, vulnerabilities and poverty* go beyond the workplace and its available interventions. Threats to employment and poverty are inherent in some processes of globalization and national and local policies. Job insecurity is an important issue considering that most developing countries have high unemployment rates and that downsizing of jobs (for example, mentioned explicitly to be the case in Colombia) results in enlargement of the informal economic sector (e.g., Takala & Hämäläinen, 2009). The fact that job insecurity can most probably be seen as the most threatening factor to workers' physical and mental health and safety remains (for example, Peter et al., 1995 in Siegrist 1996).

In this context, a predominantly low-skilled and vulnerable workforce that is usually also inherently poor, is exposed to discrimination, abuse by employers, and that is not protected by any national or local legislation, are the *migrant workers*, who are concentrated in sectors and occupations with a high level of occupational health risks (WHO, 2007b). Often their language problems and culture may hamper action to obtain basic rights (Jemaneh, 2009).

For many poor workers, there is the lack of certainty about food for the day and maybe the next, the worries about sickness in the family and the lack of health insurance. However, again we are also familiar with similar situations in industrialized countries, stressing once again the argument for not ignoring the global phenomenon of the social gradient which is related to skills, education and social opportunities (e.g., Benach et al., 2007).

This latter point also again refers to the heated discussion concerning the *dichotomy of developing and industrialized countries*, which was questioned, since poor conditions also exist for minority groups within industrialized countries such as mentioned for the USA and Australia. The question to ask would be in how far their conditions are comparable to those of vulnerable workers in developing countries and if the same strategies will need to be applied. The fact that also industrialized country experts claim similar problems in their countries draws certainly attention to the reality that there is a social gradient[15] in both developed and industrialized countries that needs to be considered (e.g., migrants, minority groups, and the poor in general). Nevertheless, political, social and economic infrastructures are built up in industrialized as opposed to developing countries (e.g., Nuwayhid, 2006) Therefore, most developing countries that will need to change their governance systems, develop infrastructures, and the attitude of policy-makers towards OSH provisions in general.

The social determinants for health take a large view on social inequality that requires addressing when we want to improve psychosocial factors at work in developing countries. The further down a worker is on the occupational ladder, the shorter is their life expectancy and most diseases are more common (WHO, 2003a). Clearly, this goes far beyond the mandate of the

[15] There is a social gradient in health from most deprived to most advantaged and that there is evident stratification between those that are healthy and those with limiting long-term illness. The social gradient of health inequality in terms of life expectancy is greater for those with disabilities than without, and it is not closing. Additionally there is also evidence for regional gradients. It is not just within the quantitative data that these gradients exist, but there is further evidence that social gradients in health inequalities are evident even in subjective questions.

experts involved in this study. Ministers of countries in the areas of health, labour, social development, education and others, need to act on and address the issues in an integrated manner and with a view to the national and global spheres.

Findings on interventions confirmed that theoretical and empirical research in the work-related stress literature has mainly focused on individual or job task domain causes of work-related stress (Kang, Staniford, Dollard & Kompier, 2008). This practice is in place widely despite the fact that workplace level interventions may have a positive impact on the quality of life of employees and hence improve both economic and social sustainability (Hillier, Fewell, Cann & Shephard, 2005).

The understanding of psychosocial risks is a key issue in this thesis and also a basic pre-requisite to grasping the larger picture. This is because, on the one hand, psychosocial risks are situated at the micro-level of the enterprise, but, on the other, hand it becomes increasingly clear that they are influenced and shaped by issues occurring at the macro national or global levels.

Therefore, keeping in mind the macro-issues facilitates our understanding of the circumstances of workers in all sectors and the working conditions workers are exposed to in developing countries. To change conditions at work for these workers, we need to eventually address the complete social and political situation that hampers the well-being of workers and consequently of nations. This requires a multi-disciplinary approach, including researchers, employers and politicians.

Having said this, we need to keep in mind the real-world power relationships, for example that particularly employers and formal sector workers have more influence on government policies than workers in the informal sector or small farmers (Rama, 2003). And in developing countries unmistakably the informal sector workers are in the majority.

The focus group discussions allowed to go beyond the limits of the previous methods and to explore some extremely important issues with reference to the why (why are psychosocial risks not addressed and which are the relevant

levels that need attention including authorities, employers, and basic needs of workers) and to the how (what needs to be done to address these beyond the workplace).

6.5 CONCLUSION

This chapter refers to the frequent, consistent and intense discussion points, as well as the 'big ideas' as Krueger (1994) and Rabiee (2004) indicate in their interpretative steps. The discussion on the barriers emphasizes the need for raising the general interest by authorities and employers. Without any doubt, policy makers have the power to effectively address these issues at national and local levels and so do many large employers. Legislation and a focus on comprehensive occupational health and safety policies play a large role in this process. So does global exchange of information and research, and easy accessibility to these materials.

Undoubtedly, the group of exposed developing country workers is possibly even more vulnerable to traditional and emerging occupational risks compared to the minority groups in industrialized countries. This is owed to the fact that the informal sector is much larger in developing countries as is the number of poor working populations.

Indeed, addressing psychosocial risks, occupational health and safety, and general population well-being through awareness that these are related also addresses the social determinants of health including the social gradient and poverty alleviation measures. Such a comprehensive approach will in turn require a different and more sophisticated paradigm than existing ones as we know them from research and practice in industrialized contexts.

The last chapter of this thesis brings together all findings of this research and discusses the key findings in light of the wider literature as well as the challenges and strengths of the research making recommendations for the way forward.

CHAPTER 7 : CONCLUSIONS AND FUTURE DIRECTIONS

This last chapter will review the key findings and conclusions outlined in the previous chapters and examine them with a view to the wider relevant literature. This chapter also discusses the strengths and limitations of this research and proposes a way forward for future research and action.

The main focus of this research is psychosocial risks with a view to work-related stress in developing countries embedded in the wider occupational health and safety context. These issues were explored based on an extensive literature review outlining the global view of the world of work and the need to address psychosocial risks in developing countries (Chapter 1), the state-of-the-art of psychosocial risks in industrialized (Chapter 2) and in developing countries (Chapter 3). Explored were expert perceptions with respect to these issues, their opinions about needs and priorities (Chapter 5), as well as key issues for moving forward (Chapter 6). The research methods applied were based on triangulation and are discussed in Chapter 4. The combination of qualitative and quantitative methods (triangulation) aimed at yielding an in-depth and confirmatory exploration of issues. The samples were heterogeneous consisting of multi-disciplinary and international experts from six regions of the world, hence harvesting a large array of perceptions, experiences and knowledge in OSH and related areas.

This research was a first attempt to explore psychosocial risks, work-related stress and more generally well-being of workers in developing countries. The innovative angle of this research is that it is exploring an issue which has been allotted little or no attention in developing countries. It is also innovative in that it takes a global approach to the study of the state-of-the-art as concerns psychosocial risks and their management, which turned out to be important to experts, their countries and their workers, but invisible to decision-makers (namely psychosocial risks and their impact on workers' health and the wider society). One of the key issues that emerged was that we need to view and to study psychosocial risks, their impact and their relation to other risks, within an

extended paradigm in developing countries than has been done so far in industrialized countries.

The last chapter of this thesis presents the key issues that emerged and discusses them with respect to the research questions, the larger literature and the larger context of developing countries outlining challenges and strengths of this research while offering recommendations for the future of these neglected issues.

7.1 A WAY TO ADDRESS PSYCHOSOCIAL RISKS IN DEVELOPING COUNTRIES

Experts understood and perceived psychosocial risks and work-related stress very much based on industrialized country research. However, many issues discussed go beyond the general workplace focus of research undertaken and touch on macro-economic, social and political issues and circumstances. Although there was concern for psychosocial risks, work-related stress and their impact on workers' health and public health, many also mentioned the challenges of larger issues that required consideration in developing countries. Hence, this initially narrow area opened up the debate to a much larger context, first of all through a discussion of requirements or pre-requisites to addressing psychosocial risks.

7.2 PRE-REQUISITES TO ADDRESSING PSYCHOSOCIAL RISKS

Some main considerations were raised which need to be addressed in the context of psychosocial risks and the whole field of OSH. These pertained to gender specificities, availability and enforcement of policies and legislation at different levels, socio-economic conditions including social determinants of health, political contexts, processes of globalization, vulnerable working populations in the informal economy and sector-specificity outlining those sectors that are most hazardous in terms of psychosocial risks but also the larger OSH context.

Currently, national legislatory systems may not address psychosocial risks or work-related stress at all or only partly and in a disjointed fashion. Mostly the

focus is still on 'visible' physical risks, which are largely regulated at global level, with exceptions. Psychosocial stressors seem to be a priority in industrialized countries, while issues such as dangerous occupations and heavy physical work are important focus areas in developing countries, and employee health and wellness are given higher priority in industrialized countries in general (Sieberhagen, Rothmann & Pienaar, 2009).

Nevertheless, sometimes even traditional risks are not addressed due to lack of enforcement policies and action. The perception of most experts is that prevention of psychosocial risks should be given priority as it is the least tangible risk of all occupational risks and many agreed to the need to promote a comprehensive approach to occupational hazards. Sieberhagen, Rothmann and Pienaar (2009) have come to the conclusion that modern working conditions legislation should not only address traditional health and safety issues, but also psychosocial work characteristics as those outlined in Table 1.2. And this should happen within an integrated OSH framework showcasing interrelationships among them.

The power of multi-nationals, but also other stakeholders such as policy-makers take an important place in the debate. Politicians, policy makers, labour unions and employers need to be convinced of the importance of occupational health and safety (Rantanen, Lehtinen & Savolainen, 2004). It seems, however, that mostly stakeholders in the formal sector have the power to influence at higher level (Rama, 2003), but much less influence exists in the informal sector. A number of strategies exist to formalize informal jobs. One of these is the provision of tax and credit incentives to enterprises, particularly SMEs, to stimulate the creation of formal jobs and help a sizeable share of employment-rich SMEs to remain in the formal sector (ILO, 2011). The ILO promotes ideas for enterprise-upgrading policies for the informal sector, which includes awareness-raising of the benefits of protection that comes with formalization and creating enabling policies that remove barriers to formalization while protecting workers' rights. They place a particular focus on women entrepreneurs and encourage informal enterprises to join together in production conglomerates or cooperatives (ILO, 2009) to show stronger market force.

Empirical evidence also shows that unemployment and inefficient income equalities are the principal factors explaining social unrest (ILO, 2011). In addition, decent work, which includes opportunities for work, is central to people's well-being. The ILO decent work agenda strives to implement four pillars:

- Creating jobs including opportunity for investment, entrepreneurship, skills development and sustainable livelihoods
- Guaranteeing rights at work particularly for disadvantaged or poor workers, participation and supportive laws
- Social protection for the work environment and workers' families, and
- Social dialogue with the aim to build cohesive societies.

The ILO stresses that the social climate is shaped by employment among other things as it has the capacity to pave the way for broader social and economic development (ILO, 2011a). Undoubtedly, particularly after the recent financial crisis, sustainable economic recovery will not be achieved unless key employment and social challenges are addressed (ILO, 2011). One of the key determinants for this process is skills development as productivity growth translates not only into employment growth, but also into better work in the informal economy and it facilitates the path from informal to formal economies. Rantanen (1997) and Ahasan (2000) emphasize that job training and skill development programmes should be launched to provide basic knowledge to workers and managers so that they can also contribute to the improvement of working conditions.

To strengthen this argument, with the data obtained during the research study, an evolution of priorities in developing countries could be established and is outlined in Table 5.15.

7.3 CHANGING OSH PRIORITIES

Table 5.15 is based on a table established by Rantanen, Lehtinen and Savolainen (2004). An initially missing focus has appeared for the need to monitor and undertake surveillance of psychosocial risks, work-related stress and violence and harassment at work, such as substance abuse and risky behaviours. Injury and accident prevention take precedence over all other

risks as they are still very high in developing countries and not yet under control (Takala, 1998). Capacity building as a means to building up knowledge, expertise and potential to act at national and workplace levels are important at all times in developing countries. So are the needs to address infectious diseases including the HIV/AIDS pandemic which hit particularly hard the African continent, including physical, chemical and biological occupational risks. For example, in South Africa, almost one-quarter of the economically active population is HIV positive, which contributes to high labour turnover rates and lower worker productivity and constitutes an increased burden on employee benefit programmes (South African Institute of International Affairs, 2004).

There is a dire need for the development and enforcement of standards to strengthen health and safety and legislation. Experts call for a comprehensive regulatory framework which also addresses the informal sector. This is a prerequisite to economic and social development. The phenomenal growth of the informal sector during the past three decades represents, however, a major challenge to the work of international organizations, in particular the decent work agenda of the ILO, as the principles of decent work are much harder to achieve in the informal than in the formal working environment (ILO, 2008). It seems that the agenda is ambitious and may need to be increasingly adopted and adapted at national and local levels in order to show positive effects.

Furthermore, it needs to be considered that high OSH standards correlate positively with high GNP per capita (WHO, 1994) and that the development in countries of a decent work agenda would and should benefit all workers. This can be proven by those countries that invest most in OSH and also show the highest productivity and strongest economy. Therefore, active improvement of OSH provisions is associated with positive development of the economy, while low investment in OSH is a disadvantage in the economic competition (WHO, 1994).

This concept is highly related to the human rights agenda on work and the ILO works at global level on the establishment of social justice and internationally recognized human and labour rights through the dogma that labour peace and

harmony are essential to prosperity. It does this by providing technical assistance and implementation of technical cooperation projects in member states. At the 35th Session of the Arab Labour Conference in Egypt (ILO, 2008a), the Director-General of the ILO said with premonition of unrests in the Arab world:

> *'We meet at a moment when the global alarm is sounding. This current model of globalization is not delivering enough for ordinary people. We are seeing disparities growing, discontent rising, and enemies of human security in every society fanning the flames of discord.'*

He also underlined:

> *'Unemployment is a "scourge which spares no country". It is a "threat to social peace, hampering the efforts made to alleviate poverty and destitution, nullifying any attempt at economic, political, or social reform.'*

Uprising in the Middle-East in 2011 has once again enforced the need for social justice and opportunities for social dialogue. Many countries are far off a decent work agenda. WHO complements the decent work agenda through the approach to workers' health. To improve workers' health access to occupational health services and improved healthcare are necessary (WHO, 1994), and the road for these should be paved through functional surveillance systems and data collection on workers' health. These systems are currently not developed or only scarcely developed in most developing countries.

Evidently, the requirements for addressing psychosocial risks and workers' health in general are still demanding in most developing countries and the issues that require tackling are situated at a larger scale. And although we still have a large number of challenges at all levels in the social, economic and political spectrum, there are opportunities that can be realized at the root level.

7.4 CHALLENGES AND OPPORTUNITIES

From this research it became obvious that the rampant lack of OSH infrastructures in developing countries hampers national and local development and sustainability, as well as social justice and dialogue. Without decent work standards, monitoring systems, occupational health services and data collection of workers' occupational diseases, and proper risk assessment and management systems - in short hard evidence - there is no benchmark on which to measure progress and no indication on which actions are the most urgent to take. The ideas are there as to the priorities as could be shown through this study, however, there needs to be more pressure through evidence to convince and mobilize authorities and employers and other stakeholders. Action and support systems are necessary at international level. This could stimulate information exchange and learning experiences through international exchange programmes for researchers and decision-makers. All too often International Organizations do not have any enforcing power. They can provide conventions, codes of practice, tools, national plans, and more, but if countries do not want to adopt or implement these, for whichever reason, nothing will happen and no-one can force them in the current global and political structure.

Some positive efforts exist at international level, for example, through the institutions of the WHO Network of Collaborating Centres for Occupational Health of which some centres have direct influence on decision-makers. Some researchers promote such an approach for South Africa by stating that the country can learn from the European approach to health and safety that encourages primary prevention by giving priority to collective protective measures over individual protective measures (Mackay et al., 2004).

Visibly, there needs to be a cross-fertilizing, multi-stakeholder, multi-disciplinary and multi-country effort to reach more stakeholders and to stimulate action and positive change in the world of work. Both researchers and policy makers have their proper roles in this process and both need to broaden their perspective. Researchers need to work on building the evidence base taking into account the socio-economic and political macro issues of a specific country; they need to promote, translate and disseminate research to improve integrated prevention approaches.

Policy makers need to work towards developing multi-sectoral public policies, and not only occupational policies, to exit the 'silo' and create healthy and safe workplaces and living environments for all workers. If these policies are developed at public level, the opportunities for integrating them into other related national and global policies are greater and legislation can be enforced more easily within their context. For this process to happen, International Organizations need to collaborate better in order to better reach a large array of different responsible ministries in countries.

The governments will need to play their role in this process. The final report of the Commission on Social Determinants of Health highlights that individuals need basic material conditions for health, control over their lives, and active participation in decisions that affect their lives, and that the aim of public policy should be to create the social conditions to meet these needs (CSDH, 2008).

The role of multi-nationals and employers is to promote and respect such regulations, with loss to their privileges should they not proceed as such. Even in industrialized countries, special attention needs to be given to small- and medium-sized enterprises as they often lack special expertise for risk assessment and prevention (Kompier & Schaufeli, 2001). So this is certainly an area that should be tackled in developing countries as well, especially given that most companies world-wide are small and medium, or even micro enterprises.

The action and research framework, or paradigm, will need to be adjusted from existing approaches, which are currently too narrow and not informative enough to instil action. The macro context cannot be ignored in research and practice in developing countries. The information collected through this research resulted in an expanded framework or rationale.

7.5 THE RATIONALE REVISITED

In Chapter 1 the conceptual framework constituting the basis for this research was introduced. The model was developed based on the extensive literature review outlined particularly in Chapters 1 and 3. The findings and key issues

that emerged through the research process provide an opportunity to revisit the rationale and complete it with these elements.

All changes undertaken based on this research are outlined in Figure 7.1. The following issues were added to the framework. A strong need for monitoring and surveillance of these risks was indicated by experts. The need for capacity building was a strong element and this needs to be effected at national and workplace levels. The involvement of multi-stakeholders, as discussed in detail above, needs to also happen at those same levels and incite the expansion of research programmes to the national and workplace levels. Collaboration at international level has been made explicit in the rationale, as well as the need to build up an OSH infrastructure that includes occupational health services and the development of standards to enforce national regulations. The model outlines that without such enforcement, sub-standard working conditions will continue to exist for a large vulnerable working population, hampering development and sustainability and increasing poverty, occupational accident and diseases and a large population with ill health. A UNDP (1996) report informed that many people find themselves in acute poverty while people work in risky workplaces where injuries and accident probability is high. Fustukian, Sethi and Zwi (2002) highlight that where wealthier and better-informed workers are at risk, they may be able to negotiate a trade-off between extra risk and extra remuneration, however, such options are not available to poorly-informed and unorganized workers.

This again emphasizes the need for information, awareness-raising and education and training, as well as the involvement of and action by trade unions, employers and governments.

To achieve the elements outlined in this model, it is unavoidable to develop a viable strategy to convince all stakeholders and actors who would be part of this process. The global competition alone may not achieve the desired effect as rather it makes employers view the improvement of working and employment conditions, as well as the prevention of occupational injuries and diseases as a further burden to the required changes. These changes may include production and enterprise models, the structure of enterprise and fast advancements in technology (UNRISD, 2004). Influential individuals and

associations need to make blatant statements, such as those made by the Nobel Prize winner Joseph Stiglitz. He and others proclaim that it is not acceptable for employers to derive competitive advantage through economies in the areas of health and safety and wellbeing of employees (Stiglitz, 2001; Stokke, 2001).

It is in all countries' interest to reach a state of prosperity. Maintaining, promoting and enforcing OSH provisions through national regulation can ensure sustainability and development in the process of industrialization. Until harmful exposures and occupational diseases are controlled through the implementation of labour legislation, national economy and social progress will continue to be hampered (Ahasan, 2001). Maintenance of health in industrial communities in developing countries also entails the treatment and prevention of epidemic and endemic communicable and non-communicable diseases, the prevention of occupational injuries and diseases, the planning and organization of medical care, training, the introduction and enforcement of standards of health and safety and medical care in industry (Khogali, 1982).

The need for multi-stakeholder engagement cannot be emphasized enough. Collaboration and coordination at national levels with international support will require more advanced than existing mechanisms to improve the health, safety and wellbeing of workers in developing countries. There is a tremendous demand for the elimination of problems in various workplaces since individual countries are facing various obstacles (Mwaniki, 1992) in preparing a suitable portfolio on effective policy for sustainable development (Partanen et al., 1999).

What is required at macro level was put into clear language by Marmot and Bell (2009). They call for leadership from the top of the government, action across social and economic policy areas, participation from communities across societies, and action at different levels: local, regional, national, and global. A recent UN report confirms this need by demonstrating that countries which have successfully reduced poverty, from Europe to East Asia, did so through strategic state interventions including transformative social policies that aimed not only at protecting the vulnerable (see also UNRISD, 2010), but that also enhanced productive capacities. The protective policies provided

critical social investments and performed a redistributive function that contributed, in turn, to social cohesion and nation building (UNRISD, 2011). Approaches that focus only on vulnerabilities do not consider key institutional, policy and political dimensions that may be both causes of poverty and inequality, and obstacles to their reduction (UNRISD, 2010).

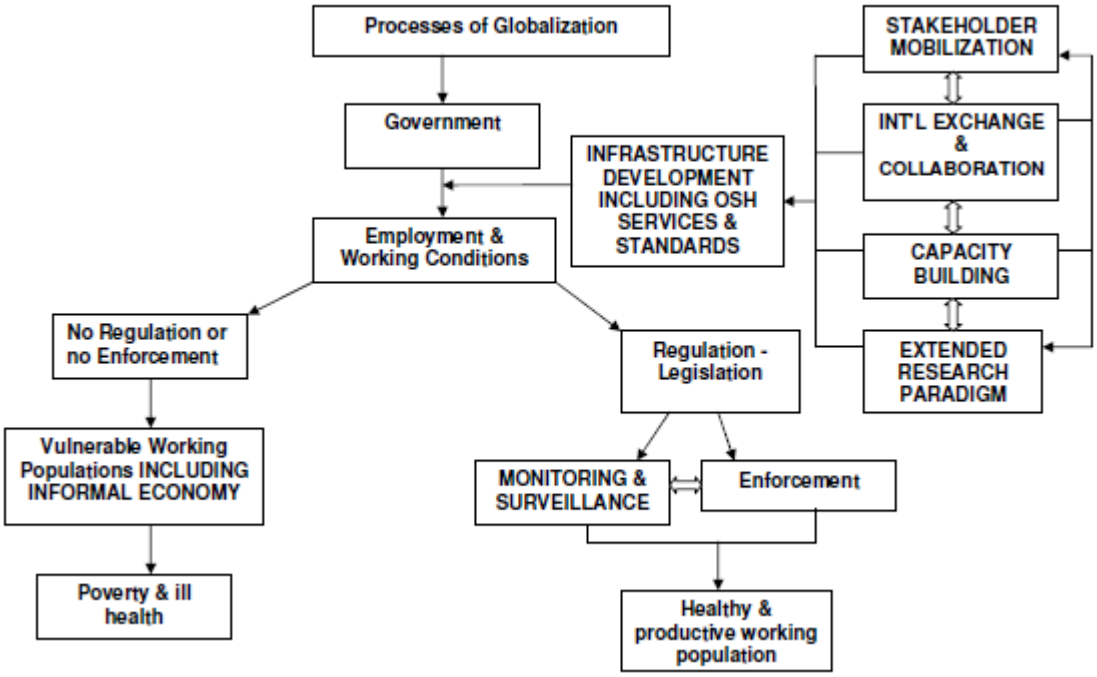


Figure 7.1 The research rationale revisited

7.6. STRENGTHS AND LIMITATIONS OF THIS RESEARCH

Like all research studies also this one has its strengths and limitations. The limitations pertain to two arguments. The first refers to the low number of participants at each stage, given that this is an international study with international experts. On the one hand, it is clearly a challenge to identify a large number of experts available and agreeable to such a study, who also have expertise in the area of OSH and knowledge of psychosocial risks and work-related stress. On the other hand, Stone and Campbell (1984) found that results would probably not differ extensively if we have 100 or 1000 participants. The total number of participants of this study, including qualitative and quantitative methodologies, amounts to 120. If Stone and Campbell were right, this study should be somehow at least indicating a trend

of the situation in developing countries. The mixed-method approach applied is based on the principle of triangulation or cross examination (Cheng, 2005) by mixing qualitative methods (interviews and focus groups) and quantitative methods (the Delphi survey). This allows higher confidence with a result if different methods lead to convergent results and enables to improve the accuracy of judgment about a phenomenon through the collection of different kinds of data. Such an approach may enrich our understanding by allowing for the discovery of new or deeper dimensions (Todd, 1979) and, thereby, not fit a current theory or model. Therefore, this study is built on a solid methodological approach, by which the interviews informed the development of the Delphi and the latter the development of the focus group questions.

The second argument pertains to the fact that participants were multi-lingual and that English was not always their first language. As a caveat, this may have evoked a number of errors in answers provided. However, given that the methodology of triangulation allowed for cross-checking and confirming of obtained data, the approach could 'auto-correct' for such moments of misunderstanding. The availability of such a broad array of multi-regional experts certainly also strengthened the study results.

Therefore and without a doubt, the strengths of this research are the successful exploration of an under-investigated area, the multi-disciplinarity of experts, their diverse origins across the globe, and the triangular methodology. This research claims to have opened up the area of emerging risks, namely psychosocial risks, in relation to other occupational risks, working and employment conditions, and the need for their integration in research, in the development of interventions, as well as the development of policies and legislation to support the well-being of the working populations in developing countries. The broad perspective that emerged with invaluable input from heterogeneous samples is a precious collection to counteract arguments of their unimportance with hard fact of health and economic impact that will always hamper national developments and sustainability.

Lastly, the methodology as a means to an end served its purpose in providing opportunities for confirming and reconfirming trends and findings and also for broadening important issues with qualitative methods that allowed

opportunities and space for expression. As this research was not based on any specific hypothesis or theory, it could provide the space for exploration into an area which requires reframing and opening up to a new research and policy paradigm, which is currently neither applied nor available.

7.7 CONCLUSIONS

In summary, the global picture is complex and lacking developed components as outlined in Figure 7.1. Evidently the whole is greater than the sum of its parts. We currently lack approaches and practical models that address the social and working context in its entirety. Therefore, national and international efforts should go towards addressing them comprehensively in close collaboration with local, regional, national and other global stakeholders. The perspective promoted in this thesis is that in order to address micro issues such as psychosocial risks and other emerging occupational risks these need to be viewed as being part of a stream of actions and policies trickling down from the macro national or international levels. At the same time we need to consider regulation of globalization processes to protect workers worldwide, but particularly in the most vulnerable contexts of developing countries.

Equity and equality are not a reality at this point in time and much needs to be done. There is no harm and even a need to strive for these, especially because progress will require vision and goals that are set highly to achieve the maximum possible. Independently of the development status of a country we should, however, not forget that human beings deserve to be treated with dignity and respect everywhere around the globe and that we all should strive for equity and equality in the spirit of a global community.

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ANNEXES

ANNEX I.1: INSCRIPTION FORM FOR THE NETWORK

The World Health Organization (WHO) is developing the Network with a focus on the psychosocial working environment

We observe that although there is an abundance of research from industrialized countries, there is an evident lack of research and understanding about the current situation and the nature of the psychosocial work environment, as well as related hazards and work-related stress in developing countries. The lack of research in this field and the struggle with other well-known and traditional occupational risks (chemicals, biological, mechanical, and physical hazards) prevents developing countries from addressing and controlling emerging hazards such as work-related stress and its consequences. Traditional hazards have been increasingly controlled in industrialized countries and the focus has moved to the modern hazards of working life. For example, current priorities in Europe concern musculoskeletal disorders and work-related stress.

Early attention to emerging risks relevant to the psychosocial work environment will provide the possibility to largely prevent the adverse effects on mental and physical ill-health and the economic consequences many European countries, as well ask, for example, the United States of Amercia and Canada have been experiencing during the last years.

Presenters at international conferences increasingly evoke the problem of work-related stress in developing country workplaces, the absence of know-how and the adverse health effects and economic consequences of these hazards for individuals, companies, national economies and societies. Clearly one cannot assume that the existing body of research, including prevention and intervention methods, can be extrapolated to the developing country context without considering specific aspects. We would most probably need to consider differences in cultural and behavioural norms, but also the high prevalence of infectious disease, stigma, gender inequalities, high informal sector employment, emerging industries, absence of legislation, precarious employment arrangements, poverty and lack of education. In addition, data recording systems are either not available or not useful due to lack of handling expertise and lack of standardized instruments.

The broad objective is to expand the knowledge in this area to be able to address and prevent work-related stress in the developing country context, be able to effectively raise awareness, provide solutions in collaboration with experts, and to gain influence at the level of policy and legislation.

WHO is calling on you to enquire if you would be available for contact by e-mail, surveys via e-mail, and telephone interviews. If you answered yes to all, please complete the survey.

English will be the main language of the group.

Please note that to facilitate the work in the six WHO regions, we will disseminate the names and contact data of all members of the group. !but only within the group!

AFFILIATION

1) Title * Ms Mr Dr Prof

2) First Name *

3) Family Name *

4) Function *

5) Department

6) Institution

ADDRESS (FOR WHO MAILINGS ONLY!)

1) Street

2) PO Box

3) Zip Code

The input is of type "number"

4) City *

5) State

6) Country *

All countries
Afghanistan
Albania
Algeria
Andorra

To make multiple selections, press the "Ctrl key" and click on the items to choose.
Click to Select / unselect all

7) Telephone_1 *

no spaces please between numbers

The input is of type "number"

8) Telephone_2

The input is of type "number"

9) Telephone_3

The input is of type "number"

10) Fax

The input is of type "number"

11) Mobile

The input is of type "number"

12) Remarks

13) E-Mail_1 *

The email format is "xxxx@yyyy.zzz"

14) E-Mail_2

The email format is "xxxx@yyyy.zzz"

15) Web address

http://

The URL format is "http://xxxxx".

YOUR DISCIPLINE

1) Area of Expertise *

Sociology Psychology Epidemiology Medicine Psychiatry

2) Others - please specify

EXPERIENCE

1) Years of experience *

The input is of type "number"

2) Country(ies) best known to you *

All countries
Afghanistan
Albania
Algeria
Andorra

To make multiple selections, press the "Ctrl key" and click on the items to choose.
Click to Select / unselect all

3) Is /are this the country(ies) you are working in now? *

Yes No

4) How would you rate your knowledge of workplace interventions and/or legislation in the areas of psychosocial risk at work? *

excellent satisfactory fair

5) What is your practical experience in the application of

yes no some

methods & interventions as concerns psychosocial risk factors? *

6) If you answered 'yes' or 'some' please provide a short description of the context in which you dealt with the above

PERSONAL DATA

1) Year of Birth

The date format is "dd/mm/yyyy"

2) Sex * Male Female

3) Native Language *

4) Other Languages

5) Please submit a copy of your CV * Please add a file Browse...

File size is limited to 5MB.

ADDITIONAL INFORMATION

1) This space is for any additional information you would like to communicate or comments on the establishment of this Network

2) Here you can attach a relevant publication pdf or word file Browse...

File size is limited to 5MB.

3) Additional file pdf or word file Browse...

File size is limited to 5MB.

Submit the form

ANNEX I.2: INTERVIEW SCHEDULE

1. What does work-related stress mean to you?
2. What do you understand by the term 'psychosocial hazard'?
3. Do you think that these issues (work-related stress and psychosocial hazards in work environment) represent concerns for workers health in your country? Why?
4. In your opinion, can psychosocial hazards and work-related stress be related to any health outcome? Which ones?
5. To what extent do you believe psychosocial hazards are important to address as compared with (or jointly with) more traditional (mechanical, physical, biological and chemical) hazards at work, and why?
6. In this context, do you know of any legislation, policies or voluntary actions in your country on traditional hazards and on psychosocial hazards and/or work-related stress?
7. If you think psychosocial hazards and work-related stress are affecting workers' health in your country, which occupational sectors do you think are more affected and why?
8. Do you think men and women and equally vulnerable to such issues in your country? If you believe they are not equally vulnerable, what do you think are the main differences in these groups?
9. Are you aware of the interventions to prevent, address, and control psychosocial hazards, and particularly stress at work? Please give examples with references to a specific work context.
10. If you had to choose 3 main priorities that need to be addressed in your country in relation to workers health and safety, what would these be?

ANNEX I.3: EXAMPLE OF CODING OF THEMATIC THEMES AND SUB-THEMES FOR INTERVIEWS

Printed in Journal of Occupational Health: Kortum, Leka & Cox (2011)

MAIN THEME	DESCRIPTOR	EXAMPLES
Work organization (P1)	Job control (P1jc)	"...lack of participation in decision-making, ...lack of control" ***FYROM*** "...lack of control, or decision authority" ***Pakistan***
	Work design (P1d)	"...job design and work organization" ***Trinidad & Tobago*** "It is stress related to the organization of work and activities" ***Malaysia***
	Work load/demands (P1w)	"It has to do with work content, work under- or overload***" Viet Nam*** "...pressure to perform, ...high expectations" ***India***
	Work-home interface (P1wl)	"... boundaries between home and work are not distinct. ... There are also social and cultural elements that feed into work-related stress; e.g., in India the boundary between work and home life is very thin." ***India*** "There is increased transport and more time needed to get to work, hence less leisure time." ***Malaysia***
Work schedule (P2)	Hours worked (P2h)	"Misusing employees for working longer hours…" ***Namibia*** " Psychosocial hazard include...working hours" ***China***
	Time constraints/speed (P2t)	"More particular this means, ...need for resources, cannot complete tasks, time constraints, pressure to complete" ***Puerto Rico*** "We use Karasek's model on demand-control-support, high speed of work, working hours, lack of control over working processes, support from colleagues and supervisor. " ***Thailand***
	Shiftwork (P2s)	"Psychosocial hazard include job content, work load, work schedule, for example shift work, social support, interpersonal relationships between workers, working hours." ***China*** "Psychosocial hazards are important to address because they are related to health outcome and have an influence in the outcome related to other hazards , such as sleep disorders, shift work practices, high accidents and injuries.". ***Chile***.
Workplace safety/hazards (P3)	Physical/physiological hazards (P3p)	"An example is in the mines, the heat, underground. There is heat stress. ...physical environment, ... a dusty and hot climate" ***Namibia*** "High job demands, lack of control, social support; .., crowding, noise, ergonomic problems, ..." ***FYROM***
	Working environment (poor) P3w	"...communication and information flow, lack of opportunity for career development, promotion ***...*** rapid changes due to science and technology." ***FYROM*** "Pressures people face because of conditions at work. Contributory issues are the work environment, workplace culture;... workplace benefits, appraisals; ... opportunities to be promoted." ***Namibia***
Relationships (P4)	Psychological violence	"Concerns issues of burnout, violence at the workplace, such as intimidation." ***Namibia***

	(P4p)	"Harassment at work can act as a psychosocial hazard." ***Viet Nam***
	Physical violence (P4ph)	"Psychosocial in the context of emotional side, job design, work organization, interpersonal relationships including bullying, sexual harassment, physical violence." ***Trinidad & Tobago*** "...harm on the individual in the workplace, such as psychological and **physical** harassment." ***Nigeria***
	Relationships/interpersonal conflict (P4i)	"A hazard emerging from social relations at work. Mostly between employers and employees, but also between employees, social services." ***Chile*** "...interpersonal relationships between workers.***" China***
	Support (lack of) (P4l)	"The environment is not conducive for people to thrive. No support." ***Zambia*** "Stress has physical and psychological consequences, lack of support..." ***Puerto Rico***
Socio-economic conflict/conditions (P5)	War, crime, poverty (P5w)	."... in the social life of the people in Albania as a result of social change, transition, poverty, every worker has many problems. When a person has many problems at once and cannot organize one's life (*reference to war, desolation, unemployment*). " ***Albania*** "The impact (*of psychosocial hazards*) has larger negative implications in the community, for example increased crime rate...." ***India***
	HIV/AIDS (absenteeism) (P5h)	"...HIV/AIDS problems if there is no programme for workers." ***Zambia***
	Job security & unemployment (P5j)	"Psychosocial hazards in developing countries are important. The situation is that there are economic problems, the unemployment rate is high. There is no continuity, no job security. Very high unemployment, close to 30%, although official numbers say 15%." ***Iran*** "People need to do several jobs to survive, but it is very difficult to find a job." ***Albania***
	Social, political, economic, cultural, religious structures (existing & changing) (P5s)	"Important to pay attention to economic level, ..., culture, tradition. These issues (*psychosocial risks and work-related stress*) greatly affect and impact workers' health. ..., because they are larger socio-environmental issues, such as social, economic, political problems in Iran, that affect and impact the work environment. This has an indirect effect on employees and their health and wellbeing." ***Iran*** "... variables in social, economic, financial, and religious spheres can influence these stressors and impact (on) stress." ***India***
	Poor working conditions/precarious work/low employment (P5pw)	"Little is done about stress at work. Healthcare workers are overworked; they are leaving because of working conditions and benefits that don't come their way." ***Namibia*** "... different forms of precarious employment, low employment rate now, but precarious. Contract, salaries, employment conditions..." ***Chile*** ".... For example the textile industry and call centres have different conditions than in other countries. Space is small; there are 1-3 people in a small space. There is noise, stress, the workplace is not good. There is also much manual work." ***Tunisia***
	Globalization (market competition, multi-nationals, delocalization of companies) (P5g)	"...There are global changes, times of high competition." ***Puerto Rico*** "...Multi-national companies are exonerated of taxes; they produce for export and cannot sell in Tunisia. We see delocalisation of European companies in Tunisia.**" *Tunisia*** "... In addition, there are high standards of achievement, standards the EU prescribes." ***FYROM***

ANNEX II.1: Delphi questions and options (online survey)

Delphi Questions and Options

1 - CONSIDERING THE CONTEXT OF DEVELOPING COUNTRIES, WHAT DO YOU UNDERSTAND BY THE TERM PSYCHOSOCIAL RISK(S)?

1) Conflict in interpersonal relationships that affect workers' health
2) Discrepancies between abilities, skills, job demands, expectations
3) Ergonomic problems
4) Increasing elimination of boundaries between work and home
5) Job insecurity
6) Lack of clarity about organizational objectives
7) Lack of control over work processes and job demands
8) Lack of participation in decision-making
9) Lack of promotion prospects
10) Lack of social support
11) Meaningless and monotonous tasks at work
12) Perceived imbalance between abilities, resources, and support
13) Poor communication
14) Poor leadership
15) Poor management practices and inadequate supervision
16) Poor physical conditions (bad lighting, ventilation, heat/cold, etc)
17) Poor work design
18) Precarious employment
19) Time pressure and high job demands
20) Unclear and conflicting roles at work
21) Violence and harassment at work

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

---

2 - WHICH OCCUPATIONAL SECTORS DO YOU THINK ARE MOST AFFECTED BY THE IMPACT OF PSYCHOSOCIAL HAZARDS AND WORK-RELATED STRESS IN DEVELOPING COUNTRIES ?

1) Agriculture
2) Call centres
3) Catering, accommodation and hospitality
4) Construction
5) Education and teaching professions
6) Healthcare professionals
7) Informal/unorganized economic sector
8) Information Technology
9) Manufacturing/industrial sector
10) Media and creative services
11) Mining
12) Police, security forces, law enforcement
13) Retail, hire and repair

14) Service sector (bank, insurance, social work, etc.)
15) Transportation

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

3 - PLEASE INDICATE WHICH TYPES OF PREVENTION AND INTERVENTION APPROACHES ARE APPLIED, TO YOUR KNOWLEDGE, TO MANAGE PSYCHOSOCIAL RISKS IN DEVELOPING COUNTRIES ?

	Yes	No	Don't know
Employee Assistance Programmes (EAPs) *	☐	☐	☐
Awareness raising activities *	☐	☐	☐
Problem-solving and communication training *	☐	☐	☐
Work (re)design *	☐	☐	☐
Promotion of supportive culture *	☐	☐	☐
Flexible working arrangements *	☐	☐	☐
Opportunities to rest and relax *	☐	☐	☐
Teleworking/working from outside the workplace *	☐	☐	☐
Time management training *	☐	☐	☐
Teamwork *	☐	☐	☐
Spiritual raising events *	☐	☐	☐
Preventive health check-ups *	☐	☐	☐
Management training with a focus on prevention *	☐	☐	☐
SOLVE programme of the ILO *	☐	☐	☐
Psychosocial risk management, risk assessment & risk reduction *	☐	☐	☐

Delphi Questions and Options

Behavioural code of practice *	☐	☐	☐
Comprehensive occupational health & safety policy *	☐	☐	☐
Stress management training *	☐	☐	☐
Transparent and clear communications *	☐	☐	☐
Meditation *	☐	☐	☐
Thorough selection processes *	☐	☐	☐
Message on zero tolerance for violence, harassment and bullying *	☐	☐	☐
Health promotion programmes *	☐	☐	☐

Others, please specify

4A - DO YOU FEEL THAT MEN AND WOMEN ARE EXPOSED TO THE SAME PSYCHOSOCIAL RISKS AT WORK IN DEVELOPING COUNTRIES ?

* Yes ☐ No ☐ Don't know ☐

4B - WHICH OF THE FOLLOWING ARE YOU AWARE OF AFFECTING PARTICULARLY THE FEMALE WORKFORCE IN DEVELOPING COUNTRIES ?

1) Competition with men for higher status jobs
2) Disproportionate representation in higher-risk occupations
3) Exposure to sexual harassment
4) Gender segregation
5) Having to work with equipment traditionally designed for male physique
6) Inequality
7) Job insecurity
8) Lack of employment benefits
9) Lack of jobs/high unemployment
10) Lack of legislation against discrimination
11) Limited access to the labour market
12) Little possibility of promotion
13) Lower pay than men for the same work
14) Male-dominated society
15) Shift work
16) Vulnerable due to maternity-related absences (pregnancy, maternity leave)
17) Work, family, and social responsibility/multi-tasking
18) Working in rural areas

Please list your answers in order of priority: 1 most important - 5 least important

Delphi Questions and Options

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

5A - WHAT ARE THE MAIN PRIORITY AREAS, TO YOUR KNOWLEDGE, FOR ACTION IN ADDRESSING OCCUPATIONAL HEALTH AND SAFETY ISSUES IN DEVELOPING COUNTRIES ?

1) Address housing issues
2) Address job security including unemployment benefits
3) Address remuneration (pay, insurance, benefits)
4) Best practices dissemination
5) Build capacity through targeting training and education
6) Collect data on workers' health/surveillance and registration
7) Create a safety culture
8) Develop a more comprehensive legislative framework extending to unregulated/informal economic sector
9) Develop health and safety standards
10) Develop legislation to address workplace health and safety issues
11) Develop support and assistance systems
12) Development of expertise
13) Education and training
14) Implement and enforce legislation to address workpace health and safety issues
15) Improve the national health system
16) Monitoring and surveillance of psychsocial hazards and work-related stress
17) Policy/legislation and development
18) Preventive action
19) Risk assessment and hazard control in an integrated and comprehensive manner of all workplace hazards and known risks
20) Risk assessment and hazard control to address newly emerging risks, such as psychosocial risks and work-related stress
21) Risk assessment and hazard control to address traditional hazards
22) Sensitize communities at large
23) Stakeholder engagement and social dialogue
24) Update legislation to include psychosocial risks and work-related stress

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Delphi Questions and Options

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

5B - WHICH PARTICULAR WORKPLACE ISSUES AND RISKS ARE YOU AWARE OF THAT REQUIRE URGENT ATTENTION IN DEVELOPING COUNTRIES ?

1) asbestos
2) chemicals
3) infectious diseases (such as HIV/AIDS, tuberculosis and/or malaria)
4) injury/accident prevention
5) musculo-skeletal disorders
6) psychosocial hazards
7) silicosis/dust
8) Violence and harassment at work
9) work-related stress

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

DO YOU HAVE ANY ADDITIONAL COMMENTS YOU WOULD LIKE TO MAKE?

ANNEX II.2: DELPHI I SURVEY

Prioritising issues in the area of pyschosocial risks and work-related stress in countries in economic transition, in newly industrialzing countries, and in developing countries (Delphi I)

Dear Colleagues,

Some of you have recently participated in an interview about the awareness and understanding of issues related to psychosocial risks at work, work-related stress and more general occupational health and safety issues in countries in economic transition, in newly industrialzing countries, and in developing countries. We have interviewed just over 30 experts in this field. The responses have been analysed and assembled. The next stage of this research programme involves a process of prioritizing issues to guide future action.

Therefore, as part of this Delphi process, we are writing to you to ask if you could spare us a few minutes to simply indicate the TOP FIVE priorities. Where requested please respond with 'yes', 'no', or 'don't know'. The survey will take you about 15 minutes to complete.

The final report will present the findings and will be made available.

Your personal data and your answers to the questions are anonymous. After coding and processing the data all personal information from the survey will be deleted.

If you have any questions about the survey, you can contact us at the following e-mail: kortume@who.int.

As concerns terminology we are using the term 'risk' which is often used synonymously with the probability of a known loss. The fact that a person is exposed to a psychosocial hazardous environment means that there is a probability that the person will suffer physical and/or psychological negative health outcomes.

Thank you very much in advance for your collaboration.

Best wishes,

Evelyn Kortum
WHO, Geneva

Your e-mail

E-Mail_1

The email format is "xxxx@yyyy.zzz"

E-Mail_2

The email format is "xxxx@yyyy.zzz"

Affiliation

Title: Ms ○ Mr ○ Dr ○ Prof ○

First Name

Family Name

Function *

Department

Institution

State

Country *

All countries
Afghanistan
Albania
Algeria
American Samoa

To make multiple selections, press the "Ctrl key" and click on the items to choose.

If different from your country, please indicate here the country(ies) in economic transition, newly industrialzing country, or developing country you know best (max. 2 choices):

All countries
Afghanistan
Albania
Algeria
American Samoa

To make multiple selections, press the "Ctrl key" and click on the items to choose.

Indicate here the respective WHO Region. If in doubt, please consult the country list: http://www.who.int/countries/en/ *

- African Region
- American Region
- Eastern-Mediterranean Region
- European Region
- South East Asian Region
- Western Pacific Region

Area of expertise

Your discipline * Psychiatry Social work Medicine Psychology Epidemiology OH expert Sociology Ergonomics

Others, please specify

1 - What does the term psychosocial risks mean to you/relate to in your view?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

2 - Which occupational sectors do you think are mostly affected by the impact of psychosocial hazards and work-related stress in the country(ies) you said you know best?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

3 - Please indicate which types of prevention and intervention approaches are applied to manage psychosocial risks in the country(ies) you said you know best?

	Yes	No	Don't know
Employee Assistance Programmes (EAPs) *	☐	☐	☐
Awareness raising activities *	☐	☐	☐
Problem-solving and communication training *	☐	☐	☐
Work (re)design *	☐	☐	☐
Promotion of supportive culture *	☐	☐	☐
Flexible working arrangements *	☐	☐	☐
Opportunities to rest and relax *	☐	☐	☐
Copy of Opportunities to rest and relax *	☐	☐	☐
Teleworking/working from outside the workplace *	☐	☐	☐
Time management training *	☐	☐	☐
Teamwork *	☐	☐	☐
Spiritual raising events *	☐	☐	☐
Preventive health check-ups *	☐	☐	☐
Management training with a focus on prevention *	☐	☐	☐
SOLVE programme of the ILO *	☐	☐	☐
Psychosocial risk management, risk assessment & risk reduction *	☐	☐	☐
Behavioural code of practice *	☐	☐	☐
Comprehensive occupational health & safety policy *	☐	☐	☐
Stress management training *	☐	☐	☐
Transparent and clear communications *	☐	☐	☐
Meditation *	☐	☐	☐

Thorough selection processes *	○	○	○
Message on zero tolerance for violence, harassment and bullying *	○	○	○
Health promotion programmes *	○	○	○
Others, please specify			

4a - Do you feel that men and women are exposed to the same psychosocial risks at work in the country(ies) you said you know best?

Please respond Yes or No * Yes ○ No ○

4b - Which of the following affect the female workforce in this/these country/ies?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

5a - Which are the main priority areas for action in addressing occupational health and safety issues in the country(ies) you said you know best?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

5b - Which particular workplace issues and risks require urgent attention in the country(ies) you said you know best?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

Do you have any additional comments you would like to make?

General comments

Submit the form

ANNEX II.3: RESULTS OF DELPHI I - EXAMPLE OF APPROACH

1 - Considering the context of developing countries, what do you understand by the term psychosocial risk(s)?

Affiliation

1) Family Name

71 responses (view list)

Delphi I

1 - Considering the context of developing countries, what do you understand by the term psychosocial risk(s)?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

2) First choice

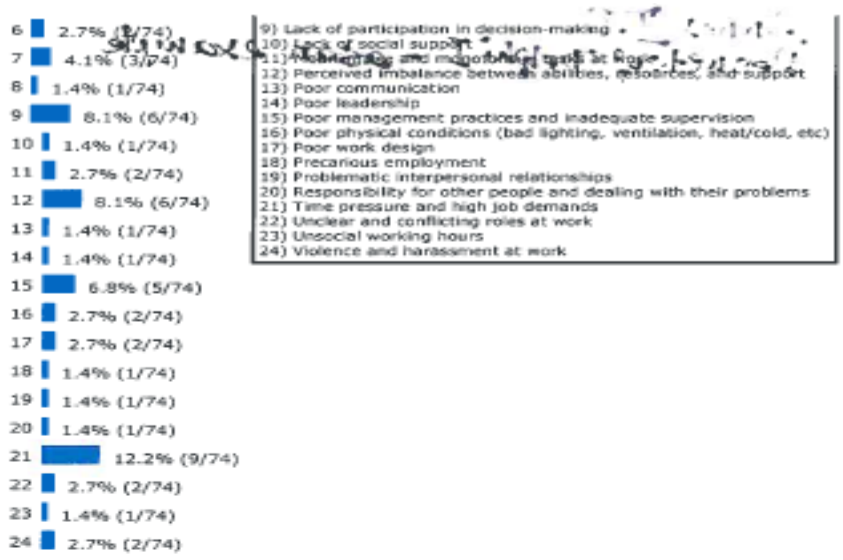
1	1.4% (1/74)
2	9.5% (7/74)
3	2.7% (2/74)
4	2.7% (2/74)
5	18.9% (14/74)
6	1.4% (1/74)
7	8.1% (6/74)
8	12.2% (9/74)
9	1.4% (1/74)
10	1.4% (1/74)
11	1.4% (1/74)
12	8.1% (6/74)
13	1.4% (1/74)
14	1.4% (1/74)
15	4.1% (3/74)
16	6.8% (5/74)
17	1.4% (1/74)
18	6.8% (5/74)
19	2.7% (2/74)
20	1.4% (1/74)
21	5.4% (4/74)

1) Conflict in interpersonal relationships that affect workers' health
2) Discrepancies between abilities, skills, job demands, expectations
3) Ergonomic problems
4) Increasing elimination of boundaries between work and home
5) Job insecurity
6) Lack of clarity about organizational objectives
7) Lack of control over work processes and job demands
8) Lack of participation in decision-making
9) Lack of promotion prospects
10) Lack of social support
11) Meaningless and monotonous tasks at work
12) Perceived imbalance between abilities, resources, and support
13) Poor communication
14) Poor leadership
15) Poor management practices and inadequate supervision
16) Poor physical conditions (bad lighting, ventilation, heat/cold, etc)
17) Poor work design
18) Precarious employment
19) Time pressure and high job demands
20) Unclear and conflicting roles at work
21) Violence and harassment at work

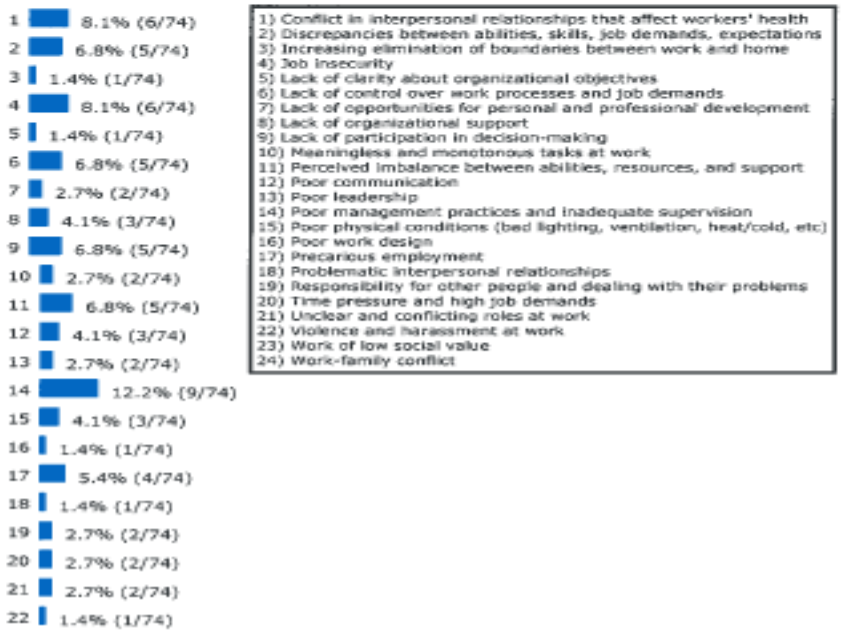
3) Second choice

1	8.1% (6/74)
2	12.2% (9/74)
3	4.1% (3/74)
4	4.1% (3/74)
5	5.4% (4/74)

1) Conflict in interpersonal relationships that affect workers' health
2) Discrepancies between abilities, skills, job demands, expectations
3) Ergonomic problems
4) Increasing elimination of boundaries between work and home
5) Job insecurity
6) Lack of control over work processes and job demands
7) Lack of opportunities for personal and professional development
8) Lack of organizational support



4) Third choice



23 2.7% (2/74)
24 1.4% (1/74)

5) Fourth choice

1 2.7% (2/74)
2 4.1% (3/74)
3 1.4% (1/74)
4 4.1% (3/74)
5 5.4% (4/74)
6 4.1% (3/74)
7 4.1% (3/74)
8 4.1% (3/74)
9 6.8% (5/74)
10 1.4% (1/74)
11 5.4% (4/74)
12 6.8% (5/74)
2.7% (2/74)
14 6.8% (5/74)
15 8.1% (6/74)
16 5.4% (4/74)
17 2.7% (2/74)
18 1.4% (1/74)
19 5.4% (4/74)
20 1.4% (1/74)
21 5.4% (4/74)
22 1.4% (1/74)
23 1.4% (1/74)
24 8.1% (6/74)

1) Conflict in interpersonal relationships that affect workers' health
2) Discrepancies between abilities, skills, job demands, expectations
3) Ergonomic problems
4) Increasing elimination of boundaries between work and home
5) Individual characteristics and behaviour
6) Job insecurity
7) Lack of clarity about organizational objectives
8) Lack of control over work processes and job demands
9) Lack of opportunities for personal and professional development
10) Lack of organizational support
11) Lack of participation in decision-making
12) Lack of social support
13) Meaningless and monotonous tasks at work
14) Poor leadership
15) Poor management practices and inadequate supervision
16) Poor physical conditions (bad lighting, ventilation, heat/cold, etc)
17) Poor work design
18) Poorly designed shift work systems
19) Precarious employment
20) Responsibility for other people and dealing with their problems
21) Time pressure and high job demands
22) Unclear and conflicting roles at work
23) Unsocial working hours
24) Violence and harassment at work

) Fifth choice

1 4.1% (3/74)
2 5.4% (4/74)
3 1.4% (1/74)
4 1.4% (1/74)
5 5.4% (4/74)
6 8.1% (6/74)
7 4.1% (3/74)
8 5.4% (4/74)
9 1.4% (1/74)
10 2.7% (2/74)
11 2.7% (2/74)
12 2.7% (2/74)
13 4.1% (3/74)
14

1) Conflict in interpersonal relationships that affect workers' health
2) Discrepancies between abilities, skills, job demands, expectations
3) Ergonomic problems
4) Increasing elimination of boundaries between work and home
5) Job insecurity
6) Lack of control over work processes and job demands
7) Lack of opportunities for personal and professional development
8) Lack of organizational support
9) Lack of participation in decision-making
10) Lack of promotion prospects
11) Lack of social support
12) Meaningless and monotonous tasks at work
13) Perceived imbalance between abilities, resources, and support
14) Poor communication
15) Poor leadership
16) Poor management practices and inadequate supervision
17) Poor physical conditions (bad lighting, ventilation, heat/cold, etc)
18) Poor work design
19) Precarious employment
20) Problematic interpersonal relationships
21) Responsibility for other people and dealing with their problems
22) Time pressure and high job demands
23) Transport to work
24) Unclear and conflicting roles at work
25) Unsocial working hours

ANNEX II.4: DELPHI II SURVEY

Prioritising issues in the area of psychosocial risks and work-related stress in developing countries (Delphi II)

Dear Colleagues,

Some of you recently participated in the first round of a Delphi survey that focuses on the understanding of issues related to psychosocial risks at work, work-related stress and more general occupational health and safety issues in developing countries. The response rate was very satisfying and the results constitute the basis for this second round of Delphi. As this will be the last of two rounds, as part of the Delphi methodology, it is important that we generate consensus that will guide us in prioritizing issues for future action in this new field of research. Therefore, it is essential that you complete also this survey.

However, if you did not complete the survey last time, it would still be much appreciated to receive your input as an expert with background in developing country contexts.

Once again we would like to ask you if you could spare us a few minutes to simply indicate the priorities with regard to the different questions. Where requested please respond with 'yes', 'no', or 'don't know'. The survey will take you about 10 minutes to complete.

The final report will present the findings and will be made available upon completion of the study and some key findings will be presented in the APA/NIOSH Conference in March this year.

Your personal data and answers are anonymous. After coding and processing the data all personal information will be deleted from the survey .

If you have any questions about the survey, you can contact us at the following e-mail: kortume@who.int.

As concerns terminology we are using the term 'risk' which is often used synonymously with the probability of a known loss. The fact that a person is exposed to a hazardous psychosocial environment means that there is a probability that the person will suffer physical and/or psychological negative health outcomes.

The term developing countries has been used for simplicity in this survey, and here it also includes emerging market economies (such as India, China, Brazil, and others).

Thank you very much in advance for your collaboration.

Best regards.

Evelyn Kortum
WHO, Geneva

Your e-mail

E-Mail_1

The email format is "xxxx@yyyy.zzz"

E-Mail_2

The email format is "xxxx@yyyy.zzz"

Affiliation

Title: Ms Mr Dr Prof

First Name

Family Name

Function *

Department

Institution

State

Country *

All countries
Afghanistan
Albania
Algeria
American Samoa

To make multiple selections, press the "Ctrl key" and click on the items to choose.

Area of expertise

If different from your country, please indicate here the developing country(ies) you know best (max. 2 choices):

All countries
Afghanistan
Albania
Algeria
American Samoa

To make multiple selections, press the "Ctrl key" and click on the items to choose.

Your discipline * Psychiatry ☐ Social work ☐ Medicine ☐ Psychology ☐ Epidemiology ☐ OH expert ☐ Sociology ☐ Ergonomics ☐

Others, please specify

1 - Considering the context of developing countries, what do you understand by the term psychosocial risk(s) considering the items in the list provided?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others you would like to see included

2 - Which occupational sectors listed do you think are most affected by the impact of psychosocial hazards and work-related stress in developing countries ?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others you would like to see included

3 - Please indicate which types of prevention and intervention approaches listed are applied or not to manage psychosocial risks in developing countries ?

	Yes	No	Don't know
Awareness raising activities *	○	○	○
Problem-solving and communication training *	○	○	○
Work (re)design *	○	○	○
Time management training *	○	○	○
Teamwork *	○	○	○
Spiritual raising events *	○	○	○
Preventive health check-ups *	○	○	○
Management training with a focus on prevention *	○	○	○
Comprehensive occupational health & safety policy *	○	○	○
Stress management training *	○	○	○
Health promotion programmes *	○	○	○

Others you would like to see included

4 - Which of the following are you aware of affecting particularly the female workforce in developing countries ?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others you would like to see included

5a - What are the main priority areas, from those listed, for action in addressing occupational health and safety issues in developing countries ?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others you would like to see included

5b - Which workplace issues and risks from those listed require urgent attention in developing countries ?

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others you would like to see included

Any additional comments would be appreciated!

I also completed the previous survey * Yes No

General comments

Submit the form

Delphi Questions and Options

1 - CONSIDERING THE CONTEXT OF DEVELOPING COUNTRIES, WHAT DO YOU UNDERSTAND BY THE TERM PSYCHOSOCIAL RISK(S)?

1) Conflict in interpersonal relationships that affect workers' health
2) Discrepancies between abilities, skills, job demands, expectations
3) Ergonomic problems
4) Increasing elimination of boundaries between work and home
5) Job insecurity
6) Lack of clarity about organizational objectives
7) Lack of control over work processes and job demands
8) Lack of participation in decision-making
9) Lack of promotion prospects
10) Lack of social support
11) Meaningless and monotonous tasks at work
12) Perceived imbalance between abilities, resources, and support
13) Poor communication
14) Poor leadership
15) Poor management practices and inadequate supervision
16) Poor physical conditions (bad lighting, ventilation, heat/cold, etc)
17) Poor work design
18) Precarious employment
19) Time pressure and high job demands
20) Unclear and conflicting roles at work
21) Violence and harassment at work

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

---

2 - WHICH OCCUPATIONAL SECTORS DO YOU THINK ARE MOST AFFECTED BY THE IMPACT OF PSYCHOSOCIAL HAZARDS AND WORK-RELATED STRESS IN DEVELOPING COUNTRIES ?

1) Agriculture
2) Call centres
3) Catering, accommodation and hospitality
4) Construction
5) Education and teaching professions
6) Healthcare professionals
7) Informal/unorganized economic sector
8) Information Technology
9) Manufacturing/industrial sector
10) Media and creative services
11) Mining
12) Police, security forces, law enforcement
13) Retail, hire and repair

14) Service sector (bank, insurance, social work, etc.)
15) Transportation

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

3 - PLEASE INDICATE WHICH TYPES OF PREVENTION AND INTERVENTION APPROACHES ARE APPLIED, TO YOUR KNOWLEDGE, TO MANAGE PSYCHOSOCIAL RISKS IN DEVELOPING COUNTRIES ?

	Yes	No	Don't know
Employee Assistance Programmes (EAPs) *	☐	☐	☐
Awareness raising activities *	☐	☐	☐
Problem-solving and communication training *	☐	☐	☐
Work (re)design *	☐	☐	☐
Promotion of supportive culture *	☐	☐	☐
Flexible working arrangements *	☐	☐	☐
Opportunities to rest and relax *	☐	☐	☐
Teleworking/working from outside the workplace *	☐	☐	☐
Time management training *	☐	☐	☐
Teamwork *	☐	☐	☐
Spiritual raising events *	☐	☐	☐
Preventive health check-ups *	☐	☐	☐
Management training with a focus on prevention *	☐	☐	☐
SOLVE programme of the ILO *	☐	☐	☐
Psychosocial risk management, risk assessment & risk reduction *	☐	☐	☐

Behavioural code of practice *	☐	☐	☐
Comprehensive occupational health & safety policy *	☐	☐	☐
Stress management training *	☐	☐	☐
Transparent and clear communications *	☐	☐	☐
Meditation *	☐	☐	☐
Thorough selection processes *	☐	☐	☐
Message on zero tolerance for violence, harassment and bullying *	☐	☐	☐
Health promotion programmes *	☐	☐	☐

Others, please specify

4A - DO YOU FEEL THAT MEN AND WOMEN ARE EXPOSED TO THE SAME PSYCHOSOCIAL RISKS AT WORK IN DEVELOPING COUNTRIES ?

* Yes ☐ No ☐ Don't know ☐

4B - WHICH OF THE FOLLOWING ARE YOU AWARE OF AFFECTING PARTICULARLY THE FEMALE WORKFORCE IN DEVELOPING COUNTRIES ?

1) Competition with men for higher status jobs
2) Disproportionate representation in higher-risk occupations
3) Exposure to sexual harassment
4) Gender segregation
5) Having to work with equipment traditionally designed for male physique
6) Inequality
7) Job insecurity
8) Lack of employment benefits
9) Lack of jobs/high unemployment
10) Lack of legislation against discrimination
11) Limited access to the labour market
12) Little possibility of promotion
13) Lower pay than men for the same work
14) Male-dominated society
15) Shift work
16) Vulnerable due to maternity-related absences (pregnancy, maternity leave)
17) Work, family, and social responsibility/multi-tasking
18) Working in rural areas

Please list your answers in order of priority: 1 most important - 5 least important

Delphi Questions and Options

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

5A - WHAT ARE THE MAIN PRIORITY AREAS, TO YOUR KNOWLEDGE, FOR ACTION IN ADDRESSING OCCUPATIONAL HEALTH AND SAFETY ISSUES IN DEVELOPING COUNTRIES ?

1) Address housing issues
2) Address job security including unemployment benefits
3) Address remuneration (pay, insurance, benefits)
4) Best practices dissemination
5) Build capacity through targeting training and education
6) Collect data on workers' health/surveillance and registration
7) Create a safety culture
8) Develop a more comprehensive legislative framework extending to unregulated/informal economic sector
9) Develop health and safety standards
10) Develop legislation to address workplace health and safety issues
11) Develop support and assistance systems
12) Development of expertise
13) Education and training
14) Implement and enforce legislation to address workpace health and safety issues
15) Improve the national health system
16) Monitoring and surveillance of psychosocial hazards and work-related stress
17) Policy/legislation and development
18) Preventive action
19) Risk assessment and hazard control in an integrated and comprehensive manner of all workplace hazards and known risks
20) Risk assessment and hazard control to address newly emerging risks, such as psychosocial risks and work-related stress
21) Risk assessment and hazard control to address traditional hazards
22) Sensitize communities at large
23) Stakeholder engagement and social dialogue
24) Update legislation to include psychosocial risks and work-related stress

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

5B - WHICH PARTICULAR WORKPLACE ISSUES AND RISKS ARE YOU AWARE OF THAT REQUIRE URGENT ATTENTION IN DEVELOPING COUNTRIES ?

1) asbestos
2) chemicals
3) infectious diseases (such as HIV/AIDS, tuberculosis and/or malaria)
4) injury/accident prevention
5) musculo-skeletal disorders
6) psychosocial hazards
7) silicosis/dust
8) Violence and harassment at work
9) work-related stress

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

DO YOU HAVE ANY ADDITIONAL COMMENTS YOU WOULD LIKE TO MAKE?

Delphi Questions and Options

1 - CONSIDERING THE CONTEXT OF DEVELOPING COUNTRIES, WHAT DO YOU UNDERSTAND BY THE TERM PSYCHOSOCIAL RISK(S)?

1) Conflict in interpersonal relationships that affect workers' health
2) Discrepancies between abilities, skills, job demands, expectations
3) Ergonomic problems
4) Increasing elimination of boundaries between work and home
5) Job insecurity
6) Lack of clarity about organizational objectives
7) Lack of control over work processes and job demands
8) Lack of participation in decision-making
9) Lack of promotion prospects
10) Lack of social support
11) Meaningless and monotonous tasks at work
12) Perceived imbalance between abilities, resources, and support
13) Poor communication
14) Poor leadership
15) Poor management practices and inadequate supervision
16) Poor physical conditions (bad lighting, ventilation, heat/cold, etc)
17) Poor work design
18) Precarious employment
19) Time pressure and high job demands
20) Unclear and conflicting roles at work
21) Violence and harassment at work

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

2 - WHICH OCCUPATIONAL SECTORS DO YOU THINK ARE MOST AFFECTED BY THE IMPACT OF PSYCHOSOCIAL HAZARDS AND WORK-RELATED STRESS IN DEVELOPING COUNTRIES ?

1) Agriculture
2) Call centres
3) Catering, accommodation and hospitality
4) Construction
5) Education and teaching professions
6) Healthcare professionals
7) Informal/unorganized economic sector
8) Information Technology
9) Manufacturing/industrial sector
10) Media and creative services
11) Mining
12) Police, security forces, law enforcement
13) Retail, hire and repair

14) Service sector (bank, insurance, social work, etc.)
15) Transportation

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

3 - PLEASE INDICATE WHICH TYPES OF PREVENTION AND INTERVENTION APPROACHES ARE APPLIED, TO YOUR KNOWLEDGE, TO MANAGE PSYCHOSOCIAL RISKS IN DEVELOPING COUNTRIES ?

	Yes	No	Don't know
Employee Assistance Programmes (EAPs) *	☐	☐	☐
Awareness raising activities *	☐	☐	☐
Problem-solving and communication training *	☐	☐	☐
Work (re)design *	☐	☐	☐
Promotion of supportive culture *	☐	☐	☐
Flexible working arrangements *	☐	☐	☐
Opportunities to rest and relax *	☐	☐	☐
Teleworking/working from outside the workplace *	☐	☐	☐
Time management training *	☐	☐	☐
Teamwork *	☐	☐	☐
Spiritual raising events *	☐	☐	☐
Preventive health check-ups *	☐	☐	☐
Management training with a focus on prevention *	☐	☐	☐
SOLVE programme of the ILO *	☐	☐	☐
Psychosocial risk management, risk assessment & risk reduction *	☐	☐	☐

Behavioural code of practice *	☐	☐	☐
Comprehensive occupational health & safety policy *	☐	☐	☐
Stress management training *	☐	☐	☐
Transparent and clear communications *	☐	☐	☐
Meditation *	☐	☐	☐
Thorough selection processes *	☐	☐	☐
Message on zero tolerance for violence, harassment and bullying *	☐	☐	☐
Health promotion programmes *	☐	☐	☐

Others, please specify ┌──────────────────────

4A - DO YOU FEEL THAT MEN AND WOMEN ARE EXPOSED TO THE SAME PSYCHOSOCIAL RISKS AT WORK IN DEVELOPING COUNTRIES ?

* Yes ☐ No ☐ Don't know ☐

4B - WHICH OF THE FOLLOWING ARE YOU AWARE OF AFFECTING PARTICULARLY THE FEMALE WORKFORCE IN DEVELOPING COUNTRIES ?

1) Competition with men for higher status jobs
2) Disproportionate representation in higher-risk occupations
3) Exposure to sexual harassment
4) Gender segregation
5) Having to work with equipment traditionally designed for male physique
6) Inequality
7) Job insecurity
8) Lack of employment benefits
9) Lack of jobs/high unemployment
10) Lack of legislation against discrimination
11) Limited access to the labour market
12) Little possibility of promotion
13) Lower pay than men for the same work
14) Male-dominated society
15) Shift work
16) Vulnerable due to maternity-related absences (pregnancy, maternity leave)
17) Work, family, and social responsibility/multi-tasking
18) Working in rural areas

Please list your answers in order of priority: 1 most important - 5 least important

Delphi Questions and Options

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

5A - WHAT ARE THE MAIN PRIORITY AREAS, TO YOUR KNOWLEDGE, FOR ACTION IN ADDRESSING OCCUPATIONAL HEALTH AND SAFETY ISSUES IN DEVELOPING COUNTRIES ?

1) Address housing issues
2) Address job security including unemployment benefits
3) Address remuneration (pay, insurance, benefits)
4) Best practices dissemination
5) Build capacity through targeting training and education
6) Collect data on workers' health/surveillance and registration
7) Create a safety culture
8) Develop a more comprehensive legislative framework extending to unregulated/informal economic sector
9) Develop health and safety standards
10) Develop legislation to address workplace health and safety issues
11) Develop support and assistance systems
12) Development of expertise
13) Education and training
14) Implement and enforce legislation to address workpace health and safety issues
15) Improve the national health system
16) Monitoring and surveillance of psychsocial hazards and work-related stress
17) Policy/legislation and development
18) Preventive action
19) Risk assessment and hazard control in an integrated and comprehensive manner of all workplace hazards and known risks
20) Risk assessment and hazard control to address newly emerging risks, such as psychosocial risks and work-related stress
21) Risk assessment and hazard control to address traditional hazards
22) Sensitize communities at large
23) Stakeholder engagement and social dialogue
24) Update legislation to include psychosocial risks and work-related stress

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

5B - WHICH PARTICULAR WORKPLACE ISSUES AND RISKS ARE YOU AWARE OF THAT REQUIRE URGENT ATTENTION IN DEVELOPING COUNTRIES ?

1) asbestos
2) chemicals
3) infectious diseases (such as HIV/AIDS, tuberculosis and/or malaria)
4) injury/accident prevention
5) musculo-skeletal disorders
6) psychosocial hazards
7) silicosis/dust
8) Violence and harassment at work
9) work-related stress

Please list your answers in order of priority: 1 most important - 5 least important

Click on the answer line for options

First choice *

Second choice *

Third choice *

Fourth choice *

Fifth choice *

Others, please specify

DO YOU HAVE ANY ADDITIONAL COMMENTS YOU WOULD LIKE TO MAKE?

ANNEX III.1: FOCUS GROUP SCHEDULES

Conferences:

- APA/NIOSH, Washington, USA (40 minutes)
- KOSHA World Congress, Seoul, South Korea (3 hours)
- ICOH/WOPS, Quebec, Canada (1 hour)
- EAOHP, Valencia, Spain (1.5 hours)

A. The facilitator discusses the topic background, the methods and the Delphi priorities issues. She puts the following questions to participants:

4. Considering the context of developing countries, what do you understand by the term psychosocial risk(s)?

5. Which occupational sectors are most affected by work-related stress emanating from psychosocial risks at work?

6. Please indicate which types of prevention and intervention approaches are applied, to your knowledge, to manage psychosocial risks in developing countries?

B. In-depths discussion with the following lead questions:

- Do you generally agree?
- Are there *particular* issues that are *more relevant* to developing countries then presented here?
- Are there are *any other issues* that are *relevant* apart from those presented?

ANNEX III.2: ACTIVE DISCUSSANTS' DEMOGRAPHIC DATA DIVIDED INTO THE FOUR FOCUS GROUPS

EAOHP Conference, Valencia, November 2008				
Sex	**Primary country[16]**	**Secondary country[17]**	**Professional background**	**Number**
F	Hong Kong	China homeland	Occ Psychologist	1
M	Mexico		Occ Health Expert	2
F	Egypt		Occ Health Expert	1
F	Serbia		Occ Psychologist	1
F	Australia	India	Occ Psychologist	1
F	Australia	East Timor	Occ Psychologist	1
M	Portugal		Occ Psychologist	1
F	Germany	Global view	Occ Psychologist	1
F	Ukraine		Psychotherapist	1
F	UK	Malaysia	Occ Psychologist	1
F	USA	African country	Occ Psychologist	1
				12

ICOH/WOPS Conference, Quebec, September 2008				
Sex	**Primary country**	**Secondary country**	**Professional background**	**Number**
M	Mexico		Occ Health expert	1
F	Australia	India	Occ Health expert	1
F	Chile		Occ Health expert	1
F	China		Occ Health expert	1
F	USA	African country	Occ Health expert	1
M	China		Occ Health expert	1
F	Colombia		Occ Health expert	1
M	Egypt		OSH expert	1
F	Turkey		OSH expert	1
M	Colombia		Occ Health expert	1
				10

World Congress on Occupational Health and Safety, Seoul, South Korea June 2008				
Sex	**Primary country**	**Secondary country**	**Professional background**	**Number**

[16] Primary country is the country of origin

[17] Secondary country is the developing or other country best known

M	Germany	India	Occ Health Medicine	1
F	Australia	Malaysia	Ergonomist	1
F	Philippines		OHS expert & Minister of Labour	2
M	Panama		Occ Health Medicine	1
M	India		Occ Psychologist	1
M	Japan		Occ Health Expert	1
F	South Korea	n/a	Occ Health Medicine	1

8

APA/NIOSH Conference, Washington, March 2008				
Sex	**Primary country**	**Secondary country**	**Professional background**	**Number**
M	Nigeria		Occ Health Expert	1
F	Peru		Occ Health Expert	1
M	China		Occ Health Medicine	1
M	Mexico		Occ Health Medicine	1
F	Colombia		Occ Health Expert	1
F	Poland	Russian Fed.	Occ Health Expert	1
F	India		OSH Expert	1
F	China		Occ Health Expert	1
F	Taiwan	China mainland	Occ Health Expert	1

9

ANNEX III.3:THEMES AND SUB-THEMES OF THE FRAMEWORK ANALYSIS

Considering the context of developing countries, what do you understand by the term psychosocial risk(s)?

Summary: The quotes lifted that refer to the understanding psychosocial risks can be divided into the following preliminary main categories:

1. **work context**
2. **work content (refer to Table 1.2)**

Main theme	Country/Region & issue	Themes	Sub-themes	Quotes
Psychosocial risks	Nigeria/AFR : Sub-Saharan African study: leadership, sexual harassment, issues of gender equality	Working environment & conditions (poor) (PS4) Harassment (PS2)	Leadership *(poor)* (PS4l) Sexual harassment (PS2s) Gender equality (lack of) (PS4g)	... we found that our preliminary results showed that leadership by [a source] has been reported by both male and female workers, especially in medium scale enterprises in Nigeria (PS4l). Sexual harassment [is an issue] (PS2s). There are a lot of questions about gender equality in the workplace (PS4g)- it is also [believed that you are unable] to talk about psychosocial risk in developing countries especially from sub-Saharan Africa, without looking at this issue, sexual harassment, because it is the common unpleasant experience that people report or that is known [as] common (PS2s).
	Nigeria/AFR : Bullying, violence, bank robbery in Nigeria common	Harassment (PS2)	Psychological harassment (PS2psych) Physical violence (PS2p)	Bullying of course is there (PS2psych), then violence. For instance, bank robbery is very common in Nigeria [especially in the big cities like Lagos]. Now and again, this is also a problem that is becoming definitive, especially with [Nigerians hanging around Nigeria, and yet people have to work in those areas] (PS2p).
	China/WPR: Workers in China dissatisfied with work demands & control; poor career development; salary issues	Work organization (PS3) Working environment & conditions (poor) (PS4)	Work demands & control (PS3wdc) Advancement & sustainability (PS4a) Salary (low) (PS4s)	Erm last year…demands, the job demands, the job control (PS3wdc), poor career developments (PS4a)and erm low salary (PS4s) [were evident psychosocial risks. Last year, the Chinese workers reported high job demands, low control (PS3wdc) and salary, (PS4s) as well as poor career development (PS4a). So (.) here, I don't know erm maybe this that is another important issue about psychosocial factors at work.
	Mexico/AMR:	Work	Resources	We have found another also, lack

	Lack of resources to do the job (tools, materials)	organization (PS3)	(lack of) (PS3r)	of resources for doing the jobs. You know, tools, materials, these are common stressors in Mexico, for example reports and you can find them in any model, so the lack [of] resources should be considered.
	Nigeria/AFR & Egypt/EMR: PS stressors can be addressed by providing resources, fair pay and less working hours.	Work organization (PS3) Working environment & conditions (poor) (PS4)	Resources (lack of) (PS3r) Fairness (PS4f) Work schedule (PS3ws)	Nigeria and Egypt. And then I worked with a multinational company in Egypt setting up occupational health. And what I found is a lot of the psychosocial stressors can be removed by actually people having resources (PS3r), fair pay (PS4f) and lower hours (PS3ws).
	Egypt/EMR: Pay only for long hours	Work organization (PS3)	Work schedule (PS3ws)	…, they have to work long hours to get the pay.
	Mexico/AMR: Dual-employment	Working environment & conditions (PS4)	Salary (low) (PS4s)	In Mexico, there is another thing that we must say. Sometimes, the same people who work in official work have another work none official work to have enough money. (PS4s)
	Mexico/AMR : PS priorities in Mexico	Work organization (PS3) Harassment (PS2) Working environment & conditions (PS4)	Work demands & control (PS3wdc) Resources (lack of) (PS3r) Interpersonal relationships (poor) (PS4i) Social support (poor) (PS4ss) Work schedule (PS3ws) Workplace safety/hazards (PS4w)	This is the priority order of risk factors; 1) mental load (PS3wdc) …; 2) low social support (PS4ss); 3) personality type A; 4) lack of human and (*inaudible speech);* 5) low perceived self efficacy; 6) few resources for working (PS3r); 7) work in confined space (PS4w); 8) low decision latitude (PS3wdc); 9) poor relationships and lack of cooperation(PS4i); (10) time pressure (PS3ws); low psychosocial support (PS4ss) and high job demands. (PS3wdc)
	(Australia) India/SEAR: Long hours Lack of resources (glasses)	Work organization (PS3)	Work schedule (PS3ws) Resources (lack of) (PS3r)	It's interesting. There are also challenges of that for let's say a group of women in a self-help group for example, that may still have to work long hours (PS3ws) and we did some interviews with some women that were stitching garments for international markets I suppose, and they were working long hours and they suffered a lot of eye problems as a result of actually not having access to glasses. (PS3r)
	Philippines/WPR: Characteristics of the working	Working environment & conditions	Interpersonal relationships	I thought, as presented by the presenters, also with my paper, risk means the exposure, or

	conditions OHS conditions interpersonal relationships physical ergonomic hazards exposure to tobacco [and] alcohol welfare provision	(poor) (PS4) Harassment (PV2)	(poor)(PS4i) Workplace safety/hazards (PS4w)	potential exposure to factors which may affect a worker's thinking, feeling, decision making, well-being and health and safety, ok? And such factors may range from the characteristics of the working condition (PS4i), the occupational safety and health conditions (PS4i), the interpersonal relationships (PS4i), the physical ergonomic hazards (PS4w), erm the exposure to tobacco [and] alcohol, ...

Please indicate what types of prevention and intervention approaches are applied to manage psychosocial risks in developing countries.

Summary: The quotes lifted that refer to the types of prevention and intervention approaches applied can be divided into the following main categories:

1. Primary prevention, e.g., those actions that focus on awareness-raising at organizational level
2. Secondary interventions, e.g. those that focus on the individual

Main theme	Country/Region & issue	Themes	Quotes
Interventions	(Hong Kong) China/WPR: Spiritual raising events for psychological well-being; Self-help approaches	Secondary Interventions (IntS)	I have studied the workplaces in Hong Kong, and workers gave the same answer *(in terms of spirituality and & spiritual raising events).*
	(Hong Kong) China/WPR:		Yeah and I asked them about what they meant by well-being, and they did answer in terms of spiritual well-being and psychological well-being.
	Mexico/AMR: Focus on individuals	Secondary Interventions (IntS)	I don't know [of the] situation in other countries, but, as much as I know in Mexico, the only prevention or intervention programmes are focused on individual risk, subject and the worker
	China/WPR: Individual and organizational level	Secondary Interventions (IntS) Primary prevention (IntP)	One study for the nurses, the intervention was for the individual level (IntS), and another one for the teachers, they applied [their intervention at both the organisational (IntOrg)and individual level (IntS)].
	Nigeria/AFR: Secondary : self-help; spirituality; praying; social support; seeking info from others Surrender to god	Secondary Interventions (IntS)	Spirituality is in efforts because people readily surrender…. It is typical in every workplace to find workers spending the first 10-15 minutes of the morning to pray because he or she does not know what to expect from the work... and just believe that he or she has to go to work [and] whatever comes out of it that they should surrender to God. Social support is prevention, and common intervention

			approaches. Sometimes where you have problems [that occur] when we are in the workplace, people seek information from others, and also find ways of overcoming such problems. So social support is one approach or strategy.
	Korea/WPR: Primary: awareness-raising	Primary Interventions (IntP)	(facilitator: Is that the most prevalent intervention you use in Korea? Awareness raising?) Erm yes, yes, I think so
	Korea/WPR: Secondary :stress programmes	Secondary Interventions (IntS)	(facilitator: Do you have any health promotion programmes in Korea?... At the workplace?) Stress programmes, but not stress management programmes.
	Korea/WPR: HP activities in Korea (uncertain)		(facilitator: No but in general, health promotion?) Erm yes, yes.
	Korea/WPR: Secondary : smoking cessation programmes	Secondary Interventions (IntS)	We have prevention programmes for cardiovascular diseases. For example, smoking cessation programmes are in place.
	M (Japan)/WPR. Secondary : health checkups primarily targeting physical health	Secondary Interventions (IntS)	I think the intervention approaches are maybe different from the disease or health effects… I think in physical health, erm the focus may be on the development of health checkups, as a secondary prevention. In [the] case of mental health, I don't think health checkups are effective, because we can only understand the erm [physical symptoms]… In mental health, health checkups are not effective. So I think this question should be more specific, whether this is mental health or physical health.
	M (India)/SEAR. Generally health checkups effective for preventing physical and mental health problems	Secondary Interventions (IntS)	… Interpretation [About the preventive health checkups, sometimes the physical health checkups can detect the effects of stress early. Despite it being a physical health check up, it is still possible to detect changes to mental health. They are useful in prevention].
	M (Germany/India)/SEAR Secondary: Health checkups easy and used, but ineffective	Secondary Interventions (IntS)	So I think the health checkups are very beloved, everybody likes them. The workers like them, the management likes them, the doctor likes them, but they are actually not effective.
	M (Panama)/AMR. Secondary: Psychobiological questionnaire	Secondary Interventions (IntS)	I agree totally with that doctor, but in our case, we established something that we call erm erm Psychobiological questionnaire. In this questionnaire, [we ask questions regarding physical ailments, e.g. has your hair fallen out in the last 3 months? A lot of questions are asked in the medical examination related to stress. I agree that sometimes it is too

			late for prevention] but if you don't establish this in the medical examination, you don't challenge the mind of the medical doctor, you don't challenge the mind of the patient. I am agreed that they do need to give counselling, but how are you going to give counselling if you don't start in one point.
	M (Japan)/WPR. Suggestion: Health checkups could be effective as primary prevention provided there is good health education	Secondary Interventions (IntS)	I think medical checkups are so far considered as a secondary prevention. But I think health check up is a very good opportunity for primary prevention. In Japan, we have a national policy developing. Health guidelines, health education after health checkups should be conducted [this is a new Japanese policy]. So I think health checkups are very effective if we give a good health education.
	F (Philippines)/WPR. Rationale: Medical checkups are done for compensation purposes	Secondary Interventions (IntS)	You were discussing about the value of medical examination, and I fully support that. [At times these medical exams are actually quite useless], and not testing what it should test. But it's needed for things such as compensation and benefits and so on.
	M (Mexico)/AMR Secondary intervention : health (promotion) programmes 10 minutes	Secondary Interventions (IntS)	In 60-70% of organisations, there is so much responsibility on underpaid managers and workers and the most important efforts are directed at health programmes. In the professional industries, 60% of professional health programmes are compared with 90% of professional health-centred programmes without psychology professionals…
	M (Mexico)/AMR Lifestyle interventions (physical exercise, diet, tobacco & alcohol control,...)	Secondary Interventions (IntS)	Therefore intervention programmes are designed without clear direction. These programmes include lifestyle interventions, for example exercise, diet, control of tobacco and alcohol consumption, and medical services.

Macro-economic, social and political issues

Summary: The quotes lifted that refer to macro issues identified can be divided into the following main categories:

1. **Globalization** that includes threat to employment, migrants (unprotected in informal work)
2. **Legislation** that includes enforcement (lack of)
3. **Socio-economic conditions** & **social determinants for health** that include job security (low), extra-organizational issues, skills (lack concerning *new forms of work*), poverty & life stress; welfare provisions
4. **Two topics with an overarching character were identified: a) need for a new framework/paradigm to study developing country contexts; b) exploring the logic in dichotomizing developing and industrialized countries.**

Main theme	Country/Region & issue	Themes	Sub-themes	Quotes

Macro-economic, social and political issues	M (Germany/India)/SEAR. Basic existential life stressors (have work, get paid..)	Socio-economic conditions (SEC1)	Poverty & life stress (SEC1p)	I think from what I have seen in developing countries, is more stress about work, working relations, the [precarious nature of work], having work the next day, erm and getting a payment, and not being you know chased around and I think that is for instance, if we look at the agricultural sector, the stress is not that you have a deadline necessarily, the stress is, 'will it rain tomorrow, or will it rain next week, or will it rain too much next week so I'll lose my harvest?' Can I get it to the markets, and what do I get paid for [my produce]?
	M (Mexico). Dual-employment	Socio-economic conditions (SEC1)	Poverty & life stress (SEC1p)	In Mexico, there is another thing that we must say. Sometimes, the same people who work in official work have another work,(SEC1p)
	F (Australia/East-Timor - SEARO). Probs are different in industrialized and developing countries, in particular with respect to family linkages *Suggestion*: differences are based on closer ties to the family and community in developing countries (and aboriginal communities)	Socio-economic conditions (SEC1)	Extra-organizational issues (SEC1e)	I do a lot of work in East Timor too and the psychosocial issues that come up in East Timori workplaces are around the factors of post trauma society and family linkages are if anything more important than they are in my circumstances in Australia… so I think the difference I see

				between aboriginal communities, indigenous communities in Australia and Western communities and Western workplaces and indigenous workplaces is the family and I've seen similar things in other developing nations.
	M (Mexico)/AMR PS priorities in Mexico	Socio-economic conditions (SEC1)	Job security (low) (SEC1j)	…and job insecurity(SEC1j)
	F (English)/AFR. Differential treatment as per education Basic life-sustaining stressors/feed family	Socio-economic conditions (SEC1)	Poverty & life stress (SEC1p)	Nigeria and Egypt. So my concern is, you know, where do we start? Do we start on those in the big companies who have better resources or do we start in the environment where people don't have this access, and the major psychological stressor is the need to feed their families. (SEC1p) And I'm struggling with that balance because I've worked in both areas. And I found in the multinationals in quite a few countries, they tend to treat the people who are well educated, been to university or have more education better than they treat their drivers, their security guards, their catering staff

				who are on low pay and long hours. (SEC1f)
	M (Germany/India)/SEAR. Socio-economic context (SEC1)	Need for a framework to include life stressors (e.g., food crisis) Economic issues Lack of health insurance, etc.	Poverty & life stress (SEC1p)	We all know that the food prices at the moment are going up and down… so I think that that kind of general life stress or I would almost say there is a group of stress factors more related to governance and society in general, not having health insurance. We all know that health, erm health events so to say, for the family are financially draining the families when the kids are sick. We know that a lot of people are taking on credit or selling their assets, just to pay the hospital if there is an accident, if the children are sick, etc. And that kind of stress I think is absolutely predominant over anything which can happen at the workplace if you are lucky to have work. So I think we have to, in a way look at these kinds of life stress factors, maybe more and how it relates to work.
	F (Colombia)/AMR Socio-economic conditions (SEC1)	Lack of skills for new forms of work for rural migrants who go to the city to find work.	Skills (lack concerning *new forms of work*)) (SEC1s)	Erm I think in the developing countries we have very important issue. [We are in transition, coming from an agricultural age and moving

				towards an industrial one]. So we have people working, people in both situations… migrating from country to the city, and in that case I think we need to focus and these people that have to migrate have to often face a new situation where they may not have the abilities to, or the educational level that they need to do this work, and that I think puts them at very high risk situation for stress.
	F (Peru).	*Formal versus informal sector work. The risks differ*		*I would like to hear from your perspective of the conditions of work related psychosocial risks and the difference [between] the formal and the informal sector and how we capture this difference when we talk about psychosocial risks in general.*
	F (Colombia)/AMR Socio-economic conditions (SEC1)	High risk of job loss for informal sector workers (precarious working conditions)	Job security (low) (SEC1j)	Because of the downsizing in Colombia… we have a lot of people working in [the] informal [sector]. Right now, I think government has looked at this very carefully and is trying to protect the workers in some way. But some investigations have shown that informal workers in Colombia are at

				most risk… risk for them was more than for employing formal workers.
	M (Mexico)/AMR Socio-economic conditions (SEC1)	Job insecurity	Job security (low) (SEC1j)	I think that we must consider job insecurity as an essential factor in developing countries.
	F (Colombia). Socio-economic conditions (SEC1)	Job insecurity, unemployment	Job security (low) (SEC1j)	Well you see, in the first part, job insecurity is an important thing. Then I would think that because of problems of unemployment, lots of people without a job.
	M (Nigeria)/AFR Socio-economic conditions (SEC1)	Unemployment related to lack of transport	Extra-organizational issues (SEC1e) and Job security (low) (SEC1j)	Yes. I find this very interesting… Erm isn't it, if you take a little bit wider context, isn't a risk also unemployment and transport, because of transport or lack of transport (SEC1e); people are not able to get to work... (SEC1j)
	F (Peru)/AMR Socio-economic conditions (SEC1)	Extra-org factors are very important, e.g., socio-economic context where people live; transport to work	Extra-organizational issues (SEC1e)	...I think (it) is extremely important in how we perceive work and the consideration of extra-organizational factors, such as lack of transportation…... and socioeconomic context where people live. (SEC1e). I'm from Peru and I feel I was lucky enough to do my doctorate research in Peru, and really to be a witness of, you know, how important it is to be able to have for

				example access to potable water and how then it has a relationship with how satisfied you are at work.
	Philippines/WPR Characteristics of the working conditions OHS conditions	Socio-economic issues (SEC1)	Welfare provisions (SEC1wp)	I thought, as presented by the presenters, also with my paper, risk means the exposure, or potential exposure to factors which may affect a worker's thinking, feeling, decision making, well-being and health and safety, ok? And such factors may range from the characteristics of the working condition (PS4i), the occupational safety and health conditions (PS4i), the interpersonal relationships (PS4i), the physical ergonomic hazards (PS4w), erm the exposure to tobacco [and] alcohol, and the current welfare provision (SEC1wp).
	Nigeria/AFR Impact of globalization on work opportunities and ways of working	Globalization (M1)	Threat to employment (M1t)	You know you can't go to work, all of a sudden because of issue of globalisation introduced, the programme that threaten your work and the way the way you work, so these are issues that you know should be considered.
	Peru/AMR Government not interested in enforcing legislation; limited	Legislation (M2)	Enforcement (lack of) (M2e)	But going back to the point of the macro level problem, there are regulations, there

	options for researcher action			are a bunch of regulations you know, in almost every country, but there is no enforcement yet and the government doesn't care about it (Se). The government doesn't pay researchers on this; a government for each of these countries. So there is so much that this expertise, that these people in Latin America can do, from you know researchers or even non-profit organisations. There is a very limited option there (Sr). But there certainly is expertise.
	Australia/WPR/Malaysia	SDH (M3)	Economic & job conditions (MSe)	I think this question *(understanding of PS risks)* has a concentration on the so called social determinants of health that are maybe hidden in this. These additional factors are more related to job and economic conditions, or working conditions within the framework of the so-called social determinants of health.
	Australia/ WPRO/India Work/non-work divide cannot be divorced (e.g., in aboriginal community) Suggestion: need to address the complete social situation with its	SDH (M3)/WPR	Economic & job conditions (MSe)	And I think perhaps that the important thing to remember when you are dealing with countries other than places like Australia or

	existing differences			the more developed parts of places like Australia, is that the work/non-work divide is quite different in Melbourne than it is in an Aboriginal community in central Australia and so dealing with issues about psychosocial stress at work can't, in the same way as it perhaps can in an office in Melbourne, be divorced from the work/non-work issues. (Sc) That's perhaps the useful differentiation to think about, is that you can't improve psychosocial factors at work in those communities, without also addressing the complete social situation, and even more important perhaps is to think about integrating those strategies in disadvantaged lower income communities, than in places like Melbourne or Sydney.
	Mexico/AMR Migrant workers: lack of social security; compensation; protection; problem of language	Globalization (M1)	Migrants (unprotected in informal work) (M1m)	I just have an additional comment on this…there is an additional factor for example, migrants or immigrant workers in countries… they are, they do not have the social security rights, for example in the US. This is such a

				great problem. They are not supposed to make any complaints. They are not supposed to apply for any workers' compensation, protection or any right, and so this is a big framework, so I am not really reducing the meaning of *[the issues already highlighted in the Delphis]* but I am just commenting on additional factors that exist in developing countries, essentially related to for example language. In addition there are the problems that migrants experience; not having the local rights, local protection, legal protection. So these are confounding factors that may be bigger than the working conditions.
	USA/AFR Migrant worker issues Suggestion: need for local level policy focus Unscrupulous employers	Globalization (M1) Legislation (M2)	Migrants (unprotected in informal work) (M1m) Local level policy focus (lacking) (M1l)	So it seems like, your example of the migrant workers, you know this is a globalisation process. This is something we have maybe more in developed countries that have infrastructure; they have policies and experts in place. Yet there are unacknowledged sectors that are left out of the picture and in

	who don't pay workers Issues: security; economic security			order to really kind of deal with them, we need to have you know a local, not just a national level policy focus. So this brings me to my second point, which is an example from Southern California where there's a group that called for a Maintenance Corporation trust fund, which is a joint programme that's funded partly by (*inaudible speech*) tax in the US and partly by employees in the janitorial industry. This is the group focussed on trying to deal with low wage janitorial workers, [which comprises] most of the migrants in Southern California. And you know many of them are working for employers who are very unscrupulous and don't pay these workers. And so for them, their immediate concern is employment, not just employment security, but getting paid. So when we were kind of talking to them, they were like focussed on, not on psychosocial work stressors, but on these larger issues of security, economic security and how you go

				into these communities and actually get through the fears and begin to report these conditions and follow up.
	USA/AMR Ruthless employers; what makes these employers unscrupulous? Suggestion: Employer and consumer attitudes as driving forces	Globalization (M1)	Migrants (unprotected in informal work) (M1m)	Yes, a most interesting point brought up about employers and that we still have these kinds of conditions that produce these you know employers that are still very ruthless and as long as we have this kind of mentality, these sort of problems are going to be here forever. What I think we should be looking at as well is what makes people become unscrupulous employers? You know, why are they that way? Because we live in a globalised world now and you know, we can buy our products but where are they made? We want it quick and we want it perfect and we want it looking good and we are western societies that thrive on fashion and a lot of this stuff is made in China or in Mexico, you know. So in a way it's kind of our fault and I think we need to recognise that.
	Germany/ India/SEAR Precarious legal	Legislation (M2)	Migrants (unprotected in informal work) (M2m)	We have the problem of migrant workers, erm the whole cultural

	situation, e.g. of migrant workers and lack of enforcement of or lack of registration			factors, the precarious legal situation… I think if we look at specific sectors, then we [will] have a much clearer picture of psychosocial stress factors
New framework or paradigm				
	Australia/Malaysia/SEAR	I think that some of those factors external to the workplace, as you're saying, are more important for peoples' well-being, than what's going on at work, for exactly those reasons. So I think in the lower income countries, **we need to adopt a broader perspective** [on] what's affecting peoples' well-being and not focus just on the workplace, even though we are occupational safety and health. It affects peoples' vulnerability to injury; it affects what is important to them, and we are concerned in the workplace with what is important to people.		
	Germany/India	I think we have to **position work and having work a little bit differently** in developing countries or in very low income situations; completely differently than how we position it in, in industrialising countries with high income. I think that **maybe we need a new framework in a way**.		
	Australia/Malaysia	It becomes a matter of where you draw a boundary around occupational ... So I think it is n**ot a clear cut boundary** at all, particularly in the informal sector…I think it is imp**ortant that look at these broader issues**.		
Dichotomy developing/industrialized countries				
	Mexico/AMR	[In] developed countries and developing countries, it is still useful to look at the countries and the internal distribution of the workers and employment and also poverty. Maybe most countries have this developed in their own country's profile… and this kind of different distribution is used to divide the world into two worlds.		
	Mexico)/AMR	I think the first step is to avoid this kind of division. Underserved groups that are found in developing countries, maybe found also in the United States for example, which is not exactly a developing country… We should make a change from the internal national profiles and the informal workers and workers in the informal sector really deserve attention in countries all over the world. They are found in all countries, so maybe a thought could be to correctly address underserved workers worldwide, not exactly divided by country, but divided by social scale or section of the labour force…		

Barriers and potential solutions

Summary: The quotes lifted that refer to barriers to addressing causes and potential solutions of psychosocial risks and work-related stress have been divided into two main categories that encompass a number of **suggestions** for improvement and **barriers** where no suggestions have been provided.

Main theme	Country/Region & issue	Themes	Sub-themes	Quotes
Barriers and potential solutions	Peru/AMR Companies can facilitate, e.g. transport to work Solutions in addressing extra-organizational issues	Suggestions (S)	Employers can facilitate (Se)	I totally think that when we are looking at psychosocial risks and how we perceive the organization, is how much we consider the impact of the other factors. Because the organisations have the power to, in some way or another facilitate. For example, you know; if transportation is an issue, provide buses for people, or you know facilitate in a way. So, I truly believe that ignoring the impact of the extra organisational factors, yes, is very serious.
	Poland/EUR More research needed in developing countries; identify common problems and specific problems	Suggestions (S)	Research needed (Sr) Consider differences & common elements within and between countries (Sc)	In relation to the earlier presentation, I agree with this point of view that it's the name of (1) altogether the low income countries, it's not that specific because each country is different, and therefore, [I think surveys should be developed that involve each developing country], and on the basis of this erm research, we would take together the results from each country (Sr) , find out the specific problems and find out the common problems, because some of

				them are common for each country and some of them separate. (Sc)
	Colombia/AMR More research required in informal sector with worker involvement to understand and be able to help	Suggestions (S)	Research needed (Sr)	We need long investigations [and] research, in order to know what's going on with the help of these people [and in order to make changes can be made in their working lives].
	China)/WPR Limited prevention	Suggestions (S)	Research needed (Sr)	I think in the recent review I found different studies [on interventions]… maybe 15. And one study, I couldn't remember the exact number [of interventions], but it's quite a small one. Yeah it's not very big.
	Germany/India/SEAR Multi-nationals should want to maintain an image	Suggestions (S)	Fear of prestige loss for companies (Sm)	Multinationals are working in developing countries because they may have an image to maintain. They may have to defend their image, so they are open to pressure in a way, pressure in a good sense, in a sense of improvement of working conditions, perhaps adherence to the standards of ILO if the countries have accepted them. It's like a trickle down effect from the working conditions of the multinational corporations. I'm not familiar with conditions in other countries.
	Peru/AMR	Suggestions	Experts (available)	With reference to

	Expertise available in Latin America as a solution	(S)	(Sa)	the question of expertise, at least for Latin America, you would say certainly yes. There is expertise
	Australia/WPR What is the real problem? Which approach will be successful? Networking	Suggestions (S)	Networking (Snet)	The problem is not lack of experts and lack of expertise and so I think networking and talking to each other is very good and that is a good function of such events. But I don't believe that training more people from the government or academics is a good enough solution. I think it's important, you know having chances like this is very valuable but I don't think it's a solution to the problems that the World Health Organisation have identified.
	Australia/India/WPR Need: publish work from emerging economies Lack of communication about working conditions comparable across the world Need for a 'network' who gathered info to undertake the interventions and not the researchers Network	Suggestions (S)	Research needed (Sr)	I'm not sure if this is really a problem for this last topic, but I think one of the issues is the lack of presentation of knowledge in this area, in the literature. So I think there is a real problem in the journals in this area…work that is being done in emerging economies is not being published in the mainstream journals and this is really troubling. (Sr) And it would be very good if we were above organisations,

			Networking (Snet)	able to see how they are managing to get together information that is not under the control of anybody, and find out where all information can be put together, so that people can access it, because a lot of the issues will be quite similar in small rural communities where the women are doing weaving or whatever and for external markets somewhere else in the world. Some of the conditions that they work in are very taxing, psychologically. It would be good if somebody else in the world understood that and so there could be some communication. (Sr) So I would be very interested in seeing how the knowledge, 1) is developed, and then 2) how it's disseminated. And we need to think about you know, who we give the information to or who we work with to develop the information so that it is useful, so that it's not just us that do the intervention. It could be a network or something that takes the information that is understandable

				because they've helped develop it and then do something with it. (Snet)
	Egypt/EMR Suggestions (S)	Info does not come through journals, but through communication in networks Need for better info sharing beyond publications	Networking (Snet)	I know, I'm part of a network… And I think that would be good if there was something like that, where we can actually say, well actually this area is doing a study in this and this is what they are finding. You can go on it and share information with each other. And I have found this really useful…I've been able to keep in touch with what's going on and know what's happening in those fields rather than keep losing touch of it because I'm not getting the information from the popular journals.
	Australia/WPR Need: repository	Suggestions (S)	Networking (Snet)	And build a repository
	Australia/SEAR Need: to work with Unions; Unions require scientific info; obtain better info from Int'l Unions about comparative working conditions	Suggestions (S)	Networking (Snet)	It is important to work with the unions as much as possible because they have all the networks among the workers and I can understand the need for you know scientific information, so working collaboratively would be a really good way forward…. We need something international to help us national worksites so we can get better

				information about comparative conditions.
	Germany/ Ireland/global Need to strengthen legislation in developing countries	Suggestions (S)	Strengthen legislation (Ss)	What our study shows…. is that the health and safety laws actually work in some countries and they go back in some of the developing countries. So I mean the input is needed there to also strengthen the legislative side.
	Mexico/AMR Focus on intervention needs to be refined/adapted	Suggestions (S)	Interventions/tools (redefine/refine approaches)	Exactly, the problem is that maybe also the intervention focus has been [inadequate]. That's why we need to improve that.
	Ukraine/EUR Need: making psychological support available	Suggestions (S)	Interventions/tools (redefine-refine approaches) (Si)	I have a lot of specialist expertise in maritime industry, aviation… They all need professional support, psychological support and maybe, one point would be to make psychological support readily available.
	EMR Need for effectiveness evaluation of interventions and more info about the kinds of interventions	Suggestions (S)	Interventions/tools (redefine-refine approaches) (Si)	…, again like that lady was saying, these are things that, is it something that people have heard about or is it something they actually do? And also how effective are they? You know, because in some places I've seen where they have these wonderful programmes but they are

				absolutely not effective at all. It's just tick a box; you can do this.
	USA/AFR Need for information dissemination	Suggestions (S)	Raise awareness (need) (Sra)	Do you have dissemination of the information as part of, information about the impact of changes?
	USA/AFR Need to target employers	Suggestions (S)	Interventions/tools (redefine-refine approaches) (Si)	Information about the hazards of occupational stress and the positives about improving the work situation? Do you get that dissemination of that information to employers.
	Colombia/AMR Lack of knowledge of OHS policies; need to teach application to effect change Country differences that need to be studied & acknowledged	Suggestions (S)	Raise awareness (need) (Sra) Consider differences & common elements within and between countries (Sc)	And one thing that you asked before about comprehension of occupational health and safety policy, in Colombia where I come from, I think we have very good policies about occupational health…. But most of the people, most of the Colombian workers don't know these policies. And when they know it, they don't use it… I think we need to teach people about how to use these good policies, and how to use them in order to change a situation. (Sra) And another thing is erm we need to have a global conversation about this situation. But developing countries have

				different situations. [For example], I am sure that African situations, some parts of Africa are totally different from South Africa situations. So in those cases I think, we need to have enough flexibility to count these differences and don't let them go or pass without knowledge. (Sc)
	Australia)/WPR Change required in workplaces and the community	Suggestions (S)	Interventions/tools (redefine/refine approaches) (Si) Consider differences & common elements within and between countries (Sc)	The problem there isn't that we aren't aware of that and that we haven't got the skills in the country to deal with it, the problem is the capacity to actually address the fundamental causes and change the circumstances in which workplaces function and change the issues of control and demand and social support within the workplaces which requires change in communities as well. (Si) I think that's the difference that's important between the countries that are called 'developing' and countries that we might call 'developed'. (Sc)
	Egypt/EMR Need for country-specific implementation of interventions	Suggestions (S)	Consider differences & common elements within and between countries (Sc)	I think again it has to be country specific when you implement because every country has different problems. One risk may be

				higher in one country than another.
	Uruguay/ (translator)/AMR Differences in between countries & the public/private sector work	Suggestions (S)	Consider differences & common elements within and between countries (Sc)	One of the things that she found in Uruguay was that it wasn't the same in other countries in South America, Latin America, and it differed depending on the employment… If you work as a teacher, for example….. in the public and also in the private sector.
	Australia/India or East Timor/SEAR Worker involvement to acquire change	Suggestions (S)	Involve workers-communities (Sinv)	Talk to people in these communities, not just the professional experts, but the actual practical experts and talk to them about what changes they would like to see. I know you can't talk to every worker in the world but that's the kind of study that would be very practical and useful next step is, take some of this material and ask people in particular communities and in particular contexts how these issues are manifested for them because that will help you see what kinds of changes might be needed. And it also validates their experience, which seems to me a first step on a path to changing their experience.
	USA)/AFR	Suggestions		… it's surprising when you start

	Community focus required Better understanding of legislation needs at national level	(S)	Involve workers-communities (Sinv)	looking out there and I mean I don't work specifically with workers in informal sectors in the developing world, or even within the developed world, but I think there are worker and community organisation groups that do involve and that may be out there working hard in these areas that, you know a group like the world Health Organisation rather than just focussing on the national level and the experts at that level, could liaise with those community organisations that are working, whether it's labour unions as someone suggested that do know their workers really well, but also more grassroots organisations I think, that may have a better sense of what's going on locally, that can then sort of contribute to what needs to be done legislatively or on a national level
	Australia/SEAR Solution: sustainable approaches through applying traditional & sustainable ways of creating livelihoods in an environmental & economic sense	Suggestions (S)	Respect for traditional ways of creating livelihoods (Sresp)	One of the strategies that has been used in East Timor in that area is focussing on trying to reform what we would consider orthodox employment

				relationships, but looking more at sustainable livelihoods and the economic development model. So not trying to create modernisation and that sort of stuff, but actually looking at the traditional ways of creating livelihoods and supporting sustainable approaches to that. Not only sustainable just in an environmental sense, but sustainable in an economic sense too. People can become much more self-sufficient and not reliant on western style industrialisation. And I think that's one way that can start to I think create ways of dealing with control and demand in workplaces.
	Australia/WPR Talk to the workers & you will obtain strategies Build relationships with existing communities	Suggestions (S)	Respect for traditional ways of creating livelihoods (Sresp)	All strategies come out of those discussions I've found. That's where the sustainable livelihoods approach has come in international development, from communities saying we don't want industrialisation. We don't want that kind of development here. We want to be able to live in a

				particular way that may be related to the traditional approaches. That's where that impetus has come; it's not come from the experts, it's come from the communities themselves. So by building relationships with existing groups, it's a way of building that capacity.
	Australia/WPR. Better understand the living and social contexts of traditional communities	Suggestions (S)	Respect for traditional ways of creating livelihoods (Sresp)	You know, we don't have extended families because they are in a different city. What would it take to have a job, have an income, have a sustainable livelihood and still have a big family? We could learn a lesson.
	Germany/India/SEAR Focus on basic needs for most Indian workers We require different words/categories/tools to work with the workforce that tries to survive and has existential stress	Suggestions (S)	Interventions/tools (redefine/refine approaches) (Si)	I think we should have a look at the instruments we're having. If it is actually appropriate even to talk about stress in developing countries. If we look at construction workers in India as you mentioned, this is a migrant labour force, they are living on the streets, the children virtually sleep on the roads and sometimes they are rolled over by a truck or something. Erm there is virtually nothing; they are surviving from day to day. They don't

				even know what to eat everyday. Erm I think our tools we have developed in that sense are completely inappropriate to measure that. Erm they are happy to have a job at all so they can buy rice in the evening to eat something. And if the supervisor is yelling at them, they don't care, because they are happy to have a job and to get the rice in the evening… In a way I think we need to develop other instruments or different words, or different categories to talk about that.
	Australia/WPR We chose easy ways to address the necessary issues	Suggestions (S)	Interventions/tools (redefine/refine approaches) (Si)	And we'd much rather train people and raise awareness than do that.
	Germany/India/SEAR Heath checkups as an ineffective approach to prevention Counselling as a better solution	Suggestions (S)	Interventions/tools (redefine/refine approaches) (Si)	If somebody has developed [hypertension], really because of stress, we are not going to get this away with a health check-up. We find it, but we are 20 years too late. So preventive counselling might be something else.
	Australia/Malaysia/SEAR Health checkups only focus on the individual level Focus/attention needs to stay on the workplace	Suggestions (S)	Interventions/tools (redefine/refine approaches) (Si) Boundaries (Sbound)	… You said that a medical examination or counselling could be used as a form of primary intervention. It will only be effective at best, at the individual level. (Si)

				It won't address effectively anything in the workplace. So given that we wanted our first priority [to be to eliminate or reduce the source of the hazard], that has to be workplace based primarily, and I think that's where we should be focussing our attention.
	Korea/WPR Awareness raising	Suggestions (S)	Raise awareness (need) (Sra)	So I think, erm awareness raising activities should be our primary concern.
	Philippines/WPR Awareness raising beyond the workplace Integrate PS in comprehensive OHS policies to make the approach to OHS more useful Focus on the comprehensive OHS approach, develop establishment policies	Suggestions (S)	Raise awareness (need) (Sra) Way forward (specific topics proposed) (Sw)	I think most important is marketing the concerns, the psychosocial factors in the workplace as a very important concern. And as I have already said, it is not just the usual psychosocial [factors], such as drugs, alcohol, [that should be assessed], but the working conditions, the physical conditions, the organisational conditions. (Sra) Therefore I believe that if we could integrate the psychosocial factors in the comprehensive erm occupational health and safety policy, and integrate this in the programme, rather than focus

				on specific things that don't necessarily relate harmoniously with each other, it would be I think more useful if, if that is marketed to countries, to workplaces, to our stakeholders. And then, integrating this in whatever we are giving [as] prevention training, information or technical services, developing our policies and programs at establishment level. (Sw)
	Germany/ India/SEAR. Need for more resolution through addressing specific sectors Next: Sector approach to define categories we are dealing with	Suggestions (S)	Way forward (specific topics proposed) (Sw)	I think if we look at specific sectors, then we [will] have a much clearer picture of psychosocial stress factors. So I think the next step would be to really look at specific sectors and and do research or surveys through a variety of countries to see what… categories we are dealing with.
	Australia/Malaysia/WPR Integrate PS into general OHS management approaches Need to look at the outcome diseases and deal with the several possible hazards to which the worker is exposed at the same time (comprehensive approach) People see talking about PS issues as trivial	Suggestions (S)	Way forward (specific topics proposed) (Sw)	Yes I agree about the need to integrate into the general erm OH & S management more broadly, and I think to achieve that…we need to take as our starting point, the health condition, disease, the type of injury that we are concerned with, and work back from that. Particularly

	Other priorities need addressing Need to focus on the causes of disease			important are diseases or types of injury that have multiple possible hazards, erm which is the case with psychological injury with general well-being, [and] also the case with musculoskeletal disorders. I think it's really particularly important in those kind of health problems, or health conditions, to focus on the condition, and I quite agree with peoples' perception of psychosocial risk or hazard or whatever it's called. I think we have to stop talking about psychosocial hazard or risk altogether. Not from an academic point of view, but in a workplace context, because people just are not interested. They see it as trivial, particularly in poorer income countries. You know… if you have got people at risk of erm silicosis, surely dealing with that is more important than dealing with psychosocial hazards, whatever they might be I do think we need to focus on the outcomes and work back. And it doesn't matter whether we use the word

				psychosocial or stress at all; we need to focus on the causes.
	Philippines/WPR A number of suggestions for future research .... Could research best approach to medical exams Future research, cost-benefit studies on tobacco prevention, nutrition, etc., etc.	Suggestions (S)	Way forward (specific topics proposed) (Sw)	So probably what we could do there is do an analysis, erm of this type of medical exam… and really analyse and make suggestions [for] what would be an ideal, adequate and correct medical exam or even regular exam, periodic exam. The other types of research topics that came to my mind, would be, really why don't we do a specific (it has been done in other countries), specific cost-effective or cost-benefit erm studies on tobacco prevention, or you know the impact of tobacco. We all know that [almost 50% of smoking leads to lung cancer and to cardiovascular diseases]. Maybe research could look at nutrition, poor nutrition, overeating for example, eating the incorrect types of food that is linked to diabetes and obesity, prevention of cancers from exposure of workplace hazards, kidney diseases, absenteeism due to stress, and ergonomic interventions. A cost-benefit

				analysis of the illnesses and intervention should be conducted… The last 2 research topics that I had in mind would be to identify the relationship between psychological and non psychological hazards and risks, and implications for health safety and well-being. Research should also investigate sexual harassment among migrant workers, and related problems, related problems being things such as well, not only loss of employment, but even murders, homicide etc…and simple sexual harassment like touching and so on, but also very serious sexual harassment problems among migrant workers in many many countries.
	Colombia/AMR Lack of statistics of health problems related to the work situation Governments to promote research Increase understanding/awareness-raising	Suggestions (S) Barrier (without suggestion) (B)	Need for health statistics (Sn) Raise awareness	… the big problem is that in our countries, Colombia is one big example of this, no official statistics of health problems, which are the result of work situations. (Sn)We have some studies, we all here have some studies, with little groups, with groups which are not big. But [there are] no statistics,

			(need) (Sra) Lack of understanding of PS risks (Bl)	national statistics, so…we don't know what is occurring and what is the situation in our countries. (Sn) (Sn)Maybe this is why there is this difference…. I am not asking with statistics, with data, with knowledge, real knowledge about what is occurring in our countries. I think, the work organisation can do a promotion [where] our governments, our state promotes this type of research. (Sra) This kind of research will increase understanding of the links between work and health. We don't know what is occurring there. (Bl)
	Nigeria/AFR Awareness raising Need to know how sectors are affected (Lack of available data); e.g., national survey Find solutions with worker participation Workers need to know their rights (e.g., when their break period is…) Barrier (without suggestion) (B)	Suggestions (S)	Need for health statistics (Sn) Involve workers-communities (Sinv) Lack of understanding of PS risks (Bl)	[We need to talk about] prevention and intervention approaches, [therefore] we need to have a picture of (4) how each sector is affected. We need to have a national survey for instance of specialized issues. (Sn) We would like defined issues raised by workers themselves whether [they are in] the informal and formal sector… and compare this with [what has been provided by experts] to see areas of

				agreement, you know, [to have a common pool]. It's only when we have that that we can begin to talk, to design and operate prevention programmes and intervention programmes. (Sinv) For instance… [people have been talking about regulations in their country]. In Nigeria for instance…there are no known regulations that address or guide [these sorts of issues]. And let me also say here that many workers in Nigeria do not even know when their break period is at. There is no known official break period. And yet, it's an issue that is [one of the psychosocial risk factors in the workplace].
	Mexico/AMR Wrong focus of interventions Lack of training Use of tools without validation Faulty design of intervention programmes Need for research on risk factors 10 minutes	Suggestions (S) Barrier (without suggestion) (B)	Interventions/tools (redefine/refine	Empirical evidence is massive regarding the relationship between the environment and work, work conditions, individual characteristics, and social factors, like social support…. In 60-70% of organisations, there is so much responsibility on underpaid managers and workers and the most important efforts are directed

			approaches) (Si) Research needed (Sr) Lack of understanding of PS risks (Bl) Networking (Snet)	at health programmes. People aren't trained. We don't have training programmes for psychology in work health and safety. Tools, usually designed for other things, like resource management are used without validation…. In many cases there isn't the differential diagnosis of the effects of psychosocial risks and psychological costs. Therefore intervention programmes are designed without clear direction. (Si) These programmes include lifestyle interventions, for example exercise, diet, control of tobacco and alcohol consumption, and medical services. Talking about the situation in Mexico, we need to use a systematic model for us to study risk factors. (Sr) We also need research dedicated to risk factors. We need some more work about the validation of tools for particular risk factor evaluation and psychological effects at work. We need to make a differential diagnosis of psychological
		Networking		

				effects because many people think that this stress is the most important psychological effect, with fatigue and burnout being other important psychological effects… (Bl) We need development of systematic evidence for social change because it is absent. We need intervention programmes that start with diagnosis, differential diagnosis of psychological effects. And we need so much cooperation and a collaborative programme with other countries. (Snet)
	Australia/WPR Capacities available in industrialized countries, but still lack of action and improvement in poor communities...Another solutions needs to be found for them than dividing into industrialized and developing countries Need for more action and change The problem is elsewhere. Not in the lack of training or awareness-raising (in more developed countries). We don't get to the actual needed changes.	Suggestions (S) Barrier (without suggestion) (B)	Consider differences & common elements within and between countries (Sc) Interventions/tools (redefine/refine approaches) (Si) Lack of action (we only diagnose (Bla) Raise awareness (need) (Sra)	I'm from Australia and we have considerable segregation both in our labour force but particularly with population groups and I think particularly our indigenous population in Australia and the profile that you give of the so called developing world is exactly the profile of the aboriginal communities in Australia. (Sc) For me, that challenges this notion that capacity building is the answer to the problem. Australia doesn't need capacity building. We have

				some of the world's experts in this field. We have very comparatively strong unions for a number of the countries you've put up, and yet we have these pockets of very serious disadvantage and serious psychosocial risks in work and non-work… (Si) So I think this reaction we have... is that the answer is capacity building. I resist that reaction very strongly. I don't think we need more training courses and more awareness raising (Sra). I think we need more action and more change and that's certainly the case in the developed world as well that our reaction to psychosocial risks in workplaces is often to train people and I don't think training or awareness raising (Sra) is the problem, I think it's changing issues around control and demand. That is very challenging of course but I think if our response is always to give more training and more awareness raising, then we are continually putting of the day when we actually have to face the fact that circumstances at

				work might need to change. (Bla) This dichotomy between the developing and developed world doesn't help us deal with this issue.
	Nigeria/AFR Focus is on more basic needs as opposed to PS factors, i.e. to have a job from managers' perspective	Barrier (without suggestion) (B)	Lack of understanding of PS risks (Bl)	When I think about when I did a study on control in factory companies and I just started talking about control, control, employee control. So what? Why is that important? Why is it causing so many problems? It's not that workers don't want control. They said, it won't have any impact on their well-being and their well-being means to have a job, be employed, make some income.
	Colombia/AMR Experts available, but no support Organizations reluctant to open the door, people will know their rights and unionize	Barrier (without suggestion) (B)	Authorities/employers don't act (lack of pol. Decisions) (Ba) Fear of unionisation (Bf)	I think, one, maybe 5 for universities have experts, enough experts to do this kind of research. But most of us have lack of time, money, or encouragement to do that. (Ba) [Also] organisations are very very alert… [They don't want people to conduct such research in their organisations] they think that if you research about it [occupational health], people are going to know that they have no rights, they are going to get

				unions and they are going to get against them and [they don't like that]. (Bf) So, you have to manage that…situation carefully in order to have enough information.
	Mexico/AMR Improvements don't reach the workers	Barrier (without suggestion) (B)	Improvements don't reach ordinary workers (Bi)	When the people want to improve …, they want to improve the condition for the commissioners, not for the workers, so the workers want to improve conditions, but these improvements are not given to the workers.
	Egypt/EMR Needs: awareness, education, needs assessment Understanding working conditions better	Barrier (without suggestion) (B)	Authorities/employers don't act (lack of pol. decisions (Ba)	That only works if you've got a government that will enforce and encourage these multinationals to do it. I've worked with multinationals that, you have backhanders… it doesn't trickle down to the people who don't have the awareness, the education, erm there is only that one tier that gets all that, the rest don't get it. So it's working with governments as well and I think, it might work with some multinationals, the trickledown effect, but I don't think it will work with all multinationals. We just have to go and see how those less educated, less

				aware are being treated and what they are doing.
	Mexico/AMR Lack of prevention and interventions Authorities don't act	Barrier (without suggestion) (B)	Authorities/employers don't act (lack of pol. decisions	It seems from the works system point of view, there are no interventions, there are no prevention. That's the problem. It's a more complex problem that is ignored. There is no intention from the authorities to do something, but there is no prevention, is the answer.
	Chile/AMR Politics block change	Barrier (without suggestion) (B)	Authorities/employers don't act (lack of pol. decisions (Ba)	My colleague from Chile wants to add to that. For her, the changes that you are speaking about have to do with political decisions and political interests.
	Australia/WPR Politics block change	Barrier (without suggestion) (B).	Authorities/employers don't act (lack of pol. decisions (Ba)	Absolutely.
	F (?) Politics block change	Barrier (without suggestion) (B)	Authorities/employers don't act (lack of pol. decisions (Ba)	Absolutely.
	Colombia/AMR Tools available but lack of application Gap between research and application	Barrier (without suggestion) (B)	Authorities/employers don't act (lack of pol. decisions (Ba)	(facilitator: Maybe I could just ask you because I know you have a protocol on work-related stress that links stress outcomes back to psychosocial risks and stress. Is that not being implemented? Not being enforced?) Maybe, but we don't know if they are… and what happened with that information. They introduced it 4 years ago and I don't know how they use it.
	Nigeria/AFR	Barrier (without suggestion) (B)	Authorities/employers don't act (lack of pol.	For instance health promotion

	Lack of application of interventions. Lack of visible enforcement of OHS policies. No interest or pressure by company owners to implement interventions.		decisions (Ba)	programmes are not applied in Nigeria. Stress management training is rarely applied in Nigeria. Management training prevention programmes [are] not applied. Comprehensive occupational health and safety policies, even if they have them in the department of health, or whatever, there is nothing to show that it exists or that they are enforced. And that is why the owner of the organisations themselves are not really bothered.
	USA/AFR Barriers: ineffective Unions	Barrier (without suggestion) (B)	Authorities/employers don't act (lack of pol. decisions (Ba)	It also depends on how effective the union is. Sometimes, people might have a union and it may not be very effective, so it's difficult to get information across when the union is not very effective.
	Mexico/AMR Lack of awareness (no solution)	Barrier (without suggestion) (B)	Lack of understanding of PS risks (Bl)	Yes, when I think about stress, people aren't aware
	Hong Kong/WPR Potential barrier: lack of understanding the term PS risks	Barrier (without suggestion) (B)	Lack of understanding of PS risks (Bl)	The problem is, when I try to ask people in Hong Kong what are psychosocial risks, they don't even know the term. I try to do it in direct translation, but there is no term "psychosocial" in my language, so I thought, when you asked this question, did they

				really understand what it is.
	Egypt/EMR Need to explain what PS risks are (raise awareness)			I know, having worked in Arabic speaking countries, you can't always directly translate…. So you've got to explain what psychosocial is; the different things that fall under that banner
	Portugal/EUR Barrier: different priorities such as accidents and injuries	Barrier (without suggestion) (B)	Lack of understanding of PS risks (Bl)	I think that if you talk to someone with this so called crisis, if you were to talk to people about psychosocial variables, they are going to come to me and say "this is complicating things". Sometimes, Portugal for instance and some other countries, I'm not sure about Spain, but right now, we are trying to take our attention to the security, and that means accidents and injury.
	Portugal/EUR Barrier: lack of awareness and understanding of PS; therefore lack of support for this area from Governments Accidents are easier to count and more realistic to most....	Barrier (without suggestion) (B)	Lack of understanding of psychosocial risks (Bl)	In Portugal for instance, I can tell you that in occupational health you have some institutions- that's a fact. But for instance in occupational health psychology you have one institution…and that institution is the institution that I'll present to you. It's the only one that has occupational health psychology. And when you talk

				about occupational health psychology, the occupational health professionals, they say, "okay, psychology is something, erm it's a little bit on the dark side of reality" The psychologists, on occupational health, they don't see it as something really relevant for them. So, when talking about for instance, the time pressure and high job demands…Now look at those models that we know from occupational health psychology. They are much more interested in the number of accidents…
	Mexico/AMR Too much research and not enough interventions Stuck in the problem	Barrier (without suggestion) (B)	Lack of action (we only diagnose (Bla)	We were talking about that we are making research, but we are only making diagnoses, worrying about making interventions. Maybe we are focussed on the problem, but we are not going further.
	Australia/WPR Barriers to interventions as country specificity	Barrier (without suggestion) (B)	Lack of action (we only diagnose (Bla)	In Australia, at least talking about the indigenous community as being a good example of a third world country… and the problem is you know, we just can't go into a community and start trying to implement changes. There

				are a number of cultural issues which may prevent us from doing that, so that's a long-term problem…
	Australia/WPR Need: information needs to be used by the target group; go beyond the diagnosis and put the info gathered to good use	Barrier (without suggestion) (B)	Improvements don't reach ordinary workers (Bi)	I have. Erm, but even there I think that we didn't do a really great job of making sure we were keeping on following the information that we gathered to make sure that it was really being used by the women. You know, they said that they had it, but I'm not really convinced, you know what I mean. So we do the diagnosis… and we get the papers, but it's not very helpful
	Mexico/AMR Interventions and experts should be available to all workplaces and not only multi-nationals.	Barrier (without suggestion) (B)	Improvements don't reach ordinary workers (Bi)	Well I think these kind of researchers are only qualified as researchers for the multinational industries in Mexico and we've got witness to things that are only important for the multinational. We need to generalise more the concept and then to, to make people know that this is more democratic.
	Panama/AMR Basic needs not addressed	Barrier (without suggestion) (B)	Basic needs not addressed (Bb)	… I'm from a Latin American country… and this is really our situation in our countries, because the people sometimes are stressed about [their family and having enough to

				eat everyday]. And that's very important, that's true.
	Philippines/WPR Next steps Way forward into sectoral studies			.... So what I'm saying is that, you know, I think you've done a very good generalised survey. Probably we can do sectoral in the next step.

Occupational sector

Summary: The quotes lifted that refer to occupational sectors particularly affected by psychosocial risks and work-related stress could be divided into four main categories that encompass the primary, secondary, tertiary and quaternary sector and those professions which are mostly exposed to psychosocial risks in these four main sectors.

Main theme	Country/Region	Issue	Themes	Sub-themes	Quotes
Most affected occupational sector	Nigeria/ AFR	High risk industries: oil, gas. They have specific risks.	Primary sector	Oil, gas	Especially [problematic are] the oil processing industries, you know like [the] gas sector. Not much is mentioned about those specific or peculiar psychosocial risks and [buffers] of working in those areas.
	Mexico/AMR	Need: to address informal sector workers	Primary sector	Informal economic sector	Yeah… I am very interested in this work, because we do need to take care of these people in this sector.
	Philippines/WPR	Migrant domestic workers need addressing	Primary sector	Informal economic sector	I believe it has not been mentioned there [about] our migrant workers. They are facing different types of stress, or psychosocial risks, especially the domestic helpers. It's very common among the Asian countries who are migrating to other countries. This is a concern in the

					Philippines, because we have so many migrant workers…There are so many risks that they are facing, like sexual harassment and repetitive work and even discrimination.
	India/SEAR	High risk sectors in India are construction, mining, informal sector work	Primary sector	Construction, mining, informal economic sector	Regarding the stress… the construction area, mining and the [informal sector], these are the major [occupational areas in our country, where the people, majority of the people feel stress].
	Mexico/AMR	Oil workers (job security & lack of supervisory support)	Primary sector	Oil	Looking at oil workers in Mexico, in the opinion of workers the most important are job insecurity, lack of social support from the supervisor, …
	Germany/ India/SEAR	Domestic workers in Latin America and Asia (migrants who face precarious legal situations)	Primary sector	Informal economic sector	Like was mentioned with domestic workers, there's a lot of work being done but probably not enough work done on domestic workers in Latin America or in Asia. We have the problem of migrant workers, erm the whole

					cultural factors, the precarious legal situation…
	Germany/Ireland/global	Int'l transport workers are starting to address job stress & fatigue	Secondary/service sector	Transport	We are doing a global study on health effects or health in workers, which is a highly globalised industry and the international transport workers federation is doing a big campaign against job stress and fatigue at the moment. So there is quite a bit of interest in that industry and they have already kind of grown structures and they are interested in promoting health and safety issues in that area.
	Australia/SEAR	PS risks – long hours, lack of basic resources required to do the job Health impact specific to garment sector manufacturing	Secondary sector	Manufacturing sector	There are also challenges of that for let's say a group of women in a self-help group for example, that may still have to work long hours and we did some interviews with some women that were stitching garments for international markets I suppose, and they were working long

					hours and they suffered a lot of eye problems as a result of actually not having access to glasses.
	Germany/ India/SEAR	Call centres & banks negligible in term s of workforce however, high stress levels and visible because of impact on GDP.	Tertiary sector	Call centres, banks	If you look at the call centres, which is you know, the big booming thing at the moment, but in India for instance, even call centres and bank offices, it's 0.1% of the workforce. It is, it is, you know very much at the forefront, it's very much in the papers because of the outsourcing, but it's actually absolutely negligible in terms of workforce. It is incredibly big in terms of GDP or income and it's highly visible, and definitely there's a high stress level. There's no question about that.
	Philippines/WPR	work pressures, speed, verbal violence	Tertiary sector	Service sector/call centre, banks, government offices, catering, hospitality, hotel management	There are many things in the service sector… One thing is a call centre. You have the banks; you have the government offices and so on. And even there, there are so many

					different ways of interpreting erm psychosocial hazards and work-related stress… We know in catering, hospitality, and hotel management, you have several departments and several areas and psychosocial factors [are evident] because of the pressures of the work, because of the speed, there's a lot of erm verbal violence, conflicts etc.
	Philippines/WPR	High stress in catering and hospitality due to global tourism boom.	Tertiary sector (call centres, catering, hospitality,) Primary sector (construction, mining)	Catering, hospitality, mining, construction, call centres	So, there was one suggestion, that perhaps the size of the workforce, or of the business [is an important factor to take into account], and you would look again at catering and erm industry, hospitality, but as a matter of fact, this is the global boom, the global boom in tourism, er is adding quite a big erm amount of employment worldwide. And that's not only in catering, but in

					the whole of the hospitality service. And there, if you're speaking of psychosocial hazards, that's very important there. For example mining is most hazardous. [Construction and ship building are also hazardous]... The call centre may be small, but then everybody knows that there is a very big contribution of stress in the, in the working conditions among call centre work.
	Mexico/AMR		Quaternary sector, intellectual activities	Teachers, psychologists	So, there is a sector {teachers and psychologists} and today in Mexico, they are very stressed. In the little villages they are in the kind of jobs with no recognition… …

ANNEX IV.1: JOINT THEMES FROM ALL METHODOLOGIES

Table of themes including joint themes : (I) = Interviews; (D) = Delphi surveys; (F) = Focus groups

Psychosocial hazards & work-related stress	
Working environment/ employment conditions	**(F) (I)** Salary (low); leadership (poor); advancement & sustainability; fairness (lack of); poor working environment
Work organization	**(D) (I)** Lack of control over work processes & workload/demands
	(I) Work design, work-home interface/work-life balance
	(D) Discrepancies between abilities, skills, job demands, expectations; poor management practices; lack of participation in decision-making; perceived imbalance between abilities, resources, support
Work schedule	**(I) (F)** Hours worked; work schedule, e.g., shiftwork
	(D) (I) Time constraints/speed/pressure & high job demands
Workplace safety/hazards	**(I)** Physical/physiological hazards
Relationships	**(I) (D) (F) Relationships/interpersonal conflict**
	(I) (F) Physical violence including 3rd party violence
	(I) (F) Psychological harassment including sexual harassment
	(I) (F) Lack of/poor social support
Socio-economic, political conflict/conditions	**(I) (D) (F) Job insecurity (also due to globalization - market competition, multi-nationals, delocalization of companies), precarious employment, unemployment, poor working conditions**
	(F) (I) War, crime, poverty & life stress; migrants in informal work; economic & job conditions; welfare
	(F) Extra-organizational issues; lack of local level policy focus
	(I) Social, political, economic, cultural, religious structures (existing & changing)
	(I)HIV/AIDS (absenteeism)
Concerns for workers' health	**(I) Yes**

Health outcomes from exposure to psychosocial hazards & work-related stress - *Interviews only*	
Physical health	Heart & circulatory; Gastro intestinal; Musculo-skeletal disorders; Headaches/migraines; Dermatological & respiratory symptoms; Disability/injuries; Other chronic diseases; Poor physical conditions
Mental health	Depression; Anxiety; Emotional problems; Suicide/suicidal behaviours; Mental disorders (generally)
Adverse health behaviours	Unhealthy behaviours (general)
Other outcomes	Physical & mental health (interrelationship); Fatigue/sleep problems (physical & mental)
Occupational sectors most affected	
Primary sector	**(I) (D) (F) Informal economy incl migrants and domestic migrant workers**
	(I) (D) (F) Mining

	(I) (D) (F) Construction
	(I) (D) Agriculture, forestry
	(I) (F) High risk industries: oil, gas
	(I) Handicraft, Domestic work
Secondary sector	**(I) (D) (F) Manufacturing/industrial professions**
	(I) Various (SMEs, Truck drivers
Tertiary sector	**(I) (D) (F) Tourism, catering, hospitality, hotel management, Int'l transport workers**
	(I) (D) (F) Service (incl call centres)
	(D) (I) Police, security forces, law enforcement
	(F) (I) Banks; Government offices
	(D) (I) Healthcare professionals
	(I) Industrial workers
Quaternary sector, intellectual activities	**(D) (I) (F); Education, teaching professions, psychologist**
	(I) IT & telecommunications sector

Legislation and policies - *Only interviews*	
Traditional hazards	OSH acts & related legislation; list of occupational diseases
Psychosocial hazards	Impact of & dealing with HIV/AIDS Stress audit under the OSH Act 1993 – South Africa Affirmative action/discrimination; Health Act (attached to the Psychiatric Hospital and only dealing with psychosocial counselling) Legislation that addresses occupational diseases caused by stress - protocol applied in Colombia - enforced - 1984 MoL and Social Affairs ordinance (to protect from traditional and new hazards) - 1989 the MoH issued an ordinance that obliges to develop preventive actions on PS and traditional hazards - technical norm in PS risk factors was established including definition, evaluation issues, effects, development of surveillance systems Employment/working conditions act Sexual/physical/psychological violence law/policy

Intervention levels - *discussed in all three fora*	
Primary interventions	**(I)** *Organizational-level interventions* : Tobacco Ban; National policy on alcohol & drug abuse; Promotion of organizational development & climate, HIV/AIDS testing; Work arrangements (+teleworking); Participatory action to solve problems, Establish time tables, resting times for bus drivers; flexible working hours/leave, support from co-workers, managers; risk management : identification of risk factors, designing an action plan, carrying out an action plan, and evaluate; OSH management systems related to stress; Work (re)design
Secondary interventions	**(I) (D) (F)***Individual level interventions*: ; Stress management, health promotion/lifestyle programmes & employee wellness programmes (physical fitness, nutrition; time management training; awareness training, work-life balance; identifying, dealing with stressors, sports & family activities, gym, yoga, spiritual raising events for psychological well-being, community events) plus educational materials; communication, problem solving; time management training; Interventions with psychological & social workers in HR processes and through evaluation, feedback models, preventive health check-ups, courses, conferences;

	cognitive and behavioural interventions; Surveys/questionnaire
Tertiary interventions	**(I)** Medical funds provide for psychological treatment with a psychologist; peer counselling, Individuals receive help from mental health services once they have established symptoms)

Vulnerability of women & men to psychosocial hazards & work-related stress *- discussed in all three fora, but only peripheral in focus groups)*	
Both are vulnerable	**(I)** Equally vulnerable
Women are more vulnerable	**(I) (F) (D) Gender inequality (social and work discrimination): a) male-dominated society; b) ower pay for the same work; c) gender segregation** **(I) (F) (D) Work-home interface/conflict; social responsibilities & /multi-tasking; lack of support in nuclear families** **(D) (I)** Women's vulnerability & occupational sector); also working in rural areas (**D) (I)** Sexual violence/harassment **(D)** Vulnerable due to maternity-related absences **(D)** Male-dominated society; competition with men **(I)** More vulnerable than men (in general) **(I)** Women's strengths (networks – opportunities for exchange)
Men are more vulnerable	**(I)** Vulnerabilities of men (generally related to social roles & expectations); **(I)** Men's strengths (higher salaries, higher positions, higher control, and often feelings of superiority towards women)
Research	**(I)** Lack of gender sensitive data **(D)** Lack of legislation against discrimination
Most prominent[18] barriers to addressing causes & solutions	
Traditional versus psychosocial hazards	**(I)** Lack of visibility, statistics, definition, understanding, methodology, research & regulation **(I)** Higher focus on traditional hazards (as opposed to psychosocial hazards) **(I)** Lack of action & support systems
General barriers	**(F)** Authorities/employers don't act, lack of political decisions & enforcement
Specific barriers	**(F)** Lack of boundaries (work/non-work) and of understanding of psychosocial hazards **(I)** Stigma & recognition of mental illness
Solutions & way forward	**(F)** Networking (learn about grey literature from emerging economies); interventions/tools (redefine/refine approaches); consider differences within & between countries including respect for traditional ways of creating livelihoods

Priorities for action

Psychosocial hazards & work-related stress	**(I) (D)** Awareness raising/training **(I) (D)** Risk assessment & management, monitoring, surveillance of psychosocial hazards & work-related stress **(D)** violence & harassment at work

[18] elicited at high frequency, intensity and consistency during the focus group discussions

	(I) Good practices **(I) (D)** Health behaviours including substance abuse & risky behaviours
Physical risks	**(I) (D)** Physical including noise, biological agents, injury/accident prevention, infectious diseases **(I) (D)** Physiological (ergonomics, musculo-skeletal disorders) **(I)** Prevention of occupational diseases
Legislation, policy development, standards	**(I) (D)** Health & Safety (generally) including creating a safety culture **(I) (D)** Comprehensive approach including a) develop a.comprehensive.legislatory.framework to include the informal sector, as well as general health & safety policies/legilsation; health and safety standards; & Implement & enforce legislation to address workplace health and safety H&S including work-related stress
Employment/working conditions	**(I)** Contractual arrangements & targeting specific sectors
Enablers	**(I)** Education (vocational course/University/HR/MoH) **(D)** Capacity building; collect data on workers' health/surveillance & registration
Health focus and services	**(D)** Improve HC, incl.primary HC; Development of OH services

Comprehensive approach

Psychosocial & traditional risks	**(I) (D)** Address jointly & equally
Psychosocial risks	**(I)** Important to address, & address as a priority (more)

ANNEX V.1: WORLD BANK LIST OF DEVELOPING COUNTRIES 2009

Afghanistan
Albania
Algeria
American Samoa
Angola
Argentina
Armenia
Azerbaijan
Bangladesh
Belarus
Belize
Benin
Bhutan
Bolivia
Bosnia and Herzegovina
Botswana
Brazil
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroon
Cape Verde
Central African Republic
Chad
Chile
China
Colombia
Comoros
Congo, Dem. Rep.
Congo, Rep.
Costa Rica
Côte d'Ivoire
Croatia
Cuba
Djibouti
Dominica
Dominican Republic
Ecuador
Egypt, Arab Rep.
El Salvador
Eritrea
Ethiopia
Fiji
Gabon
Gambia, The
Georgia
Ghana
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Honduras
India
Indonesia
Iran, Islamic Rep.
Iraq
Jamaica
Jordan
Kazakhstan
Kenya
Kiribati
Korea, Dem. Rep.
Kyrgyz Republic
Lao PDR
Latvia
Lebanon
Lesotho
Liberia
Libya
Lithuania
Macedonia, FYR
Madagascar
Malawi
Malaysia
Maldives
Mali
Marshall Islands
Mauritania
Mauritius
Mayotte
Mexico
Micronesia, Fed. Sts.
Moldova
Mongolia
Montenegro
Morocco
Mozambique
Myanmar
Namibia
Nepal
Nicaragua
Niger
Nigeria
Pakistan
Palau
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Romania
Russian Federation
Rwanda
Samoa
São Tomé and Principe
Senegal
Serbia
Seychelles
Sierra Leone
Solomon Islands
Somalia
South Africa
Sri Lanka
St. Kitts and Nevis
St. Lucia
St. Vincent and the Grenadines
Sudan
Suriname
Swaziland
Syrian Arab Republic
Tajikistan
Tanzania
Thailand
Timor-Leste
Togo
Tonga
Tunisia
Turkey
Turkmenistan
Uganda
Ukraine
Uruguay
Uzbekistan
Vanuatu
Venezuela, RB
Vietnam
West Bank and Gaza
Yemen, Rep.
Zambia
Zimbabwe

Source: *World Bank, July 2008*. Geographic classifications and data reported for geographic regions are for low-income and middle-income economies, as defined by the World Bank - http://web.worldbank.org/. Total of 144 countries.

ANNEX V.2: DAC LIST OF ODA RECIPIENTS FOR 2005, 2006, 2007

Least Developed Countries	Other Low Income Countries (per capita GNI < $825 in 2004)	Lower Middle Income Countries and Territories (per capita GNI $826-$3 255 in 2004)	Upper Middle Income Countries and Territories (per capita GNI $3 256-$10 065 in 2004)
Afghanistan	Cameroon	Albania	• Anguilla
Angola	Congo, Rep.	Algeria	Antigua and Barbuda
Bangladesh	Côte d'Ivoire	Armenia	Argentina
Benin	Ghana	Azerbaijan	Barbados
Bhutan	India	Belarus	Belize
Burkina Faso	Kenya	Bolivia	Botswana
Burundi	Korea, Dem.Rep.	Bosnia and Herzegovina	Chile
Cambodia	Kyrgyz Rep.	Brazil	Cook Islands
Cape Verde	Moldova	China	Costa Rica
Central African Rep.	Mongolia	Colombia	Croatia
Chad	Nicaragua	Cuba	Dominica
Comoros	Nigeria	Dominican Republic	Gabon
Congo, Dem. Rep.	Pakistan	Ecuador	Grenada
Djibouti	Papua New Guinea	Egypt	Lebanon
Equatorial Guinea	Tajikistan	El Salvador	Libya
Eritrea	Uzbekistan	Fiji	Malaysia
Ethiopia	Viet Nam	Georgia	Mauritius
Gambia	Zimbabwe	Guatemala	• Mayotte
Guinea		Guyana	Mexico
Guinea-Bissau		Honduras	• Montserrat
Haiti		Indonesia	Nauru
Kiribati		Iran	Oman
Laos		Iraq	Palau
Lesotho		Jamaica	Panama
Liberia		Jordan	Saudi Arabia (1)
Madagascar		Kazakhstan	Seychelles
Malawi		Macedonia, Former Yugoslav Republic of	South Africa
Maldives		Marshall Islands	• St. Helena
Mali		Micronesia,Fed. States	St. Kitts-Nevis
Mauritania		Morocco	St. Lucia
Mozambique		Namibia	St. Vincent & Grenadines
Myanmar		Niue	Trinidad & Tobago
Nepal		Palestinian Adm. Areas	Turkey
Niger		Paraguay	• Turks & Caicos Islands
Rwanda		Peru	Uruguay
Samoa		Philippines	Venezuela
Sao Tome & Principe		Serbia & Montenegro	
Senegal		Sri Lanka	
Sierra Leone		Suriname	
Solomon Islands		Swaziland	
Somalia		Syria	
Sudan		Thailand	
Tanzania		• Tokelau	
Timor-Leste		Tonga	
Togo		Tunisia	
Tuvalu		Turkmenistan	
Uganda		Ukraine	
Vanuatu		• Wallis & Futuna	
Yemen			
Zambia			

• Territory.

(1) Saudi Arabia passed the high income country threshold in 2004. In accordance with the DAC rules for revision of this List, it will graduate from the List in 2008 if it remains a high income country in 2005 and 2006. Its net ODA receipts from DAC Members were USD 9.9 million in 2003 and USD 9.0 million (preliminary) in 2004.